1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.

M38 - DVT

12/08/05

REV	ZONE	ECN	DESCRIPTION OF CHANGE	CK APPD DATE	ENG APPD DATE
09		400372	ENGINEERING RELEASED	09/16/05	06/22/04

DIMENSIONS ARE IN MILLIMETERS
XX ±
X.XX ±
X.XXX ±
ANGLES °
DO NOT SCALE DRAWING
THIRD ANGLE PROJECTION

METRIC

DRAFTER		DESIGN CK	
ENG APPD		MFG APPD	
QA APPD		DESIGNER	
RELEASE		SCALE	NONE

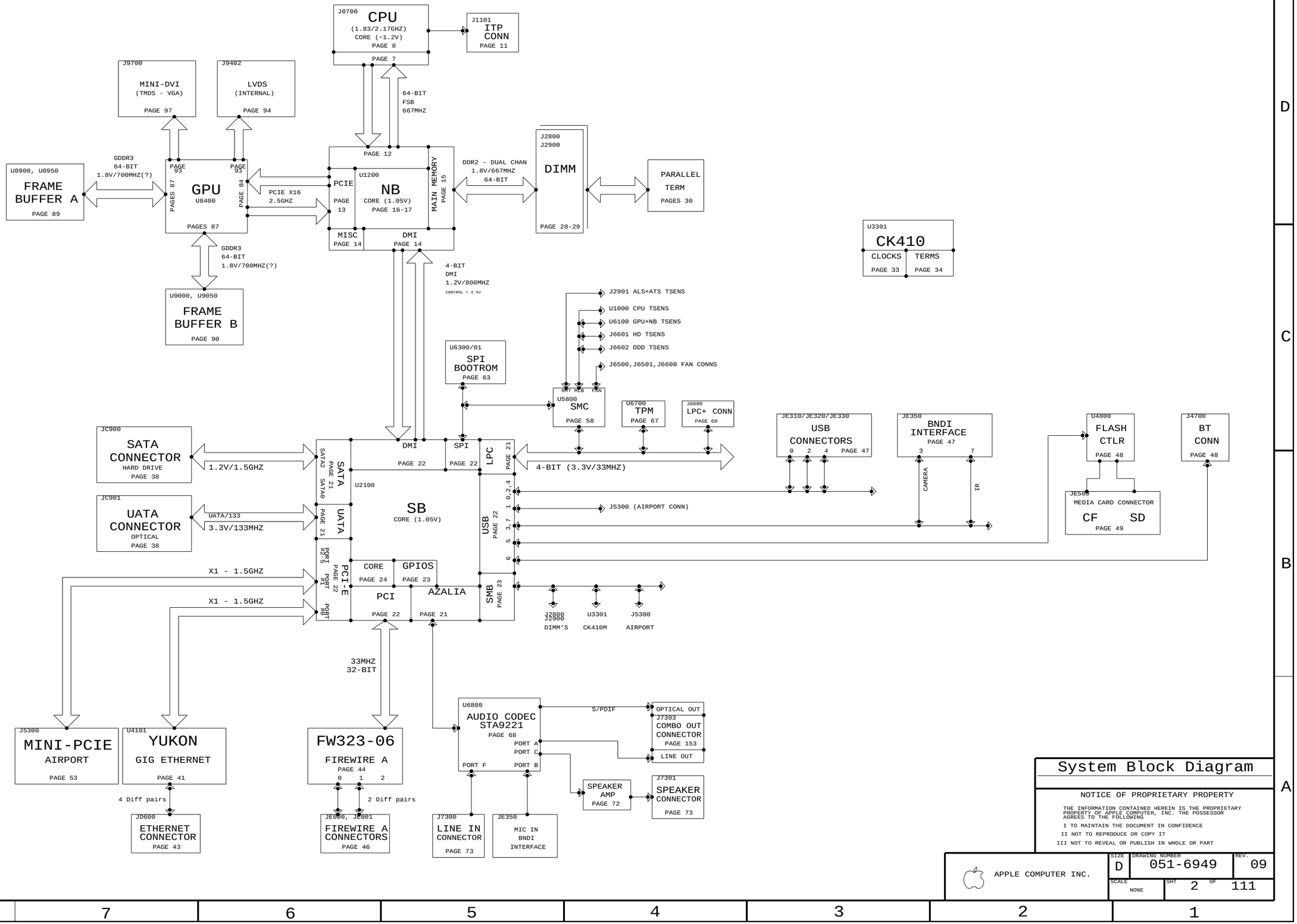
MATERIAL/FINISH NOTED AS APPLICABLE
SIZE D

Apple Computer Inc.

TITLE: SCHEM,M38

DRAWING NUMBER 051-6949 REV. 09

SHT 1 OF 111



System Block Diagram

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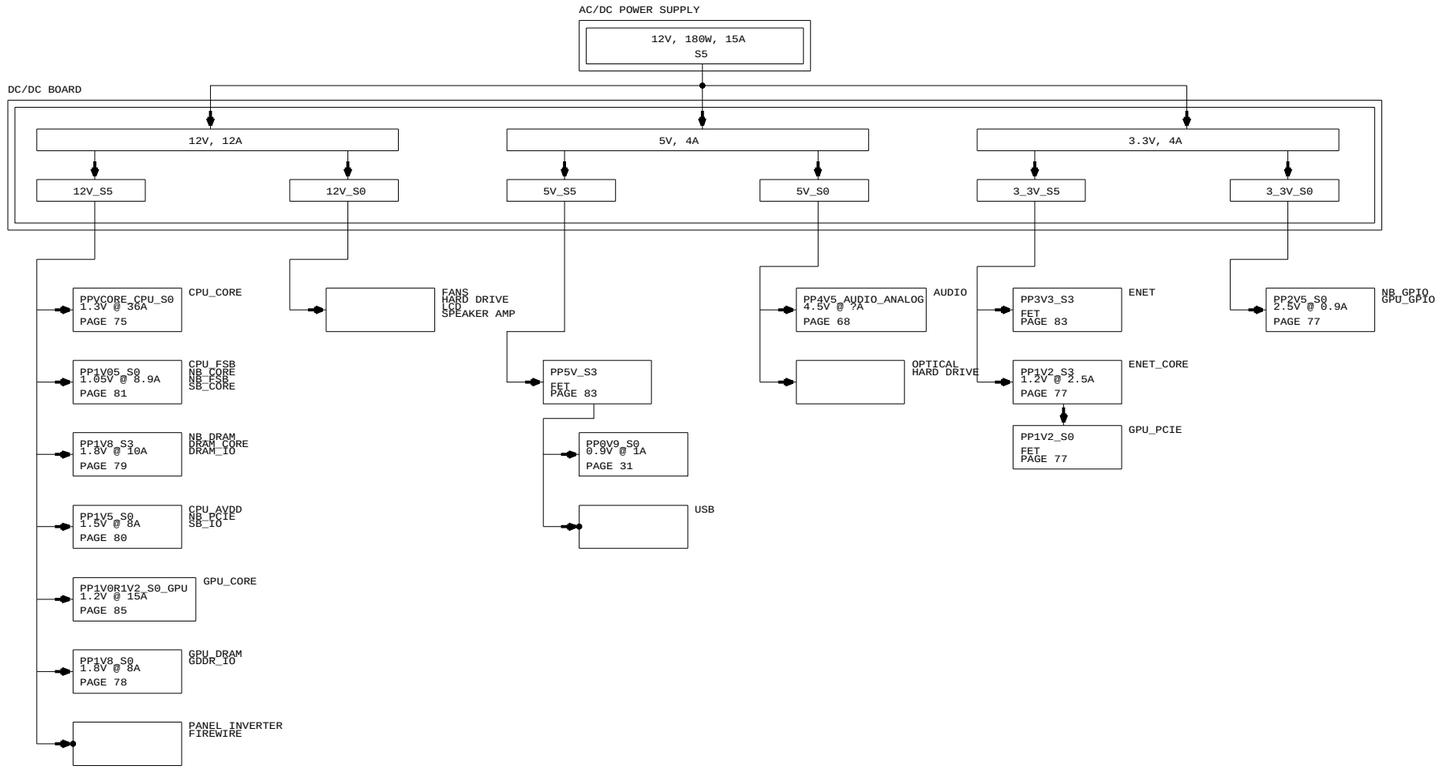
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 2 OF 111	



Power Block Diagram

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6949 | REV. 09

SCALE NONE | SHT 3 OF 111

COMMON

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
	511S0025	1	IC,CPU-SKT,479BGA	J0700	CRITICAL	
	338S0269	1	IC,945GM,NORTHBRIDGE	U1200	CRITICAL	
	343S0385	1	IC,SB,652BGA	U2100	CRITICAL	
	742-0048	1	BAT,COIN,3V,220MAH,CR2032	BT2600	CRITICAL	
	359S0101	1	IC,CY28445-5,CLK GEN,68PIN QFN	U3301	CRITICAL	
	338S0270	1	IC,88E8053,GIGABIT ENET XCVR,64P QFN,NO	U4101	CRITICAL	
(335S0382)	341S1797	1	IC,ENET LAN ROM	U4102	CRITICAL	
	338S0279	1	IC,FW32306,1394A LINK,TQFP	U4400	CRITICAL	
	338S0274	1	IC,SMC,HS8/2116,BLANK	U5800	CRITICAL	
	341S1789	1	IC,TPM,TSSOP,28P	U6700	CRITICAL	LEMENU
	353S1235	1	IC,CPU VREG,IMVP,TWO PHASE	U7500	CRITICAL	
	338S0266	1	IC,ATI,M56P,GRAFIX CTLR,880BGA,LF	U8400	CRITICAL	ATI_B24
	338S0305	1	IC,ATI,M56P,GRAFIX CTLR,880BGA,LF	U8400	CRITICAL	ATI_A24
	128S0078	3	CAP,EL,AL,330UF,20%,16V,10X12.7MM,SMD,LF	C7517,C7518,C7910	CRITICAL	
	825-6447	1	MLB LABEL,48.0X4.8	X14	CRITICAL	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
126S0096	126S0076		C7801	SANYO W16CE680KX 680UF 16V LF
126S0086	126S0078		C699,C940,C1900,C1901,C1968	SANYO W6CE330FS 330UF 6.3V LF
128S0080	128S0078		C7517,C7518,C7910	SANYO 16SVP330M 330UF 16V SMD LF
338S0309	338S0266		U8400	IC,ATI,M56LP,GRAFIX CTLR,880PBGA,LF
197S0177	197S0020		Y4101	XTAL,25MHZ,50PPM,16PF,3.2X2.5 SMD,LF

124-0338 124-0333 C7501,C8014 CAP,AL,EL,680UF,16V,RAD,10X12.5MM

M38

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
	051-6949	1	PCB,SCHEM,MLB,M38	SCH1		17_INCH_LCD
	820-1919	1	PCB,FAB,MLB,M38	MLB1		17_INCH_LCD
(335S0384)	341T0003	1	EFI ROM,M38	U6301	CRITICAL	17_INCH_LCD
	114S0287	1	5.11K,1%,1/16W,402,MF-LF	R8522		17_INCH_LCD
	337S3242	1	M00-SPEED CPU (QINZ)	CPU	CRITICAL	CPU_M00
	337S3241	1	M38/M39 LOW-SPEED CPU (QINY)	CPU	CRITICAL	CPU_M38

M39

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
	051-6950	1	PCB,SCHEM,MLB,M39	SCH1		20_INCH_LCD
	820-1888	1	PCB,FAB,MLB,M39	MLB1		20_INCH_LCD
(335S0384)	341T0004	1	EFI ROM,M39	U6301	CRITICAL	20_INCH_LCD
	114S0276	1	4.02K,1%,1/16W,402,MF-LF	R8522		20_INCH_LCD
	337S3243	1	M39 HI-SPEED CPU (QHJJ)	CPU	CRITICAL	CPU_M39

M38 / M39

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
333S0354	4	IC,SGRAM,GDDR3,8MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_128M_SAMSUNG
333S0358	4	IC,SGRAM,GDDR3,8MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_128M_HYNIX

M39 - CTO

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
333S0350	4	IC,SGRAM,GDDR3,16MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_256M_SAMSUNG
333S0351	4	IC,SGRAM,GDDR3,16MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_256M_HYNIX

Table Items

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6949 | REV. 09

SCALE NONE | SHT 4 OF 111

LAYOUT NOTE: PLACE NEAR J0700

12 7 5	FSB_A_L<6>	PP600	OMIT P4MM
12 7 5	FSB_ADSTB_L<0>	PP601	OMIT P4MM
12 7 5	FSB_A_L<27>	PP602	OMIT P4MM
12 7 5	FSB_ADSTB_L<1>	PP603	OMIT P4MM
12 7 5	FSB_D_L<0>	PP604	OMIT P4MM
12 7 5	FSB_DSTBN_L<0>	PP605	OMIT P4MM
12 7 5	FSB_DSTBP_L<0>	PP606	OMIT P4MM
12 7 5	FSB_DINV_L<0>	PP607	OMIT P4MM
12 7 5	FSB_D_L<16>	PP608	OMIT P4MM
12 7 5	FSB_DSTBN_L<1>	PP609	OMIT P4MM
12 7 5	FSB_DSTBP_L<1>	PP610	OMIT P4MM
12 7 5	FSB_DINV_L<1>	PP611	OMIT P4MM
12 7 5	FSB_D_L<41>	PP612	OMIT P4MM
12 7 5	FSB_DSTBN_L<2>	PP613	OMIT P4MM
12 7 5	FSB_DSTBP_L<2>	PP614	OMIT P4MM
12 7 5	FSB_DINV_L<2>	PP615	OMIT P4MM
12 7 5	FSB_D_L<59>	PP616	OMIT P4MM
12 7 5	FSB_DSTBN_L<3>	PP617	OMIT P4MM
12 7 5	FSB_DSTBP_L<3>	PP618	OMIT P4MM
12 7 5	FSB_DINV_L<3>	PP619	OMIT P4MM
12 7 5	FSB_LOCK_L	PP620	OMIT P4MM
12 11 7	FSB_CPURST_L	PP621	OMIT P4MM
21 7	CPU_INIT_L	PP622	OMIT P4MM
21 7	CPU_A20M_L	PP623	OMIT P4MM
21 7	CPU_IGNNE_L	PP624	OMIT P4MM
21 7	CPU_STPCLK_L	PP625	OMIT P4MM
21 7	CPU_INTR	PP626	OMIT P4MM
21 7	CPU_NMI	PP627	OMIT P4MM
21 7	CPU_SMI_L	PP628	OMIT P4MM
34 7	FSB_CLK_CPU_P	PP629	OMIT P4MM
34 7	FSB_CLK_CPU_N	PP630	OMIT P4MM

LAYOUT NOTE: PLACE NEAR U2100

34 21	SB_CLK100M_SATA_P	PP6C4	OMIT P4MM
34 21	SB_CLK100M_SATA_N	PP6C5	OMIT P4MM
38 21	IDE_PDIOR_L	PP6C6	OMIT P4MM
38 21	IDE_PDIORDY	PP6C7	OMIT P4MM
38 21	IDE_PDD<9>	PP6C8	OMIT P4MM
34 22	PCI_CLK_SB	PP6D0	OMIT P4MM
41 22	PCIE_A_D2R_P	PP6D1	OMIT P4MM
41 22	PCIE_A_D2R_N	PP6D2	OMIT P4MM
53 22	PCIE_B_D2R_P	PP5E1	OMIT P4MM
53 22	PCIE_B_D2R_N	PP5E2	OMIT P4MM
22 14	DMI_N2S_P<0>	PP6D3	OMIT P4MM
22 14	DMI_N2S_N<0>	PP6D4	OMIT P4MM
34 22	SB_CLK100M_DMI_P	PP6D5	OMIT P4MM
34 22	SB_CLK100M_DMI_N	PP6D6	OMIT P4MM
58 26 23	PM_SYSRST_L	PP6D7	OMIT P4MM
58 44 23 67 60	PM_CLKRUN_L	PP6D8	OMIT P4MM
34 23	SB_CLK14P3M_TIMER	PP6D9	OMIT P4MM
34 23	SB_CLK48M_USBCTLR	PP6E0	OMIT P4MM

LAYOUT NOTE: PLACE NEAR U1200

12 7 5	FSB_A_L<6>	PP631	OMIT P4MM
12 7 5	FSB_ADSTB_L<0>	PP632	OMIT P4MM
12 7 5	FSB_A_L<27>	PP633	OMIT P4MM
12 7 5	FSB_ADSTB_L<1>	PP634	OMIT P4MM
12 7 5	FSB_D_L<0>	PP635	OMIT P4MM
12 7 5	FSB_DSTBN_L<0>	PP636	OMIT P4MM
12 7 5	FSB_DSTBP_L<0>	PP637	OMIT P4MM
12 7 5	FSB_DINV_L<0>	PP638	OMIT P4MM
12 7 5	FSB_D_L<16>	PP639	OMIT P4MM
12 7 5	FSB_DSTBN_L<1>	PP640	OMIT P4MM
12 7 5	FSB_DSTBP_L<1>	PP641	OMIT P4MM
12 7 5	FSB_DINV_L<1>	PP642	OMIT P4MM
12 7 5	FSB_D_L<41>	PP643	OMIT P4MM
12 7 5	FSB_DSTBN_L<2>	PP644	OMIT P4MM
12 7 5	FSB_DSTBP_L<2>	PP645	OMIT P4MM
12 7 5	FSB_DINV_L<2>	PP646	OMIT P4MM
12 7 5	FSB_D_L<59>	PP647	OMIT P4MM
12 7 5	FSB_DSTBN_L<3>	PP648	OMIT P4MM
12 7 5	FSB_DSTBP_L<3>	PP649	OMIT P4MM
12 7 5	FSB_DINV_L<3>	PP650	OMIT P4MM
12 7 5	FSB_LOCK_L	PP651	OMIT P4MM
12 7	FSB_HIT_L	PP652	OMIT P4MM
12 7	FSB_HITM_L	PP653	OMIT P4MM
12 7	FSB_BNR_L	PP654	OMIT P4MM
12 7	FSB_BREQ0_L	PP655	OMIT P4MM
12 7	FSB_DBSY_L	PP656	OMIT P4MM
12 7	FSB_DPWR_L	PP657	OMIT P4MM
12 7	FSB_REQ_L<0>	PP658	OMIT P4MM
12 7	FSB_REQ_L<1>	PP659	OMIT P4MM
12 7	FSB_REQ_L<2>	PP660	OMIT P4MM
12 7	FSB_REQ_L<3>	PP661	OMIT P4MM
12 7	FSB_REQ_L<4>	PP662	OMIT P4MM
34 12	FSB_CLK_NB_P	PP663	OMIT P4MM
34 12	FSB_CLK_NB_N	PP664	OMIT P4MM
75 26 14	VR_PWRGOOD_DELAY	PP665	OMIT P4MM
14	NB_RST_IN_L_R	PP666	OMIT P4MM
34 14	NB_CLK100M_GCLKIN_P	PP667	OMIT P4MM
34 14	NB_CLK100M_GCLKIN_N	PP668	OMIT P4MM
22 14	DMI_S2N_N<0>	PP673	OMIT P4MM
22 14	DMI_S2N_P<0>	PP674	OMIT P4MM
19 14	MEM_VREF_NB_0	PP6E1	OMIT P4MM
19 14	MEM_VREF_NB_1	PP675	OMIT P4MM
28 15	MEM_A_DQ<7>	PP676	OMIT P4MM
28 15	MEM_A_DQ<14>	PP677	OMIT P4MM
28 15	MEM_A_DQ<16>	PP678	OMIT P4MM
28 15	MEM_A_DQ<25>	PP679	OMIT P4MM
28 15	MEM_A_DQ<39>	PP680	OMIT P4MM
28 15	MEM_A_DQ<47>	PP681	OMIT P4MM
28 15	MEM_A_DQ<54>	PP682	OMIT P4MM
28 15	MEM_A_DQ<59>	PP683	OMIT P4MM
29 15	MEM_A_DQS_P<0>	PP684	OMIT P4MM
28 15	MEM_A_DQS_N<0>	PP685	OMIT P4MM
28 15	MEM_A_DQS_P<1>	PP686	OMIT P4MM
28 15	MEM_A_DQS_N<1>	PP687	OMIT P4MM
28 15	MEM_A_DQS_P<2>	PP688	OMIT P4MM
28 15	MEM_A_DQS_N<2>	PP689	OMIT P4MM
28 15	MEM_A_DQS_P<3>	PP690	OMIT P4MM
28 15	MEM_A_DQS_N<3>	PP691	OMIT P4MM
28 15	MEM_A_DQS_P<4>	PP692	OMIT P4MM
28 15	MEM_A_DQS_N<4>	PP693	OMIT P4MM
28 15	MEM_A_DQS_P<5>	PP694	OMIT P4MM
28 15	MEM_A_DQS_N<5>	PP695	OMIT P4MM
28 15	MEM_A_DQS_P<6>	PP696	OMIT P4MM
28 15	MEM_A_DQS_N<6>	PP697	OMIT P4MM
28 15	MEM_A_DQS_P<7>	PP698	OMIT P4MM
28 15	MEM_A_DQS_N<7>	PP699	OMIT P4MM
29 15	MEM_B_DQ<6>	PP6A0	OMIT P4MM
29 15	MEM_B_DQ<8>	PP6A1	OMIT P4MM
29 15	MEM_B_DQ<23>	PP6A2	OMIT P4MM
29 15	MEM_B_DQ<25>	PP6A3	OMIT P4MM
29 15	MEM_B_DQ<38>	PP6A4	OMIT P4MM
29 15	MEM_B_DQ<44>	PP6A5	OMIT P4MM
29 15	MEM_B_DQ<48>	PP6A6	OMIT P4MM
29 15	MEM_B_DQ<62>	PP6A7	OMIT P4MM
29 15	MEM_B_DQS_P<0>	PP6A8	OMIT P4MM
29 15	MEM_B_DQS_N<0>	PP6A9	OMIT P4MM
29 15	MEM_B_DQS_P<1>	PP6B0	OMIT P4MM
29 15	MEM_B_DQS_N<1>	PP6B1	OMIT P4MM
29 15	MEM_B_DQS_P<2>	PP6B2	OMIT P4MM
29 15	MEM_B_DQS_N<2>	PP6B3	OMIT P4MM
29 15	MEM_B_DQS_P<3>	PP6B4	OMIT P4MM
29 15	MEM_B_DQS_N<3>	PP6B5	OMIT P4MM
29 15	MEM_B_DQS_P<4>	PP6B6	OMIT P4MM
29 15	MEM_B_DQS_N<4>	PP6B7	OMIT P4MM
29 15	MEM_B_DQS_P<5>	PP6B8	OMIT P4MM
29 15	MEM_B_DQS_N<5>	PP6B9	OMIT P4MM
29 15	MEM_B_DQS_P<6>	PP6C0	OMIT P4MM
29 15	MEM_B_DQS_N<6>	PP6C1	OMIT P4MM
29 15	MEM_B_DQS_P<7>	PP6C2	OMIT P4MM
29 15	MEM_B_DQS_N<7>	PP6C3	OMIT P4MM

LAYOUT NOTE: PLACE NEAR U8400

89 87 5	FB_A_DQ<0>	PP8700	OMIT P4MM
89 87 5	FB_A_DQ<8>	PP8701	OMIT P4MM
89 87 5	FB_A_DQ<16>	PP8702	OMIT P4MM
89 87 5	FB_A_DQ<24>	PP8703	OMIT P4MM
89 87 5	FB_A_DQ<32>	PP8704	OMIT P4MM
89 87 5	FB_A_DQ<40>	PP8705	OMIT P4MM
89 87 5	FB_A_DQ<48>	PP8706	OMIT P4MM
89 87 5	FB_A_DQ<56>	PP8707	OMIT P4MM
89 87 5	FB_A_MA<3>	PP8708	OMIT P4MM
89 87	FB_A_RDQS<0>	PP8709	OMIT P4MM
89 87	FB_A_RDQS<1>	PP8710	OMIT P4MM
89 87	FB_A_RDQS<2>	PP8711	OMIT P4MM
89 87	FB_A_RDQS<3>	PP8712	OMIT P4MM
89 87	FB_A_RDQS<4>	PP8713	OMIT P4MM
89 87	FB_A_RDQS<5>	PP8714	OMIT P4MM
89 87	FB_A_RDQS<6>	PP8715	OMIT P4MM
89 87	FB_A_RDQS<7>	PP8716	OMIT P4MM
90 87 5	FB_B_DQ<0>	PP8720	OMIT P4MM
90 87 5	FB_B_DQ<8>	PP8721	OMIT P4MM
90 87 5	FB_B_DQ<16>	PP8722	OMIT P4MM
90 87 5	FB_B_DQ<24>	PP8723	OMIT P4MM
90 87 5	FB_B_DQ<32>	PP8724	OMIT P4MM
90 87 5	FB_B_DQ<40>	PP8725	OMIT P4MM
90 87 5	FB_B_DQ<48>	PP8726	OMIT P4MM
90 87 5	FB_B_DQ<56>	PP8727	OMIT P4MM
90 87 5	FB_B_MA<3>	PP8728	OMIT P4MM
90 87	FB_B_RDQS<0>	PP8729	OMIT P4MM
90 87	FB_B_RDQS<1>	PP8730	OMIT P4MM
90 87	FB_B_RDQS<2>	PP8731	OMIT P4MM
90 87	FB_B_RDQS<3>	PP8732	OMIT P4MM
90 87	FB_B_RDQS<4>	PP8733	OMIT P4MM
90 87	FB_B_RDQS<5>	PP8734	OMIT P4MM
90 87	FB_B_RDQS<6>	PP8735	OMIT P4MM
90 87	FB_B_RDQS<7>	PP8736	OMIT P4MM
84 34	GPU_CLK100M_PCIE_P	PP8400	OMIT P4MM
84 34	GPU_CLK100M_PCIE_N	PP8401	OMIT P4MM

LAYOUT NOTE: PLACE NEAR U4101

41 34	ENET_CLK100M_PCIE_P	PP4100	OMIT P4MM
41 34	ENET_CLK100M_PCIE_N	PP4101	OMIT P4MM

PLACE NEAR U8900

89 87	FB_A_CKE<0>	PP8900	OMIT P4MM
89 87	FB_A_CLK_P<0>	PP8901	OMIT P4MM
89 87	FB_A_CLK_N<0>	PP8902	OMIT P4MM
89 87	FB_A_CS_L<0>	PP8903	OMIT P4MM
89 87	FB_A_WE_L<0>	PP8904	OMIT P4MM
89 87	FB_A_CAS_L<0>	PP8905	OMIT P4MM
89 87 5	FB_A_MA<3>	PP8906	OMIT P4MM
89 87	FB_A_RAS_L<0>	PP8907	OMIT P4MM
90 89 88 5	DRAM_RST	PP8908	OMIT P4MM
89 87	FB_A_WDQS<0>	PP8909	OMIT P4MM
89 87	FB_A_WDQS<1>	PP8910	OMIT P4MM
89 87	FB_A_WDQS<3>	PP8911	OMIT P4MM
89 87	FB_A_WDQS<2>	PP8912	OMIT P4MM
89 87 5	FB_A_DQ<0>	PP8913	OMIT P4MM
89 87 5	FB_A_DQ<8>	PP8914	OMIT P4MM
89 87 5	FB_A_DQ<16>	PP8915	OMIT P4MM
89 87 5	FB_A_DQ<24>	PP8916	OMIT P4MM

PLACE NEAR U8950

89 87	FB_A_CKE<1>	PP8920	OMIT P4MM
89 87	FB_A_CLK_P<1>	PP8921	OMIT P4MM
89 87	FB_A_CLK_N<1>	PP8922	OMIT P4MM
89 87	FB_A_CS_L<1>	PP8923	OMIT P4MM
89 87	FB_A_WE_L<1>	PP8924	OMIT P4MM
89 87	FB_A_CAS_L<1>	PP8925	OMIT P4MM
89 87	FB_A_RAS_L<1>	PP8926	OMIT P4MM
89 87 5	FB_A_MA<3>	PP8927	OMIT P4MM
90 89 88 5	DRAM_RST	PP8928	OMIT P4MM
89 87	FB_A_WDQS<5>	PP8929	OMIT P4MM
89 87	FB_A_WDQS<6>	PP8930	OMIT P4MM
89 87	FB_A_WDQS<4>	PP8931	OMIT P4MM
89 87	FB_A_WDQS<7>	PP8932	OMIT P4MM
89 87 5	FB_A_DQ<32>	PP8933	OMIT P4MM
89 87 5	FB_A_DQ<40>	PP8934	OMIT P4MM
89 87 5	FB_A_DQ<48>	PP8935	OMIT P4MM
89 87 5	FB_A_DQ<56>	PP8936	OMIT P4MM

PLACE NEAR U9000

90 87	FB_B_CKE<0>	PP9000	OMIT P4MM
90 87	FB_B_CLK_P<0>	PP9001	OMIT P4MM
90 87	FB_B_CLK_N<0>	PP9002	OMIT P4MM
90 87	FB_B_CS_L<0>	PP9003	OMIT P4MM
90 87	FB_B_WE_L<0>	PP9004	OMIT P4MM
90 87	FB_B_CAS_L<0>	PP9005	OMIT P4MM
90 87	FB_B_RAS_L<0>	PP9006	OMIT P4MM
90 87 5	FB_B_MA<3>	PP9007	OMIT P4MM
90 89 88 5	DRAM_RST	PP9008	OMIT P4MM
90 87	FB_B_WDQS<0>	PP9009	OMIT P4MM
90 87	FB_B_WDQS<1>	PP9010	OMIT P4MM
90 87	FB_B_WDQS<3>	PP9011	OMIT P4MM
90 87	FB_B_WDQS<2>	PP9012	OMIT P4MM
90 87 5	FB_B_DQ<0>	PP9013	OMIT P4MM
90 87 5	FB_B_DQ<8>	PP9014	OMIT P4MM
90 87 5	FB_B_DQ<16>	PP9015	OMIT P4MM
90 87 5	FB_B_DQ<24>	PP9016	OMIT P4MM

PLACE NEAR U9050

90 87	FB_B_CKE<1>	PP9020	OMIT P4MM
90 87	FB_B_CLK_P<1>	PP9021	OMIT P4MM
90 87	FB_B_CLK_N<1>	PP9022	OMIT P4MM
90 87	FB_B_CS_L<1>	PP9023	OMIT P4MM
90 87	FB_B_WE_L<1>	PP9024	OMIT P4MM
90 87	FB_B_CAS_L<1>	PP9025	OMIT P4MM
90 87	FB_B_RAS_L<1>	PP9026	OMIT P4MM
90 87 5	FB_B_MA<3>	PP9027	OMIT P4MM
90 89 88 5	DRAM_RST	PP9028	OMIT P4MM
90 87	FB_B_WDQS<5>	PP9029	OMIT P4MM
90 87	FB_B_WDQS<6>	PP9030	OMIT P4MM
90 87	FB_B_WDQS<7>	PP9031	OMIT P4MM
90 87	FB_B_WDQS<4>	PP9032	OMIT P4MM
90 87 5	FB_B_DQ<32>	PP9033	OMIT P4MM
90 87 5	FB_B_DQ<40>	PP9034	OMIT P4MM
90 87 5	FB_B_DQ<48>	PP9035	OMIT P4MM
90 87 5	FB_B_DQ<56>	PP9036	OMIT P4MM

PLACE NEAR R1210 AND R1211

12	NB_FSB_VREF	PP1200	SM-TP50-TOP
19 12 6	=PP1V05_S0_FSB_NB	PP1201	SM-TP50-TOP
		PP1202	SM-TP50-TOP

PLACE NEAR R0705 AND R0706

59 11 9 8 7 6	=PP1V05_S0_CPU	PP700	SM-TP50-TOP
7	CPU_GTLREF	PP701	SM-TP50-TOP
		PP702	SM-TP50-TOP

PLACE NEAR R2800 AND R2801

29 28 6	=PP1V8_S3_MEM	PP2800	SM-TP50-TOP
29 28	MEM_VREF	PP2801	SM-TP50-TOP
		PP2802	SM-TP50-TOP

79 77 76 66 65 59 26 6	IN	PP3V3_S5	FUNC_TEST=TRUE
83 81 80 79 59 6	IN	PP5V_S5	FUNC_TEST=TRUE
88 83 81 80 79 78 6	IN	PP12V_S5	FUNC_TEST=TRUE
83 81 80 79 59 6	IN	PP1V8_S3	FUNC_TEST=TRUE
79 6	IN	PPVCORE_CPU	FUNC_TEST=TRUE
76 75 6	IN	PP3V3_S5_S0_RTC	FUNC_TEST=TRUE
26 25 24 21	IN	8 TESTPOINTS	FUNC_TEST=TRUE

60 59 58	IN	SMC_TCK	FUNC_TEST=TRUE
60 59 58	IN	SMC_TDI	FUNC_TEST=TRUE
60 59 58	IN	SMC_TDO	FUNC_TEST=TRUE
60 59 58	IN	SMC_TMS	FUNC_TEST=TRUE
60 58	IN	SMC_TRST_L	FUNC_TEST=TRUE
60 59 58	IN	SMC_TX_L	FUNC_TEST=TRUE
60 59 58	IN	SMC_RX_L	FUNC_TEST=TRUE
59	IN	SMC_MANUAL_RST_L	FUNC_TEST=TRUE
59 11 7	IN	XDP_TCK	FUNC_TEST=TRUE
59 11 7	IN	XDP_TDI	FUNC_TEST=TRUE
59 11 7	IN	XDP_TDO	FUNC_TEST=TRUE
59 11 7	IN	XDP_TMS	FUNC_TEST=TRUE
59 11 7	IN	XDP_TRST_L	FUNC_TEST=TRUE
59	IN	POWER_BUTTON_L	FUNC_TEST=TRUE
26	IN	SW_RST_BTN_L	FUNC_TEST=TRUE

34	IN	TP_PCI_CLK_SPARE	NO_TEST=TRUE
29	IN	TP_MEM_B_A<14>	NO_TEST=TRUE
29	IN	TP_MEM_B_A<15>	NO_TEST=TRUE

MISC GROUND VIAS

ZH500	ZH510	ZH520
ZH501	ZH511	ZH521
ZH502	ZH512	ZH522
ZH503	ZH513	ZH523
ZH504	ZH514	ZH524
ZH505	ZH515	ZH525
ZH506	ZH516	ZH526
ZH507	ZH517	ZH527
ZH508	ZH518	ZH528
ZH509	ZH519	ZH529

HOLE-VIA

FUNC TEST 1 OF 2

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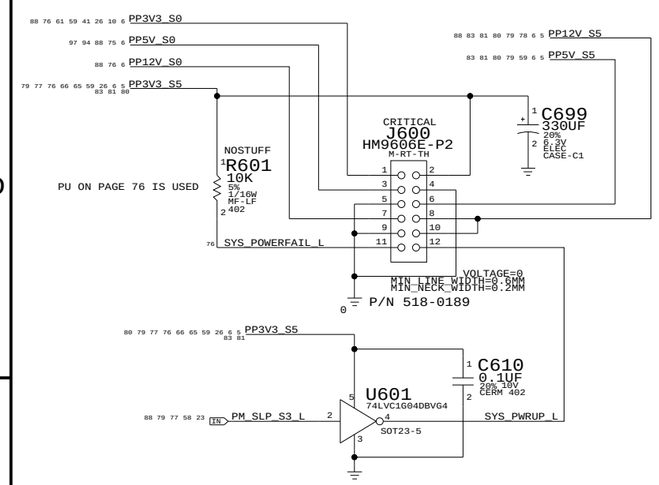
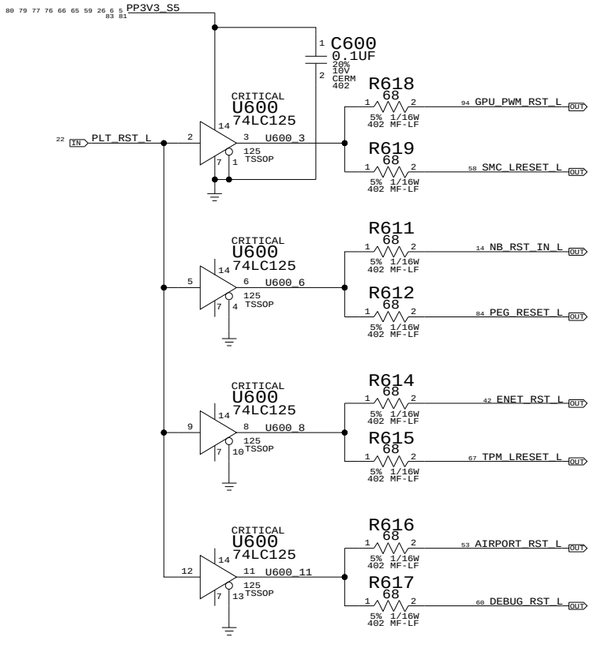
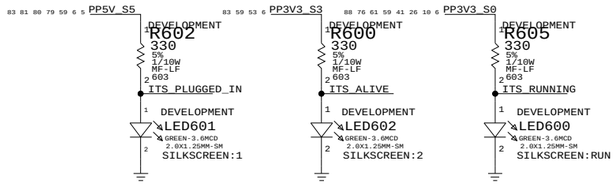
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 5 OF 111	







"S0" RAILS

ONLY ON IN RUN

- PP0V9_S0 (MAKE_BASE=TRUE, VOLTAGE=0.9V, MIN_LINE_WIDTH=0.3MM, MIN_NECK_WIDTH=0.15MM) → =PP0V9_S0_MEMVTT_LDO (31), =PP0V9_S0_MEM_TERM (30)
- PPVCORE_CPU (MAKE_BASE=TRUE, VOLTAGE=1.25V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PPVCORE_S0_CPU (8 9 76)
- PP1V05_S0 (MAKE_BASE=TRUE, VOLTAGE=1.05V, MIN_LINE_WIDTH=0.3MM, MIN_NECK_WIDTH=0.15MM) → =PPVCORE_S0_NB (16 19), =PP1V05_S0_CPU (5 7 8 9 11 59), =PP1V05_S0_FSB_NB (5 12 19), =PP1V05_S0_NB_VTT (17 19), =PP1V05_S0_NB (19), =PP1V05_S0_SB_CPU_IO (21 24 25), =PPVCORE_S0_SB (24 25)
- PP1V5_S0 (MAKE_BASE=TRUE, VOLTAGE=1.5V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PP1V5_S0_CPU (8), =PP1V5_S0_NB_PCIE (13 19), =PP1V5_S0_NB_VCCAUX (6 16 17 19), =PP1V5_S0_NB_VCCD_HMPLL (17 19), =PP1V5_S0_NB_VCCAUX (6 16 17 19), =PP1V5_S0_NB_PLL (19), =PP1V5_S0_NB (19), =PP1V5_S0_NB_TVDAC (19), =PP1V5_S0_NB_3GPLL (19), =PP1V5_S0_SB_VCC1_5_A_ARX (24 25), =PP1V5_S0_SB_VCCSATAPLL (24 25), =PP1V5_S0_SB_VCC1_5_A_ATX (24 25), =PP1V5_S0_SB_VCCUSBPLL (24 25), =PP1V5_S0_SB_VCC1_5_A_USB_CORE (24 25), =PP1V5_S0_SB_VCC1_5_A (24 25), =PP1V5_S0_SB (25), =PP1V5_S0_AIRPORT (53)
- PP2V5_S0 (MAKE_BASE=TRUE, VOLTAGE=3.3V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PP2V5_S0_NB_VCCA_3GBG (17 19)
- PP3V3_S0 (MAKE_BASE=TRUE, VOLTAGE=3.3V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PP3V3_S0_NB_PM, =PP3V3_S0_NB_VCC_HV (17 19), =PP3V3_S0_NB_TVDAC (19), =PP3V3_S0_SB (22 25), =PP3V3_S0_SB_GPIO (21 23), =PP3V3_S0_SB_VCC3_3 (24 25), =PP3V3_S0_SB_VCC3_3_PCI (24 25), =PP3V3_S0_SB_VCC3_3_IDE (24 25), =PP3V3_S0_SB_PCI (26), =PP3V3_S0_SB_PM (26), =PP3V3_S0_PATA (38), =PP3V3_S0_FAN (59 65 66), =PP3V3_S0_HD_TSENS (66), =PP3V3_S0_ODD_TSENS (66), =PP3V3_S0_SB_3V3_1V5_VCCHDA (24 25), =PP3V3_S0_TPM (67), =PPSPD_S0_MEM (28 29), =PP3V3_S0_CK410 (33 34), =PP3V3_S0_IMVP (75), =PP3V3_S0_AUDIO (68 72 73 74), =PP3V3_S0_PCI (44), =PP3V3_S0_SB_VCCLAN3_3 (24 25), =PP3V3_S0_AIRPORT (53), =PP3V3_S0_2V5REG (77), =PP3V3_S0_NB (14 19 20)
- PP5V_S0 (MAKE_BASE=TRUE, VOLTAGE=5V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PP5V_S0_SB (25), =PP5V_S0_PATA (38), XW604 SM OMIT: PP5V_S0_AUDIO (MAKE_BASE=TRUE) → =PP5V_S0_AUDIO (68); =PP5V_S0_DEBUG (60)
- PP12V_S0 (MAKE_BASE=TRUE, VOLTAGE=12V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.15MM) → =PP12V_S0_FAN (65 66), XW605 SM OMIT: PP12V_S0_AUDIO_SPKRAMP (MAKE_BASE=TRUE) → =PP12V_S0_AUDIO_SPKRAMP (72)

"S3" RAILS

ON IN RUN AND SLEEP

- PP1V2_S3 (MAKE_BASE=TRUE, VOLTAGE=1.8V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM) → =PP1V2_S3_LAN (42)
- PP1V8_S3 (MAKE_BASE=TRUE, VOLTAGE=1.8V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM) → =PP1V8_S3_MEM_NB (6 14 16 19), =PP1V8_S3_MEM_NB (6 14 16 19), =PP1V8_S3_MEM (5 28 29), =PP1V8_S0_MEMVTT (31)
- PP3V3_S3 (MAKE_BASE=TRUE, VOLTAGE=3.3V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.25MM) → =PP3V3_S3_ENET (41 42 43), =PP3V3_S3_TPM (67), =PP3V3_S3_1V2REG (77), =PP3V3_S3_BT (47), =PP3V3_S3_USB (49), =PP3V3_S3_VGASYNC (97)
- PP5V_S3 (MAKE_BASE=TRUE, VOLTAGE=5V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.25MM) → =PP5V_S3_USB (47), =PP5V_S3_BNDI (47), =PP5V_S0_MEMVTT (31)

"S5" RAILS

ALWAYS ON WHEN UNIT HAS AC POWER (TRICKLE)

- PP3V3_S5 (MAKE_BASE=TRUE, VOLTAGE=3.3V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM) → =PP3V3_S5_SB (23 25 26), =PP3V3_S5_SB_USB (22), =PP3V3_S5_SB_PM (11 23), =PP3V3_S5_SB_VCCSUS3_3 (24 25), =PP3V3_S5_SB_VCCSUS3_3_USB (24 25), =PP3V3_S5_SB_3V3_1V5_VCCSUSHDA (24), =PP3V3_S5_SB_IO (22 27), =PP3V3_S5_FW (44 45 46), =PP3V3_S5_SMC (58 59), =PP3V3_S5_DEBUG (60), =PP3V3_S5_ROM (63)
- PP5V_S5 (MAKE_BASE=TRUE, VOLTAGE=5V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM) → =PP5V_S5_SB (25)
- PP12V_S5 (MAKE_BASE=TRUE, VOLTAGE=12V, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM) → =PP12V_S5_FW (46), =PP12V_S5_CPU (76)

GND RAILS

XW601 SM NOSTUFF: GND_AUDIO (74)
XW602 SM NOSTUFF: GND_AUDIO_SPKRAMP (74 72)

CHASSIS GND

NOSTUFF R603 0 5% 1/10W MF-LF 402

- GND_CHASSIS_IO_LEFT (MAKE_BASE=TRUE, VOLTAGE=0, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM)
- GND_CHASSIS_AUDIO_EXTERNAL (74 73)
- GND_CHASSIS_USB (47)
- GND_CHASSIS_FIREWIRE (46)
- GND_CHASSIS_VGA (97)
- GND_CHASSIS_RJ45 (43)
- GND_CHASSIS_IO_RIGHT (MAKE_BASE=TRUE, VOLTAGE=0, MIN_LINE_WIDTH=0.6MM, MIN_NECK_WIDTH=0.2MM)
- GND_CHASSIS_AUDIO_INTERNAL (73)
- GND_CHASSIS_BNDI (47) (MIN_NECK_WIDTH=0.2MM, MIN_LINE_WIDTH=0.6MM, VOLTAGE=0, MAKE_BASE=TRUE)

OMIT ZH604 4P25R3P5 (ZH704P1)
OMIT ZH601 4P25R3P5 (ZH701P1)
OMIT ZH602 4P25R3P5 (ZH702P1)
OMIT ZH603 4P25R3P5 (ZH703P1)
NOSTUFF C604 0.01UF 20% 16V CERM 402
NOSTUFF C601 0.01UF 20% 16V CERM 402
NOSTUFF C602 0.01UF 20% 16V CERM 402
NOSTUFF C603 0.01UF 20% 16V CERM 402
OMIT ZH606 160R138

Power Conn / Alias

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SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 6 OF 111	

OMIT

J0700
YONAH-SKT
CPU
BGA
(1 OF 4)

ADDR GROUP0

FSB_A_L<3>	J4	A3*	
FSB_A_L<4>	L4	A4*	
FSB_A_L<5>	M3	A5*	
FSB_A_L<6>	K5	A6*	
FSB_A_L<7>	M1	A7*	
FSB_A_L<8>	N2	A8*	
FSB_A_L<9>	J1	A9*	
FSB_A_L<10>	N3	A10*	
FSB_A_L<11>	P5	A11*	
FSB_A_L<12>	P2	A12*	
FSB_A_L<13>	L1	A13*	
FSB_A_L<14>	P4	A14*	
FSB_A_L<15>	P1	A15*	
FSB_A_L<16>	R1	A16*	
FSB_ADSTB_L<0>	L2	ADSTB0*	

ADDR GROUP1

FSB_A_L<17>	Y2	A17*	
FSB_A_L<18>	U5	A18*	
FSB_A_L<19>	R3	A19*	
FSB_A_L<20>	W6	A20*	
FSB_A_L<21>	U4	A21*	
FSB_A_L<22>	Y5	A22*	
FSB_A_L<23>	U2	A23*	
FSB_A_L<24>	R4	A24*	
FSB_A_L<25>	T5	A25*	
FSB_A_L<26>	T3	A26*	
FSB_A_L<27>	W3	A27*	
FSB_A_L<28>	W5	A28*	
FSB_A_L<29>	Y4	A29*	
FSB_A_L<30>	W2	A30*	
FSB_A_L<31>	Y1	A31*	
FSB_ADSTB_L<1>	V4	ADSTB1*	

CPU_A20M_L	A6	A20M*	
CPU_FERR_L	A5	FERR*	
CPU_IGNNE_L	C4	IGNNE*	
CPU_STPCLK_L	D5	STPCLK*	
CPU_INTR	C6	LINT0	
CPU_NMI	B4	LINT1	
CPU_SMI_L	A3	SMI*	

TP_CPU_A32_L	AA1	RSVD1
TP_CPU_A33_L	AA4	RSVD2
TP_CPU_A34_L	AB2	RSVD3
TP_CPU_A35_L	AA3	RSVD4
TP_CPU_A36_L	M4	RSVD5
TP_CPU_A37_L	N5	RSVD6
TP_CPU_A38_L	T2	RSVD7
TP_CPU_A39_L	V3	RSVD8
TP_CPU_APM0_L	B2	RSVD9
TP_CPU_APM1_L	C3	RSVD10
TP_CPU_HFPLL	B25	RSVD11

CONTROL

ADS*	H1	FSB_ADS_L	12
BNR*	E2	FSB_BNR_L	12 5
BPRI*	G5	FSB_BPRI_L	12
DEFER*	H5	FSB_DEFER_L	12
DRDY*	F21	FSB_DRDY_L	12
DBSY*	E1	FSB_DBSY_L	12 5
BR0*	F1	FSB_BREQ0_L	12 5
IERR*	D20	FSB_IERR_L	
INIT*	B3	CPU_INIT_L	21 5
LOCK*	H4	FSB_LOCK_L	12 5
RESET*	B1	FSB_CPURST_L	12 11 5
RS0*	F3	FSB_RS_L<0>	12
RS1*	F4	FSB_RS_L<1>	12
RS2*	G3	FSB_RS_L<2>	12
TRDY*	G2	FSB_TRDY_L	12
HIT*	G6	FSB_HIT_L	12 5
HITM*	E4	FSB_HITM_L	12 5

XDP/ITP SIGNALS

BPM0*	AD4	XDP_BPM_L<0>	11
BPM1*	AD3	XDP_BPM_L<1>	11
BPM2*	AD1	XDP_BPM_L<2>	11
BPM3*	AC4	XDP_BPM_L<3>	11
PRDY*	AC2	XDP_BPM_L<4>	11
PREQ*	AC1	XDP_BPM_L<5>	11
TCK	AC5	XDP_TCK	59 11 7 5
TDI	AA6	XDP_TDI	59 11 7 5
TDO	AB3	XDP_TDO	59 11 5
TMS	AB5	XDP_TMS	59 11 7 5
TRST*	AB6	XDP_TRST_L	59 11 5
DBR*	C20	XDP_DBRESET_L	26 11

NOTE: DUMMY PIN
PIN ACTUALLY DRIVEN BY ITP

THERM

PROCHOT*	D21	CPU_PROCHOT_L	59
THERMDA	A24	CPU_THERMD_P	10
THERMDC	A25	CPU_THERMD_N	10
THERMTRIP*	C7	PM_THRMTRIP_L	59 21 14

HCLK

BCLK0	A22	FSB_CLK_CPU_P	34 5
BCLK1	A21	FSB_CLK_CPU_N	34 5

RESERVED

RSVD12	T22	TP_CPU_EXTBREF
RSVD13	D2	TP_CPU_SPARE0
RSVD14	F6	TP_CPU_SPARE1
RSVD15	D3	TP_CPU_SPARE2
RSVD16	C1	TP_CPU_SPARE3
RSVD17	AF1	TP_CPU_SPARE4
RSVD18	D22	TP_CPU_SPARE5
RSVD19	C23	TP_CPU_SPARE6
RSVD20	C24	TP_CPU_SPARE7

=PP1V05_S0_CPU 5 6 7 8 9 11 59

R0702 54.9 1% 1/16W MF-LF 402

CPU SCH AND PCB SYMBOL NEED TO CHECK

PLACE TESTPOINT ON FSB_IERR# WITH A GND 0.1" AWAY

=PP1V05_S0_CPU 5 6 7 8 9 11 59

NOSTUFF R0703 54.9 1% 1/16W MF-LF 402

R0704 68 5% 1/16W MF-LF 402

NO SPACE FOR ITP CONNECTOR, NEED TERM ON ITP SIGNALS?

CPU_PROCHOT_L TO SMC AND CPU VR TO INFORM CPU IS HOT

PM_THRMTRIP# SHOULD CONNECT TO ICH6-M AND GMCH WITHOUT T-ING (NO STUB)

SPARE[7-0],HFPLL: ROUTE TO TP VIA AND PLACE GND VIA W/IN 1000 MILS

=PP1V05_S0_CPU 5 6 7 8 9 11 59

R0720 54.9 1% 1/16W MF-LF 402 — XDP_TMS 59 11 7 5

R0721 54.9 1% 1/16W MF-LF 402 — XDP_TDI 59 11 7 5

R0722 54.9 1% 1/16W MF-LF 402 — XDP_TCK 59 11 7 5

OMIT

J0700
YONAH-SKT
CPU
BGA
(2 OF 4)

DATA GRP0

FSB_D_L<0>	E22	D0*	
FSB_D_L<1>	F24	D1*	
FSB_D_L<2>	E26	D2*	
FSB_D_L<3>	H22	D3*	
FSB_D_L<4>	F23	D4*	
FSB_D_L<5>	G25	D5*	
FSB_D_L<6>	E25	D6*	
FSB_D_L<7>	E23	D7*	
FSB_D_L<8>	K24	D8*	
FSB_D_L<9>	G24	D9*	
FSB_D_L<10>	J24	D10*	
FSB_D_L<11>	J23	D11*	
FSB_D_L<12>	H26	D12*	
FSB_D_L<13>	F26	D13*	
FSB_D_L<14>	K22	D14*	
FSB_D_L<15>	H25	D15*	
FSB_DSTBN_L<0>	H23	DSTBN0*	
FSB_DSTBP_L<0>	G22	DSTBP0*	
FSB_DINV_L<0>	J26	DINV0*	

DATA GRP1

FSB_D_L<16>	N22	D16*	
FSB_D_L<17>	K25	D17*	
FSB_D_L<18>	P26	D18*	
FSB_D_L<19>	R23	D19*	
FSB_D_L<20>	L25	D20*	
FSB_D_L<21>	L22	D21*	
FSB_D_L<22>	L23	D22*	
FSB_D_L<23>	M23	D23*	
FSB_D_L<24>	P25	D24*	
FSB_D_L<25>	P22	D25*	
FSB_D_L<26>	P23	D26*	
FSB_D_L<27>	T24	D27*	
FSB_D_L<28>	R24	D28*	
FSB_D_L<29>	L26	D29*	
FSB_D_L<30>	T25	D30*	
FSB_D_L<31>	N24	D31*	
FSB_DSTBN_L<1>	M24	DSTBN1*	
FSB_DSTBP_L<1>	N25	DSTBP1*	
FSB_DINV_L<1>	M26	DINV1*	

DATA GRP2

D32*	AA23	FSB_D_L<32>	12
D33*	AB24	FSB_D_L<33>	12
D34*	V24	FSB_D_L<34>	12
D35*	V26	FSB_D_L<35>	12
D36*	W25	FSB_D_L<36>	12
D37*	U23	FSB_D_L<37>	12
D38*	U25	FSB_D_L<38>	12
D39*	U22	FSB_D_L<39>	12
D40*	AB25	FSB_D_L<40>	12
D41*	W22	FSB_D_L<41>	12 5
D42*	Y23	FSB_D_L<42>	12
D43*	AA26	FSB_D_L<43>	12
D44*	Y26	FSB_D_L<44>	12
D45*	Y22	FSB_D_L<45>	12
D46*	AC26	FSB_D_L<46>	12
D47*	AA24	FSB_D_L<47>	12
DSTBN2*	W24	FSB_DSTBN_L<2>	12 5
DSTBP2*	Y25	FSB_DSTBP_L<2>	12 5
DINV2*	V23	FSB_DINV_L<2>	12 5

DATA GRP3

D48*	AC22	FSB_D_L<48>	12
D49*	AC23	FSB_D_L<49>	12
D50*	AB22	FSB_D_L<50>	12
D51*	AA21	FSB_D_L<51>	12
D52*	AB21	FSB_D_L<52>	12
D53*	AC25	FSB_D_L<53>	12
D54*	AD20	FSB_D_L<54>	12
D55*	AE22	FSB_D_L<55>	12
D56*	AF23	FSB_D_L<56>	12
D57*	AD24	FSB_D_L<57>	12
D58*	AE21	FSB_D_L<58>	12
D59*	AD21	FSB_D_L<59>	12 5
D60*	AE25	FSB_D_L<60>	12
D61*	AF25	FSB_D_L<61>	12
D62*	AF22	FSB_D_L<62>	12
D63*	AF26	FSB_D_L<63>	12
DSTBN3*	AD23	FSB_DSTBN_L<3>	12 5
DSTBP3*	AE24	FSB_DSTBP_L<3>	12 5
DINV3*	AC20	FSB_DINV_L<3>	12 5

MISC

COMP0	R26	CPU_COMP<0>	
COMP1	U26	CPU_COMP<1>	
COMP2	U1	CPU_COMP<2>	
COMP3	V1	CPU_COMP<3>	
DPRSTP*	E5	CPU_DPRSTP_L	75 21
DPSLP*	B5	CPU_DPSLP_L	21
DPWR*	D24	FSB_DPWR_L	12 5
PWRGOOD	D6	CPU_PWRGD	21
SLP*	D7	FSB_SLPCPU_L	12
PSI*	AE6	CPU_PSI_L	75

LAYOUT NOTE:
COMP0,2 CONNECT WITH ZO=27.4OHM, MAKE TRACE LENGTH SHORTER THAN 0.5".
COMP1,3 CONNECT WITH ZO=55OHM, MAKE TRACE LENGTH SHORTER THAN 0.5".

R0716 27.4 1% 1/16W MF-LF 402
R0717 54.9 1% 1/16W MF-LF 402
R0718 27.4 1% 1/16W MF-LF 402
R0719 54.9 1% 1/16W MF-LF 402

=PP1V05_S0_CPU 59 11 9 8 7 6 5

R0705 1K 1% 1/16W MF-LF 402

R0706 2.0K 1% 1/16W MF-LF 402 — LAYOUT NOTE: 0.5" MAX LENGTH

5 CPU_GTLREF

AD26	GTLREF		
A2	NC		
C26	TEST1	CPU_TEST1	
D25	TEST2	CPU_TEST2	
B22	BSEL0	CPU_BSEL<0>	34 OUT
B23	BSEL1	CPU_BSEL<1>	34 OUT
C21	BSEL2	CPU_BSEL<2>	34 OUT

NOSTUFF R0730 0 402

R0707 51 5% 1/16W MF-LF 402

NOSTUFF R0712 1K 5% 1/16W MF-LF 402

CPU 1 OF 2-FSB

SYNC_MASTER=MASTER SYNC_DATE=05/03/2005

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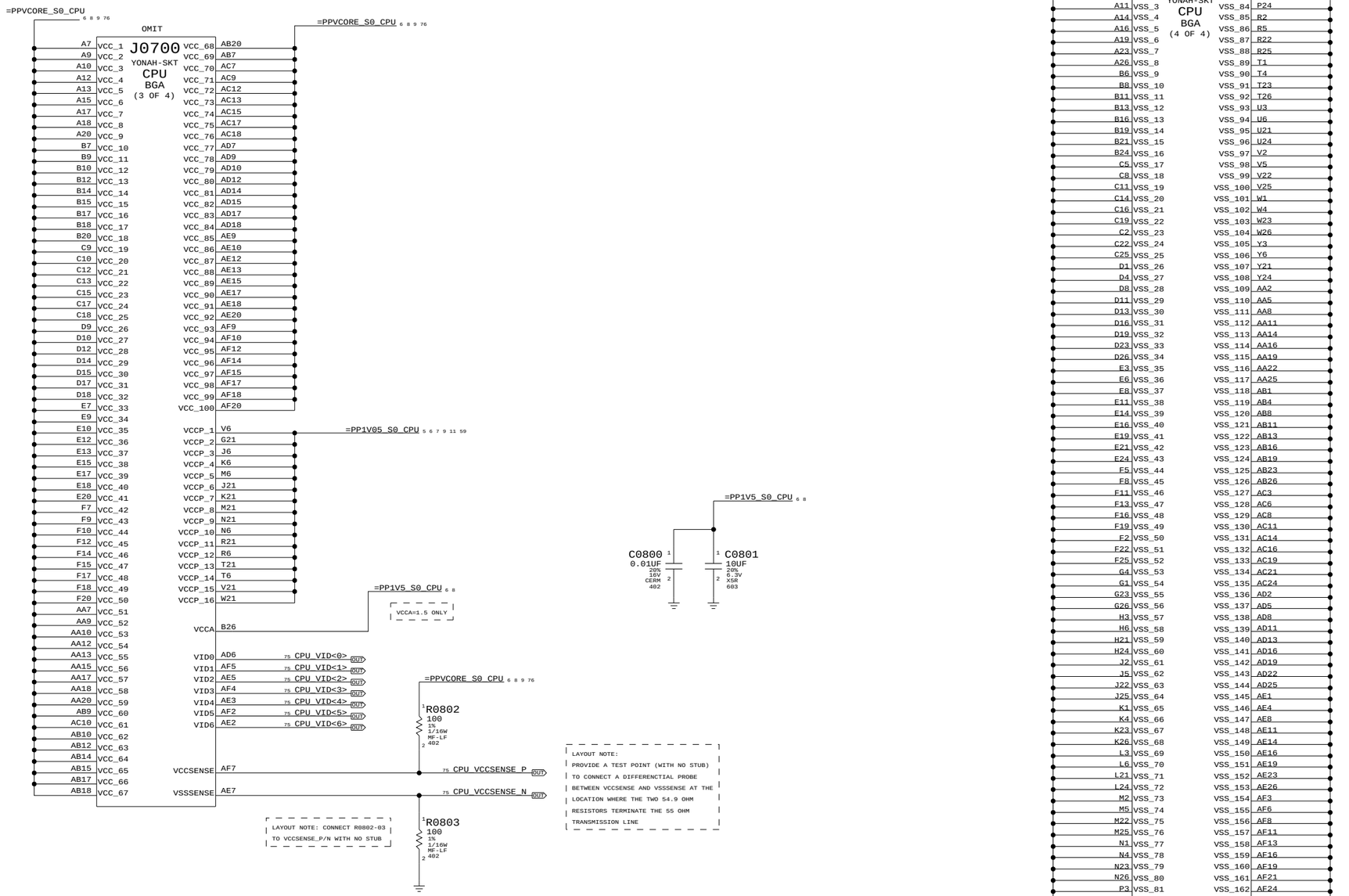
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 7 OF 111	



CPU 2 OF 2-PWR/GND

SYNC_MASTER=MASTER SYNC_DATE=05/03/2005

APPLE COMPUTER INC.

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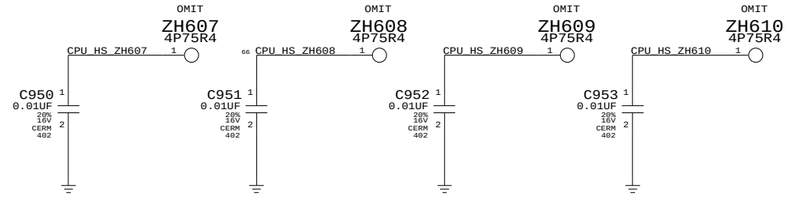
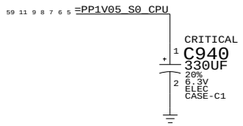
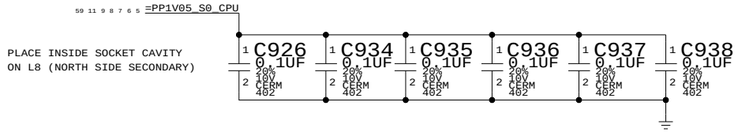
SCALE: NONE	SHT 8 OF 111	

CPU HEATSINK MOUNTING HOLES

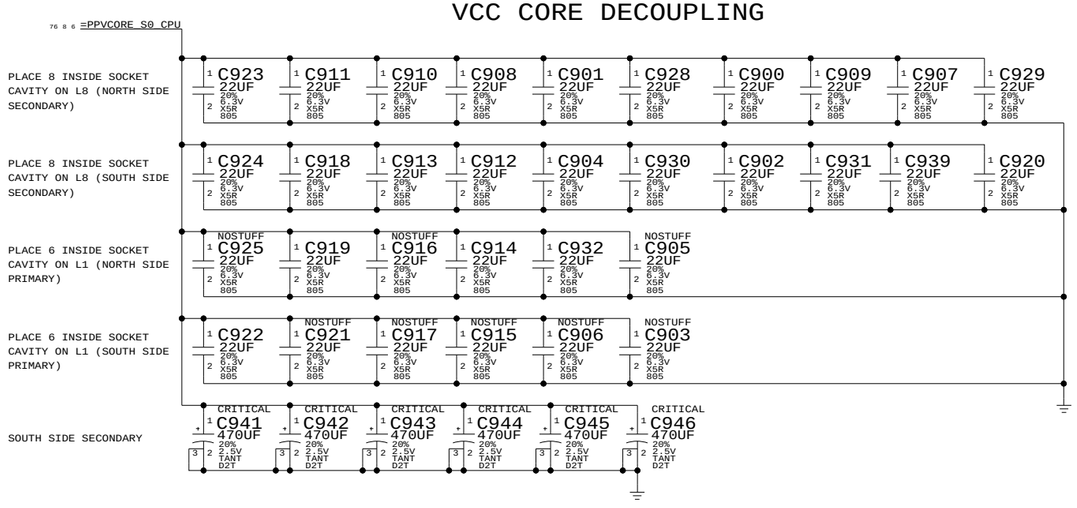




VCCP CORE DECOUPLING



VCC CORE DECOUPLING



CPU DECAPS & VID<>

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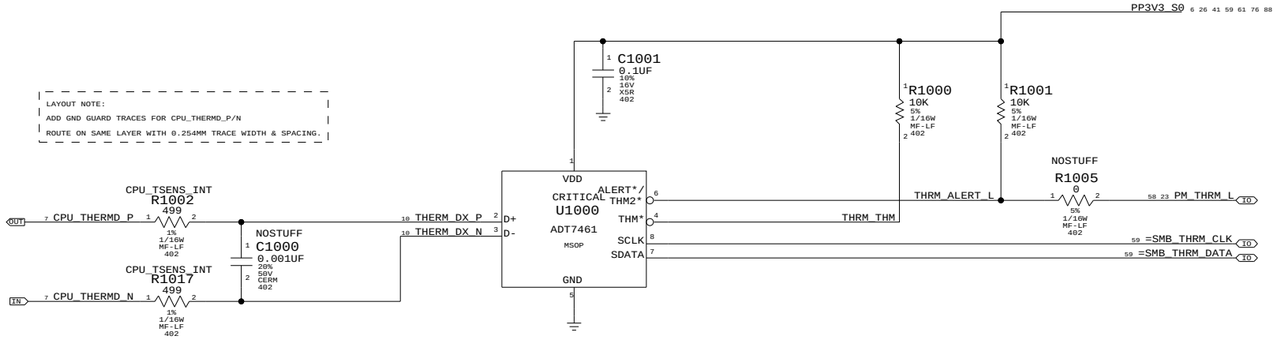
CPU THERMAL SENSOR

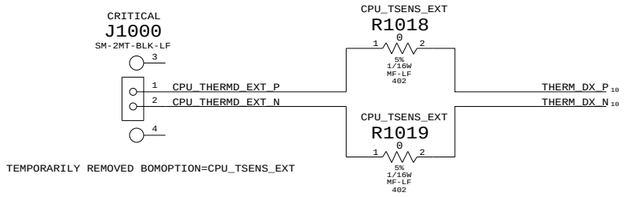
NOTE:
IF CPU T DIODE TO BE READ IN OFF STATE,
THEN THIS SHOULD BE S5

LAYOUT NOTE:
ADD GND GUARD TRACES FOR CPU_THERMD_P/N
ROUTE ON SAME LAYER WITH 0.254MM TRACE WIDTH & SPACING.



NOTE: SYMBOL SHOULD BE SHOWN ADT7461A

LAYOUT NOTE:
PLACE R1002 AND R1018 SUCH THAT THEY SHARE ONE PAD
PLACE R1017 AND R1019 SUCH THAT THEY SHARE ONE PAD



TEMPORARILY REMOVED BOMOPTION=CPU_TSENS_EXT

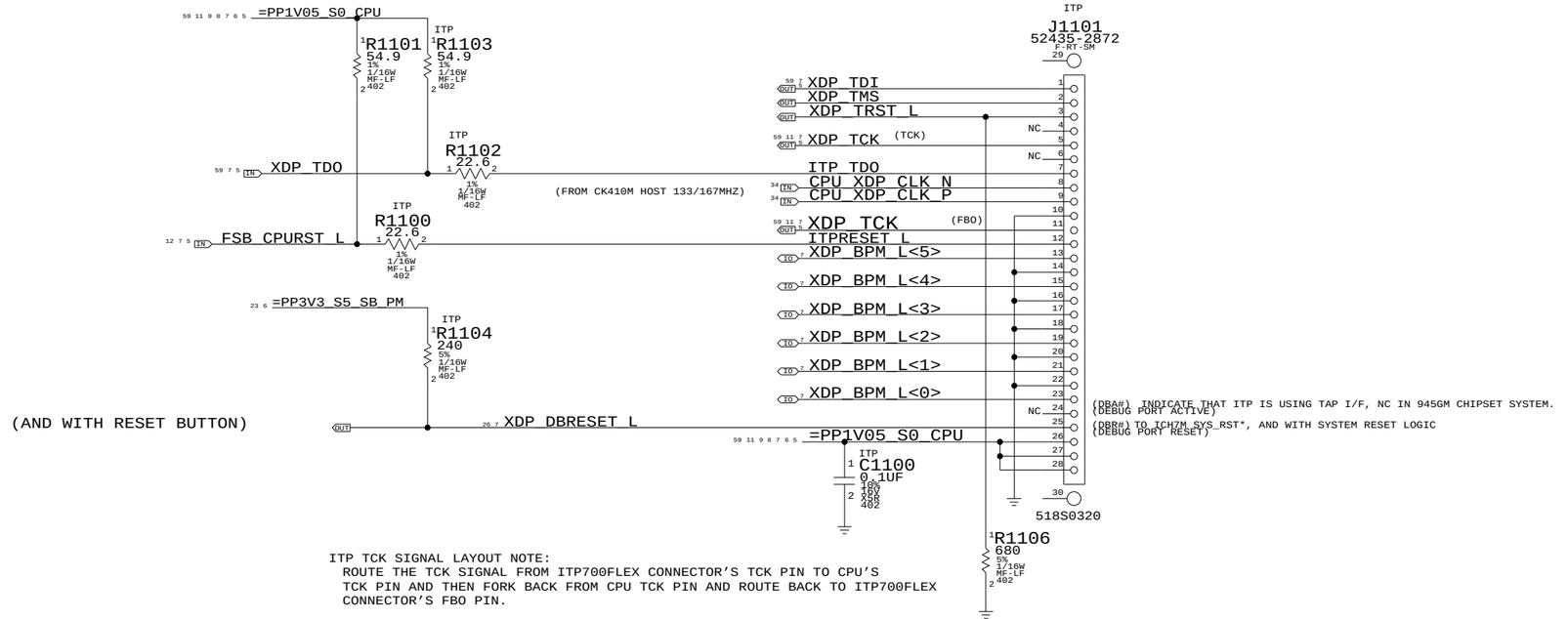
CPU TEMP SENSOR

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	10	111

CPU ITP700FLEX DEBUG SUPPORT



ITP TCK SIGNAL LAYOUT NOTE:
ROUTE THE TCK SIGNAL FROM ITP700FLEX CONNECTOR'S TCK PIN TO CPU'S TCK PIN AND THEN FORK BACK FROM CPU TCK PIN AND ROUTE BACK TO ITP700FLEX CONNECTOR'S FBO PIN.

CPU ITP700FLEX DEBUG

SYNC_MASTER=MASTER SYNC_DATE=5/23/05

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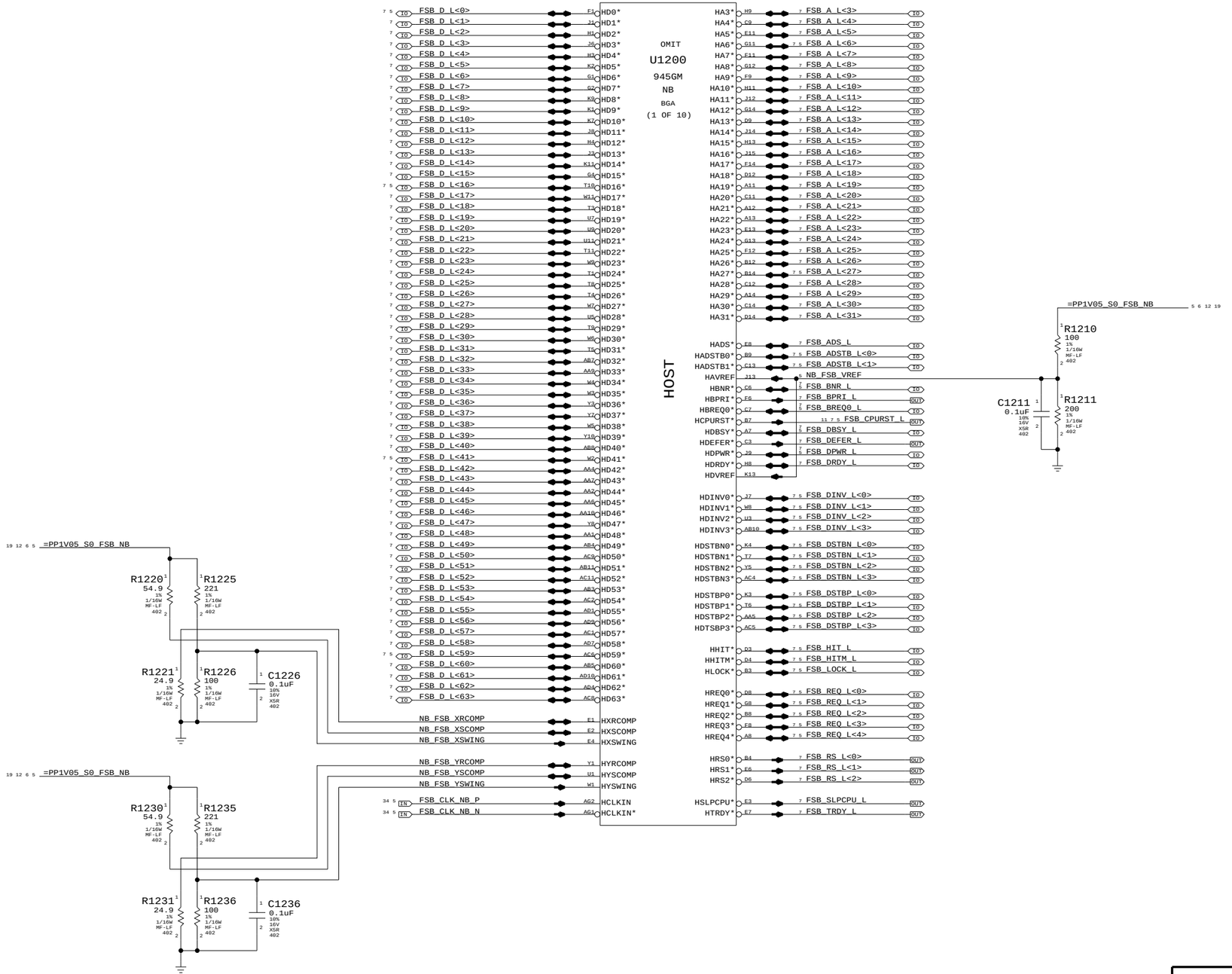
	SCALE: NONE	SHT 11 OF 111	



NB CPU Interface

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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LVDS Disable

Can leave all signals NC if LVDS is not implemented
Tie VCC_TXLVDS and VCCA_LVDS to GND. If SDVO is used
VCCD_LVDS must remain powered with proper decoupling.
Otherwise, tie VCCD_LVDS to GND also.

TV-Out Signal Usage:

Composite: DACA only
S-Video: DACB & DACC only
Component: DACA, DACB & DACC

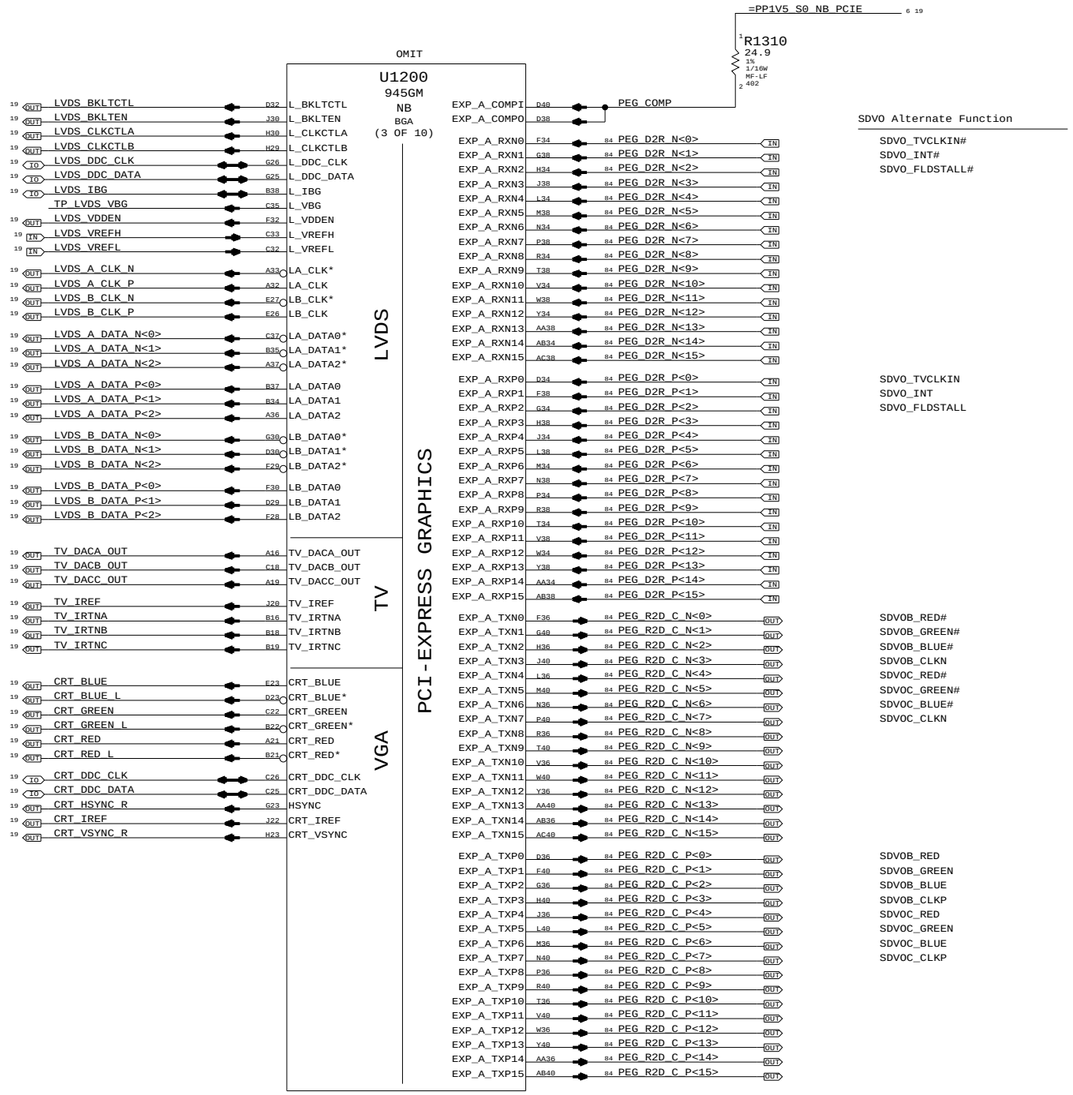
Unused DAC outputs must remain powered, but can omit filtering components. Unused DAC outputs should connect to GND through 75-ohm resistors.

TV-Out Disable

Tie DACx_OUT, IRTNx, and IREF to 1.5V power rail.
Tie VCCD_TVDAC, VCCD_QTVDAC, VCCA_TVDACx, and VCCA_TVBG to 1.5V power rail. Tie VSSA_TVBG to GND.

CRT Disable

Tie R/R#/G/G#/B/B# and IREF to VCC Core rail, tie HSYNC and VSYNC to GND. Tie VCCA_CRTDAC to VCC Core rail, and tie VSSA_CRTDAC and VCC_SYNC to GND.



NB PEG / Video Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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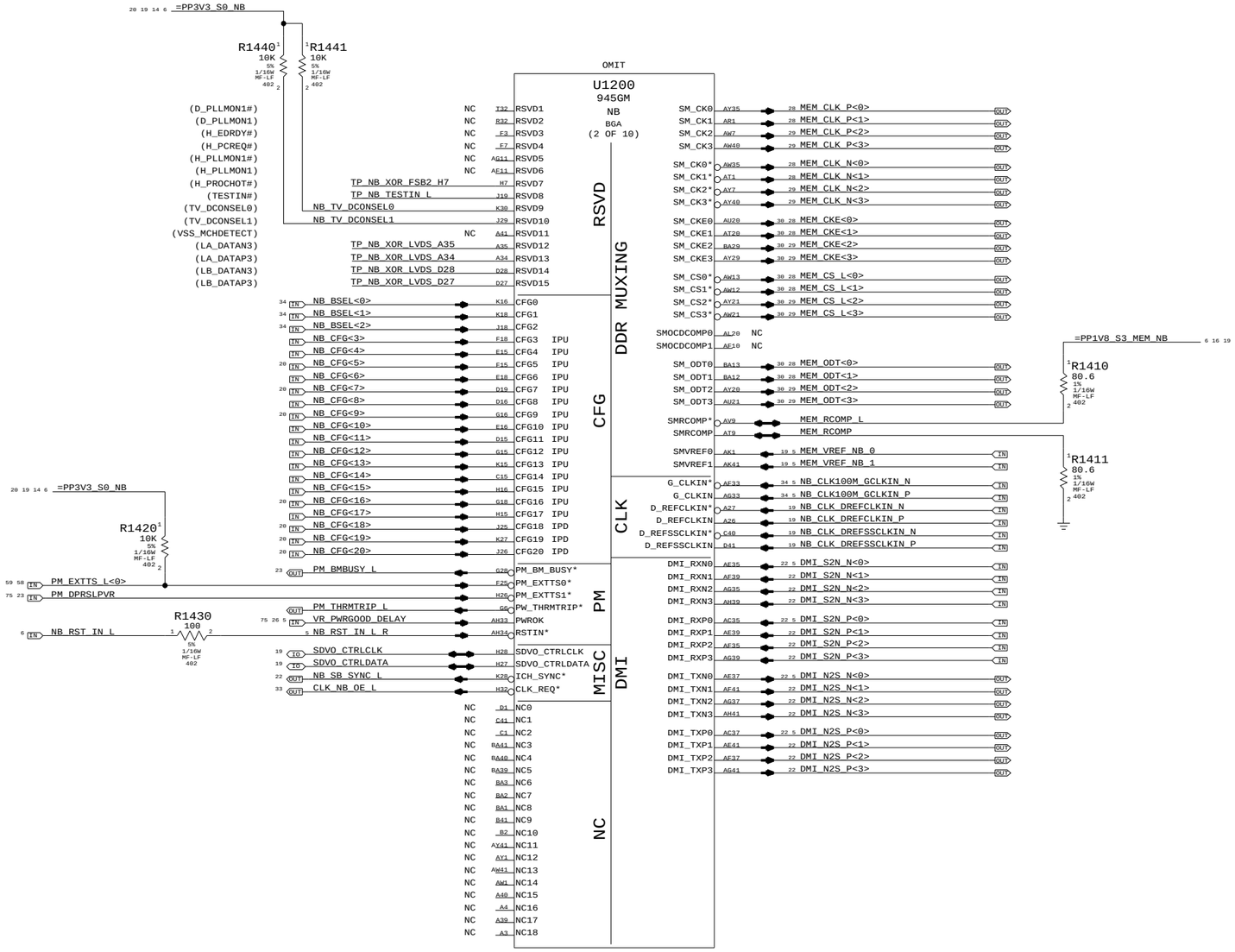
SCALE	SHT	OF
NONE	13	111



NB Misc Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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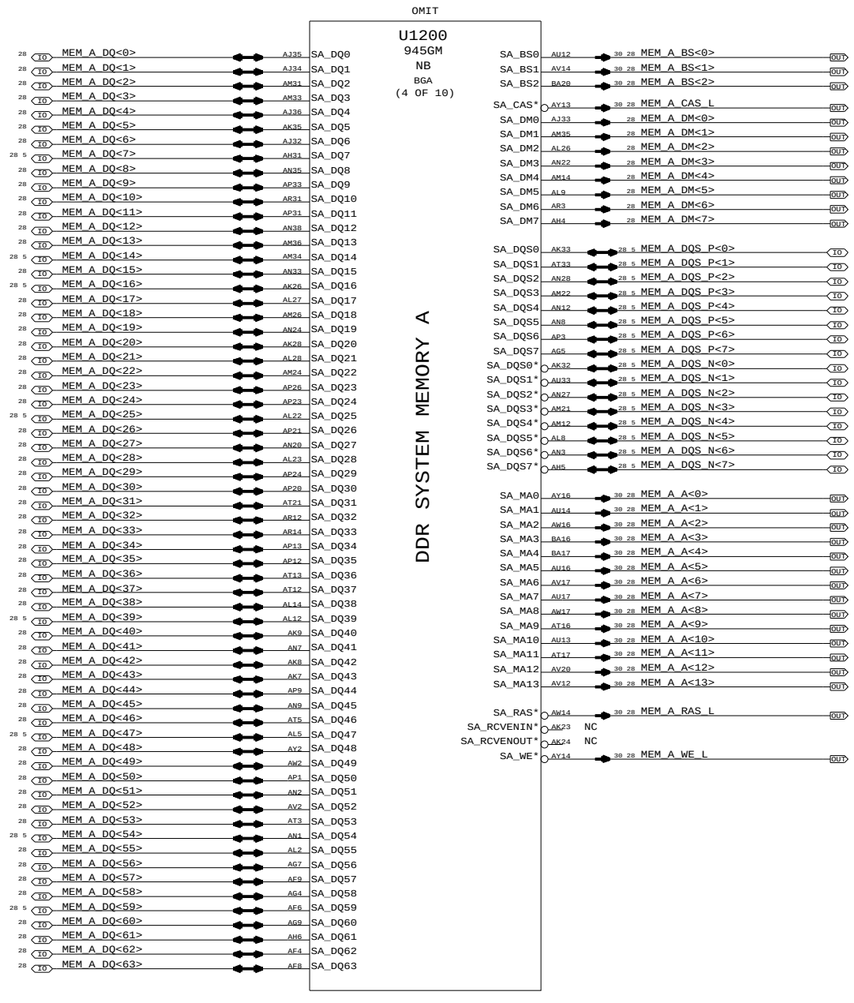

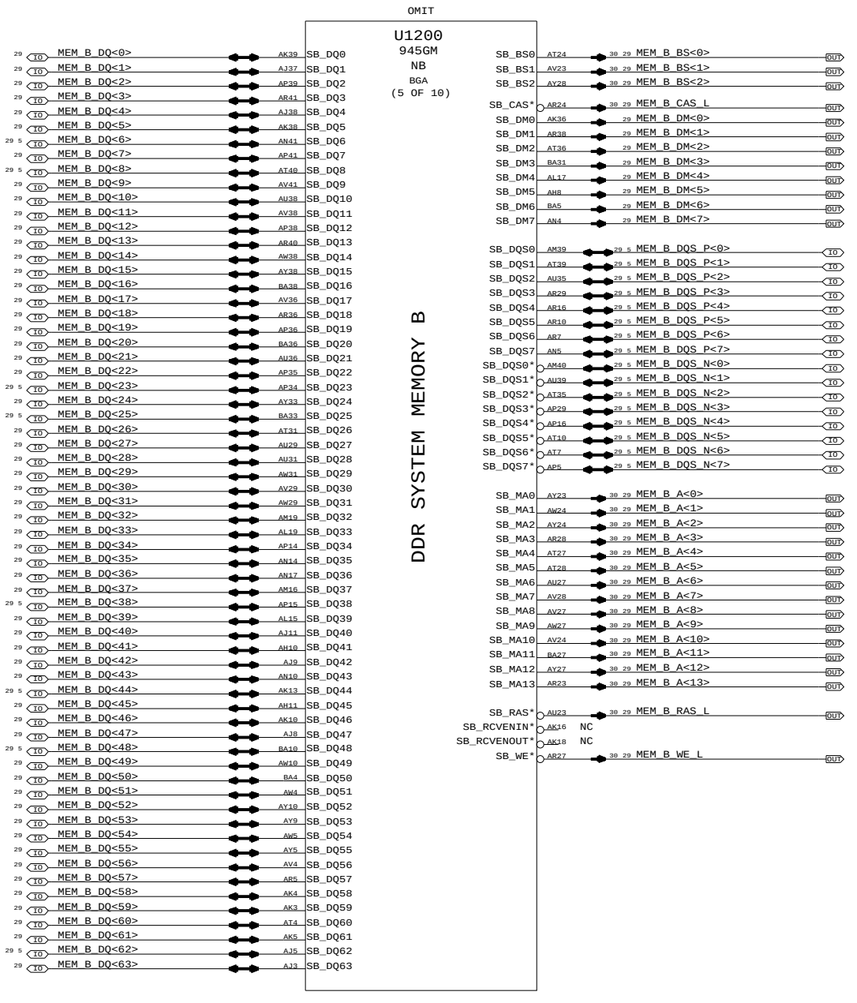

NB DDR2 Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	15	111

NCTF balls are Not Critical To Function

These connections can break without impacting part performance.

=PPVCORE_S0_NB 6 16 19

1.05V or 1.5V

U1200 945GM NB BGA (6 OF 10) OMIT VCC

VCC_0 AA33, VCC_1 AK3, VCC_2 P33, VCC_3 K33, VCC_4 L33, VCC_5 J33, VCC_6 AA32, VCC_7 Y32, VCC_8 W32, VCC_9 V32, VCC_10 P32, VCC_11 N32, VCC_12 M32, VCC_13 L32, VCC_14 J32, VCC_15 AA31, VCC_16 W31, VCC_17 V31, VCC_18 T31, VCC_19 R31, VCC_20 P31, VCC_21 N31, VCC_22 M31, VCC_23 AA30, VCC_24 W30, VCC_25 V30, VCC_26 U30, VCC_27 T30, VCC_28 R30, VCC_29 P30, VCC_30 N30, VCC_31 M30, VCC_32 L30, VCC_33 AA29, VCC_34 Y29, VCC_35 W29, VCC_36 V29, VCC_37 U29, VCC_38 P29, VCC_39 N29, VCC_40 M29, VCC_41 L29, VCC_42 AB28, VCC_43 AA28, VCC_44 V28, VCC_45 U28, VCC_46 T28, VCC_47 R28, VCC_48 P28, VCC_49 N28, VCC_50 M28, VCC_51 L28, VCC_52 P27, VCC_53 N27, VCC_54 M27, VCC_55 L27, VCC_56 P26, VCC_57 N26, VCC_58 L26, VCC_59 M25, VCC_60 L25, VCC_61 P24, VCC_62 M24, VCC_63 AB23, VCC_64 Y23, VCC_65 P23, VCC_66 N23, VCC_67 L23, VCC_68 AC22, VCC_69 Y22, VCC_70 P22, VCC_71 N22, VCC_72 L22, VCC_73 AC21, VCC_74 AB22, VCC_75 Y21, VCC_76 W22, VCC_77 W21, VCC_78 P22, VCC_79 N22, VCC_80 M22, VCC_81 L22, VCC_82 AC21, VCC_83 AA21, VCC_84 W21, VCC_85 N21, VCC_86 L21, VCC_87 AC20, VCC_88 AB20, VCC_89 Y20, VCC_90 W20, VCC_91 P20, VCC_92 N20, VCC_93 M20, VCC_94 L20, VCC_95 AB19, VCC_96 AA19, VCC_97 Y19, VCC_98 W19, VCC_99 M19, VCC_100 L19, VCC_101 N18, VCC_102 L18, VCC_103 P17, VCC_104 L17, VCC_105 N17, VCC_106 M17, VCC_107 N16, VCC_108 M16, VCC_109 L16, VCC_110

VCC_SM0 AU41, VCC_SM1 AT41, VCC_SM2 AM41, VCC_SM3 AU40, VCC_SM4 BA34, VCC_SM5 AW34, VCC_SM6 AV34, VCC_SM7 AU34, VCC_SM8 AT34, VCC_SM9 AR34, VCC_SM10 BA30, VCC_SM11 AY30, VCC_SM12 AW30, VCC_SM13 AV30, VCC_SM14 AU30, VCC_SM15 AT30, VCC_SM16 AR30, VCC_SM17 AP30, VCC_SM18 AN30, VCC_SM19 AM30, VCC_SM20 AM29, VCC_SM21 AL29, VCC_SM22 AK29, VCC_SM23 AJ29, VCC_SM24 AH29, VCC_SM25 AJ28, VCC_SM26 AH28, VCC_SM27 AJ27, VCC_SM28 AH27, VCC_SM29 BA26, VCC_SM30 AY26, VCC_SM31 AW26, VCC_SM32 AV26, VCC_SM33 AU26, VCC_SM34 AT26, VCC_SM35 AR26, VCC_SM36 AJ26, VCC_SM37 AH26, VCC_SM38 AJ25, VCC_SM39 AH25, VCC_SM40 AJ24, VCC_SM41 AH24, VCC_SM42 BA23, VCC_SM43 AJ23, VCC_SM44 BA22, VCC_SM45 AY22, VCC_SM46 AW22, VCC_SM47 AV22, VCC_SM48 AU22, VCC_SM49 AT22, VCC_SM50 AR22, VCC_SM51 AP22, VCC_SM52 AK22, VCC_SM53 AJ22, VCC_SM54 AK21, VCC_SM55 AK20, VCC_SM56 BA19, VCC_SM57 AY19, VCC_SM58 AW19, VCC_SM59 AV19, VCC_SM60 AT19, VCC_SM61 AU19, VCC_SM62 AR19, VCC_SM63 AP19, VCC_SM64 AK19, VCC_SM65 AJ19, VCC_SM66 AJ18, VCC_SM67 AJ17, VCC_SM68 AH17, VCC_SM69 AJ16, VCC_SM70 AH16, VCC_SM71 BA15, VCC_SM72 AY15, VCC_SM73 AW15, VCC_SM74 AV15, VCC_SM75 AU15, VCC_SM76 AT15, VCC_SM77 AR15, VCC_SM78 AJ15, VCC_SM79 AJ14, VCC_SM80 AJ13, VCC_SM81 AH13, VCC_SM82 AK12, VCC_SM83 AJ12, VCC_SM84 AH12, VCC_SM85 AG12, VCC_SM86 AK11, VCC_SM87 BA8, VCC_SM88 AY8, VCC_SM89 AW8, VCC_SM90 AV8, VCC_SM91 AU8, VCC_SM92 AT8, VCC_SM93 AR8, VCC_SM94 AP8, VCC_SM95 BA6, VCC_SM96 AY6, VCC_SM97 AV6, VCC_SM98 AU6, VCC_SM99 AT6, VCC_SM100 AR6, VCC_SM101 AP6, VCC_SM102 AN6, VCC_SM103 AL6, VCC_SM104 AJ6, VCC_SM105 AV1, VCC_SM106 AU1, VCC_SM107 AJ1

NB_VCCSM_LF4

NB_VCCSM_LF5

C1614 0.47uF 20% 6.3V CERM-X5R 402

C1613 0.47uF 20% 6.3V CERM-X5R 402

C1615 0.47uF 20% 6.3V CERM-X5R 402

Layout Note: Place near pin BA23

19 14 6 =PP1V8_S3_MEM_NB

C1620 10uF 20% 6.3V X5R 603

C1621 10uF 20% 6.3V X5R 603

Layout Note: Place in cavity (Need to better define cavity)

C1610 0.47uF 20% 6.3V CERM-X5R 402

Layout Note: Place near pin BA15

NB_VCCSM_LF2

NB_VCCSM_LF1

C1612 0.47uF 20% 6.3V CERM-X5R 402

C1611 0.47uF 20% 6.3V CERM-X5R 402

19 16 6 =PPVCORE_S0_NB

OMIT

U1200 945GM NB BGA (7 OF 10) NCTF

VCC_NCTF0 AD27, VCC_NCTF1 AC27, VCC_NCTF2 AB27, VCC_NCTF3 AA27, VCC_NCTF4 Y27, VCC_NCTF5 W27, VCC_NCTF6 V27, VCC_NCTF7 U27, VCC_NCTF8 T27, VCC_NCTF9 R27, VCC_NCTF10 AD26, VCC_NCTF11 AC26, VCC_NCTF12 AB26, VCC_NCTF13 AA26, VCC_NCTF14 Y26, VCC_NCTF15 W26, VCC_NCTF16 V26, VCC_NCTF17 U26, VCC_NCTF18 T26, VCC_NCTF19 R26, VCC_NCTF20 AD25, VCC_NCTF21 AC25, VCC_NCTF22 AB25, VCC_NCTF23 AA25, VCC_NCTF24 Y25, VCC_NCTF25 W25, VCC_NCTF26 V25, VCC_NCTF27 U25, VCC_NCTF28 T25, VCC_NCTF29 R25, VCC_NCTF30 AD24, VCC_NCTF31 AC24, VCC_NCTF32 AB24, VCC_NCTF33 AA24, VCC_NCTF34 Y24, VCC_NCTF35 W24, VCC_NCTF36 V24, VCC_NCTF37 U24, VCC_NCTF38 T24, VCC_NCTF39 R24, VCC_NCTF40 AD23, VCC_NCTF41 V23, VCC_NCTF42 U23, VCC_NCTF43 T23, VCC_NCTF44 R23, VCC_NCTF45 AD22, VCC_NCTF46 V22, VCC_NCTF47 U22, VCC_NCTF48 T22, VCC_NCTF49 R22, VCC_NCTF50 AD21, VCC_NCTF51 V21, VCC_NCTF52 U21, VCC_NCTF53 T21, VCC_NCTF54 R21, VCC_NCTF55 AD20, VCC_NCTF56 V20, VCC_NCTF57 U20, VCC_NCTF58 T20, VCC_NCTF59 R20, VCC_NCTF60 AD19, VCC_NCTF61 V19, VCC_NCTF62 U19, VCC_NCTF63 T19, VCC_NCTF64 AD18, VCC_NCTF65 AC18, VCC_NCTF66 AB18, VCC_NCTF67 AA18, VCC_NCTF68 Y18, VCC_NCTF69 W18, VCC_NCTF70 V18, VCC_NCTF71 U18, VCC_NCTF72 T18

VSS_NCTF0 AE27, VSS_NCTF1 AE26, VSS_NCTF2 AE25, VSS_NCTF3 AE24, VSS_NCTF4 AE23, VSS_NCTF5 AE22, VSS_NCTF6 AE21, VSS_NCTF7 AE20, VSS_NCTF8 AE19, VSS_NCTF9 AE18, VSS_NCTF10 AC17, VSS_NCTF11 Y17, VSS_NCTF12 U17

=PP1V5_S0_NB_VCCAUX 6 17 19

VCCAUX_NCTF0 AG27, VCCAUX_NCTF1 AF27, VCCAUX_NCTF2 AG26, VCCAUX_NCTF3 AF26, VCCAUX_NCTF4 AG25, VCCAUX_NCTF5 AF25, VCCAUX_NCTF6 AG24, VCCAUX_NCTF7 AF24, VCCAUX_NCTF8 AG23, VCCAUX_NCTF9 AF23, VCCAUX_NCTF10 AG22, VCCAUX_NCTF11 AF22, VCCAUX_NCTF12 AG21, VCCAUX_NCTF13 AF21, VCCAUX_NCTF14 AG20, VCCAUX_NCTF15 AF20, VCCAUX_NCTF16 AG19, VCCAUX_NCTF17 AF19, VCCAUX_NCTF18 R19, VCCAUX_NCTF19 AG18, VCCAUX_NCTF20 AF18, VCCAUX_NCTF21 R18, VCCAUX_NCTF22 AG17, VCCAUX_NCTF23 AF17, VCCAUX_NCTF24 AE17, VCCAUX_NCTF25 AD17, VCCAUX_NCTF26 AB17, VCCAUX_NCTF27 AA17, VCCAUX_NCTF28 W17, VCCAUX_NCTF29 V17, VCCAUX_NCTF30 T17, VCCAUX_NCTF31 R17, VCCAUX_NCTF32 AG16, VCCAUX_NCTF33 AF16, VCCAUX_NCTF34 AE16, VCCAUX_NCTF35 AD16, VCCAUX_NCTF36 AC16, VCCAUX_NCTF37 AB16, VCCAUX_NCTF38 AA16, VCCAUX_NCTF39 Y16, VCCAUX_NCTF40 W16, VCCAUX_NCTF41 V16, VCCAUX_NCTF42 U16, VCCAUX_NCTF43 T16, VCCAUX_NCTF44 R16, VCCAUX_NCTF45 AG15, VCCAUX_NCTF46 AF15, VCCAUX_NCTF47 AE15, VCCAUX_NCTF48 AD15, VCCAUX_NCTF49 AC15, VCCAUX_NCTF50 AB15, VCCAUX_NCTF51 AA15, VCCAUX_NCTF52 Y15, VCCAUX_NCTF53 W15, VCCAUX_NCTF54 V15, VCCAUX_NCTF55 U15, VCCAUX_NCTF56 T15, VCCAUX_NCTF57 R15

NB Power 1

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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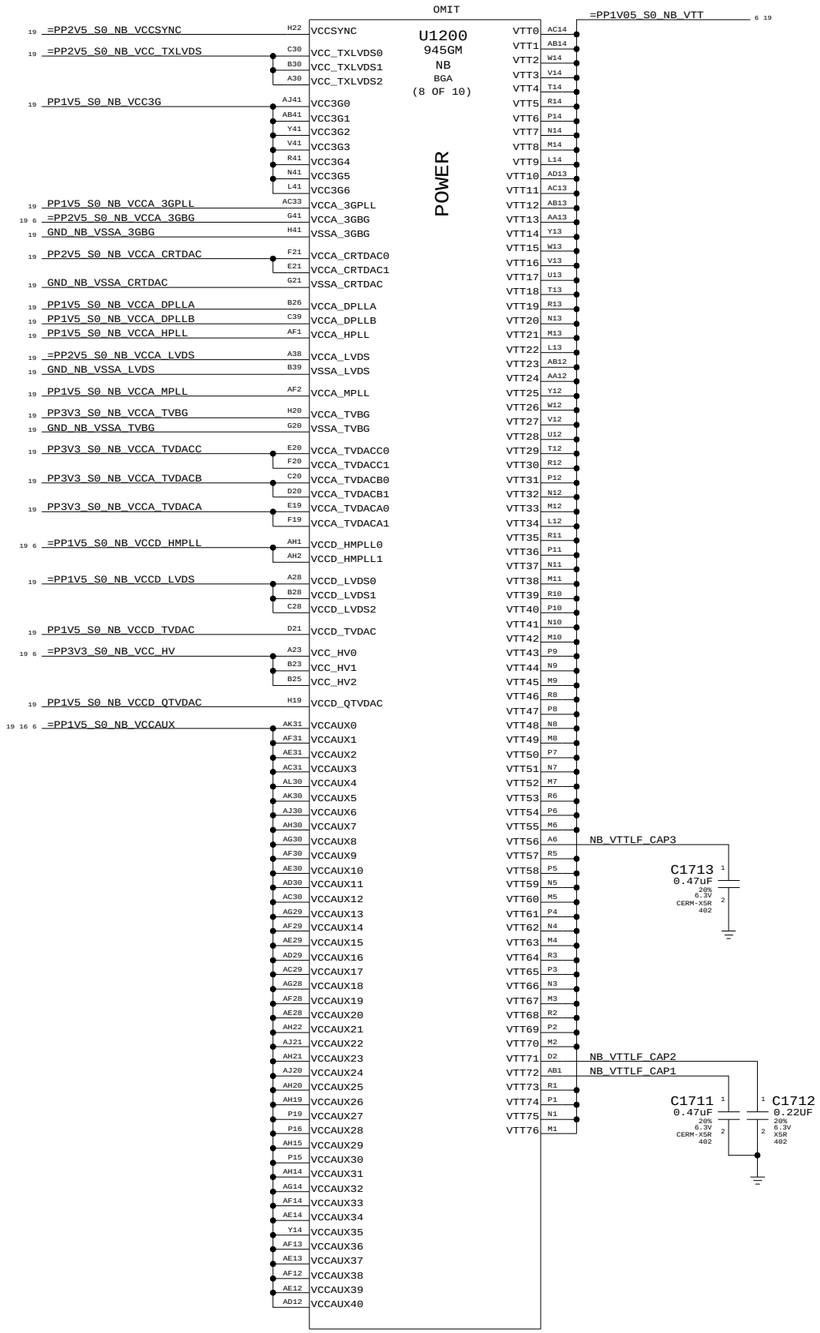
SCALE	SHT	OF
NONE	16	111



NB Power 2

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	17	111

OMIT

U1200
945GM
NB
BGA
(9 OF 10)

VSS

AC41	VSS_0	VSS_97	AK34
AA41	VSS_1	VSS_98	AG34
W41	VSS_2	VSS_99	AF34
T41	VSS_3	VSS_100	AE34
P41	VSS_4	VSS_101	AC34
M41	VSS_5	VSS_102	C34
J41	VSS_6	VSS_103	AW33
F41	VSS_7	VSS_104	AV33
AV40	VSS_8	VSS_105	AR33
AP40	VSS_9	VSS_106	AE33
AN40	VSS_10	VSS_107	AB33
AK40	VSS_11	VSS_108	Y33
AJ40	VSS_12	VSS_109	V33
AH40	VSS_13	VSS_110	T33
AG40	VSS_14	VSS_111	R33
AF40	VSS_15	VSS_112	M33
AE40	VSS_16	VSS_113	H33
B40	VSS_17	VSS_114	G33
AY39	VSS_18	VSS_115	F33
AW39	VSS_19	VSS_116	D33
AV39	VSS_20	VSS_117	B33
AR39	VSS_21	VSS_118	AH32
AN39	VSS_22	VSS_119	AG32
AJ39	VSS_23	VSS_120	AF32
AC39	VSS_24	VSS_121	AE32
AB39	VSS_25	VSS_122	AC32
AA39	VSS_26	VSS_123	AB32
Y39	VSS_27	VSS_124	G32
W39	VSS_28	VSS_125	B32
V39	VSS_29	VSS_126	AY31
T39	VSS_30	VSS_127	AV31
R39	VSS_31	VSS_128	AN31
P39	VSS_32	VSS_129	AJ31
N39	VSS_33	VSS_130	AG31
M39	VSS_34	VSS_131	AB31
L39	VSS_35	VSS_132	Y31
J39	VSS_36	VSS_133	AB30
H39	VSS_37	VSS_134	E30
G39	VSS_38	VSS_135	AT29
F39	VSS_39	VSS_136	AN29
D39	VSS_40	VSS_137	AB29
AT38	VSS_41	VSS_138	T29
AM38	VSS_42	VSS_139	N29
AH38	VSS_43	VSS_140	K29
AG38	VSS_44	VSS_141	G29
AF38	VSS_45	VSS_142	E29
AE38	VSS_46	VSS_143	C29
C38	VSS_47	VSS_144	B29
AK37	VSS_48	VSS_145	A29
AH37	VSS_49	VSS_146	BA28
AB37	VSS_50	VSS_147	AW28
AA37	VSS_51	VSS_148	AU28
Y37	VSS_52	VSS_149	AP28
W37	VSS_53	VSS_150	AM28
V37	VSS_54	VSS_151	AD28
T37	VSS_55	VSS_152	AC28
R37	VSS_56	VSS_153	W28
P37	VSS_57	VSS_154	J28
N37	VSS_58	VSS_155	E28
M37	VSS_59	VSS_156	AP27
L37	VSS_60	VSS_157	AM27
J37	VSS_61	VSS_158	AK27
H37	VSS_62	VSS_159	J27
G37	VSS_63	VSS_160	G27
F37	VSS_64	VSS_161	F27
D37	VSS_65	VSS_162	C27
AY36	VSS_66	VSS_163	B27
AW36	VSS_67	VSS_164	AN26
AN36	VSS_68	VSS_165	M26
AH36	VSS_69	VSS_166	K26
AG36	VSS_70	VSS_167	F26
AF36	VSS_71	VSS_168	D26
AE36	VSS_72	VSS_169	AK25
AC36	VSS_73	VSS_170	P25
C36	VSS_74	VSS_171	K25
B36	VSS_75	VSS_172	H25
BA35	VSS_76	VSS_173	E25
AV35	VSS_77	VSS_174	D25
AR35	VSS_78	VSS_175	A25
AH35	VSS_79	VSS_176	BA24
AB35	VSS_80	VSS_177	AU24
AA35	VSS_81	VSS_178	AL24
Y35	VSS_82	VSS_179	AW23
W35	VSS_83		
V35	VSS_84		
T35	VSS_85		
R35	VSS_86		
P35	VSS_87		
N35	VSS_88		
M35	VSS_89		
L35	VSS_90		
J35	VSS_91		
H35	VSS_92		
G35	VSS_93		
F35	VSS_94		
D35	VSS_95		
AN34	VSS_96		

OMIT

U1200
945GM
NB
BGA
(10 OF 10)

VSS

AT23	VSS_180	VSS_273	J11
AN23	VSS_181	VSS_274	D11
AM23	VSS_182	VSS_275	B11
AH23	VSS_183	VSS_276	AV10
AC23	VSS_184	VSS_277	AP10
W23	VSS_185	VSS_278	AL10
K23	VSS_186	VSS_279	AJ10
J23	VSS_187	VSS_280	AG10
F23	VSS_188	VSS_281	AC10
C23	VSS_189	VSS_282	W10
AA22	VSS_190	VSS_283	U10
K22	VSS_191	VSS_284	BA9
G22	VSS_192	VSS_285	AW9
F22	VSS_193	VSS_286	AR9
E22	VSS_194	VSS_287	AH9
D22	VSS_195	VSS_288	AB9
A22	VSS_196	VSS_289	Y9
BA21	VSS_197	VSS_290	R9
AV21	VSS_198	VSS_291	G9
AR21	VSS_199	VSS_292	E9
AN21	VSS_200	VSS_293	A9
AL21	VSS_201	VSS_294	AG8
AB21	VSS_202	VSS_295	AD8
Y21	VSS_203	VSS_296	AA8
P21	VSS_204	VSS_297	U8
K21	VSS_205	VSS_298	K8
J21	VSS_206	VSS_299	C8
H21	VSS_207	VSS_300	BA7
C21	VSS_208	VSS_301	AV7
AW20	VSS_209	VSS_302	AP7
AR20	VSS_210	VSS_303	AL7
AM20	VSS_211	VSS_304	AJ7
AA20	VSS_212	VSS_305	AH7
K20	VSS_213	VSS_306	AF7
B20	VSS_214	VSS_307	AC7
A20	VSS_215	VSS_308	R7
AN19	VSS_216	VSS_309	G7
AC19	VSS_217	VSS_310	D7
W19	VSS_218	VSS_311	AG6
K19	VSS_219	VSS_312	AD6
G19	VSS_220	VSS_313	AB6
C19	VSS_221	VSS_314	Y6
AH18	VSS_222	VSS_315	U6
P18	VSS_223	VSS_316	N6
H18	VSS_224	VSS_317	K6
D18	VSS_225	VSS_318	H6
A18	VSS_226	VSS_319	B6
AY17	VSS_227	VSS_320	AV5
AR17	VSS_228	VSS_321	AF5
AP17	VSS_229	VSS_322	AD5
AM17	VSS_230	VSS_323	AY4
AK17	VSS_231	VSS_324	AR4
AV16	VSS_232	VSS_325	AP4
AN16	VSS_233	VSS_326	AL4
AL16	VSS_234	VSS_327	AJ4
J16	VSS_235	VSS_328	Y4
F16	VSS_236	VSS_329	U4
C16	VSS_237	VSS_330	R4
AN15	VSS_238	VSS_331	J4
AM15	VSS_239	VSS_332	F4
AK15	VSS_240	VSS_333	C4
N15	VSS_241	VSS_334	AY3
M15	VSS_242	VSS_335	AW3
L15	VSS_243	VSS_336	AV3
B15	VSS_244	VSS_337	AL3
A15	VSS_245	VSS_338	AH3
BA14	VSS_246	VSS_339	AG3
AT14	VSS_247	VSS_340	AF3
AK14	VSS_248	VSS_341	AD3
AD14	VSS_249	VSS_342	AC3
AA14	VSS_250	VSS_343	AA3
U14	VSS_251	VSS_344	G3
K14	VSS_252	VSS_345	AT2
H14	VSS_253	VSS_346	AR2
E14	VSS_254	VSS_347	AP2
AV13	VSS_255	VSS_348	AK2
AR13	VSS_256	VSS_349	AJ2
AN13	VSS_257	VSS_350	AD2
AM13	VSS_258	VSS_351	AB2
AL13	VSS_259	VSS_352	Y2
AG13	VSS_260	VSS_353	U2
P13	VSS_261	VSS_354	T2
F13	VSS_262	VSS_355	N2
D13	VSS_263	VSS_356	J2
B13	VSS_264	VSS_357	H2
AY12	VSS_265	VSS_358	F2
AC12	VSS_266	VSS_359	C2
K12	VSS_267	VSS_360	AL1
H12	VSS_268		
E12	VSS_269		
AD11	VSS_270		
AA11	VSS_271		
Y11	VSS_272		

NB Grounds

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	18	111

Power Interface

These are the power signals that leave the NB "block"

=PP1V05_S0_FSB_NB — 5 6 12
=PPVCORE_S0_NB — 6 16 19
=PP1V05_S0_NB — 6
=PP1V05_S0_NB_VTT — 6 17 19
=PP1V5_S0_NB — 6 19
=PP1V5_S0_NB_PCIE — 6 13
=PP1V5_S0_NB_PLL — 6 19
=PP1V5_S0_NB_TVDAC — 6 19
=PP1V5_S0_NB_VCCD_HMPLL — 6 17
=PP1V5_S0_NB_VCCD_LVDS — 17 19
=PP1V5_S0_NB_VCCAUX — 6 16 17 19
=PP1V8_S3_MEM_NB — 6 14 16 19

=PP2V5_S0_NB_VCCSYNC — 17 19
=PP2V5_S0_NB_VCC_TXLVDS — 17 19
=PP2V5_S0_NB_VCCA_3GBG — 6 17 19
=PP2V5_S0_NB_VCCA_LVDS — 17 19

=PP3V3_S0_NB — 6 14 20
=PP3V3_S0_NB_TVDAC — 6
=PP3V3_S0_NB_VCC_HV — 6 17 19

19 6 =PP1V5_S0_NB_PLL
L1934 FERR-120-OHM-0.2A 0603
PP1V5_S0_NB_VCCA_HPLL — 17
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
C1934 22uF 20% 6.3V X5R 805
C1935 0.1uF 20% 10V CERM 402

Layout Note:
These 4 0.1uF caps should
be within 5 mm of NB edge

L1936 FERR-120-OHM-0.2A 0603
PP1V5_S0_NB_VCCA_MPLL — 17
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
C1936 22uF 20% 6.3V X5R 805
C1937 0.1uF 20% 10V CERM 402

19 17 6 =PP1V05_S0_NB_VTT
C1965 4.7uF 20% 6.3V CERM 603
C1966 2.2uF 10% 6.3V CERM1 603
Layout Note: Place in cavity
C1967 0.22uF 20% 6.3V X5R 402
C1968 330UF 20% 6.3V ELEC CASE-C1
Layout Note: Place on the edge

19 16 14 6 =PP1V8_S3_MEM_NB
R1982 1K 5% 1/16W MF-LF 402
MEM_VREF_NB_1 — 5 14
R1983 1K 5% 1/16W MF-LF 402
C1982 0.1uF 20% 16V CERM 603
R1980 1K 5% 1/16W MF-LF 402
MEM_VREF_NB_0 — 5 14
R1981 1K 5% 1/16W MF-LF 402
C1981 0.1uF 20% 16V CERM 603

19 17 6 =PP3V3_S0_NB_VCC_HV
C1914 10uF 20% 6.3V X5R 603
C1915 0.1uF 20% 10V CERM 402

19 17 6 =PP2V5_S0_NB_VCCA_3GBG
C1916 0.1uF 20% 10V CERM 402

19 17 16 6 =PP1V5_S0_NB_VCCAUX
C1918 0.1uF 20% 10V CERM 402

TVOUT DISABLE

16 6 19 =PPVCORE_S0_NB
PP2V5_S0_NB_VCCA_CRTDAC — 17
CRT_RED — 13
CRT_RED_L — 13
CRT_GREEN — 13
CRT_GREEN_L — 13
CRT_BLUE — 13
CRT_BLUE_L — 13
CRT_IREF — 13

CRT_VSYNC_R — 13
CRT_HSYNC_R — 13
=PP2V5_S0_NB_VCCSYNC — 17 19
GND_NB_VSSA_CRTDAC — 17

TP_CRT_DDC_CLK TRUE — CRT_DDC_CLK — 13
TP_CRT_DDC_DATA TRUE — CRT_DDC_DATA — 13

DISPLAY DISABLE

TP_NB_VCCA_DPLLA TRUE — PP1V5_S0_NB_VCCA_DPLLA — 17
TP_NB_VCCA_DPLLB TRUE — PP1V5_S0_NB_VCCA_DPLLB — 17

NB_CLK_DREFCLKIN_N — IN — 14
NB_CLK_DREFCLKIN_P — OUT — 14
NB_CLK_DREFSSCLKIN_P — OUT — 14
NB_CLK_DREFSSCLKIN_N — OUT — 14

19 6 =PPVCORE_S0_NB
C1900 330UF 20% 6.3V ELEC CASE-C1
C1901 330UF 20% 6.3V ELEC CASE-C1
C1902 10uF 20% 6.3V X5R 603
C1903 10uF 20% 6.3V X5R 603
C1904 1UF 10% 6.3V CERM 402
C1905 0.22uF 20% 6.3V X5R 402
C1906 0.22uF 20% 6.3V X5R 402
C1907 0.22uF 20% 6.3V X5R 402

19 6 =PP1V5_S0_NB_3GPLL
L1970 91NH 1210
C1970 220UF 20% 2.5V POLY SMB2
Layout Note: Place L and C close to MCH
PP1V5_S0_NB_VCC3G — 17
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
C1971 10uF 20% 6.3V X5R 603
C1972 10uF 20% 6.3V X5R 603
Layout Note: 10uF caps should be close to MCH on opposite side.

1uH, 20%
19 6 =PP1V5_S0_NB_3GPLL
L1975 1.0UH-220MA-0.12-OHM 0805
PP1V5_S0_NB_3GPLL_F
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
Should be 1%
R1975 0.51 1% 1/16W MF-LF 402
PP1V5_S0_NB_VCCA_3GPLL — 17
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
C1975 10uF 20% 6.3V X5R 603
C1976 0.1uF 20% 10V CERM 402
GND_NB_VSSA_3GBG — 17
Layout Note: 3GPLL 10uF cap should be placed in cavity
Layout Note: Route to caps, then GND

LVDS DISABLE

13 TO LVDS_A_CLK_N — TRUE — TP_LVDS_A_CLK_N
13 TO LVDS_A_CLK_P — TRUE — TP_LVDS_A_CLK_P
13 TO LVDS_B_CLK_N — TRUE — TP_LVDS_B_CLK_N
13 TO LVDS_B_CLK_P — TRUE — TP_LVDS_B_CLK_P

13 TO LVDS_A_DATA_N<0> — TRUE — TP_LVDS_A_DATA_N<0>
13 TO LVDS_A_DATA_N<1> — TRUE — TP_LVDS_A_DATA_N<1>
13 TO LVDS_A_DATA_N<2> — TRUE — TP_LVDS_A_DATA_N<2>

13 TO LVDS_A_DATA_P<0> — TRUE — TP_LVDS_A_DATA_P<0>
13 TO LVDS_A_DATA_P<1> — TRUE — TP_LVDS_A_DATA_P<1>
13 TO LVDS_A_DATA_P<2> — TRUE — TP_LVDS_A_DATA_P<2>

13 TO LVDS_B_DATA_N<0> — TRUE — TP_LVDS_B_DATA_N<0>
13 TO LVDS_B_DATA_N<1> — TRUE — TP_LVDS_B_DATA_N<1>
13 TO LVDS_B_DATA_N<2> — TRUE — TP_LVDS_B_DATA_N<2>

13 TO LVDS_B_DATA_P<0> — TRUE — TP_LVDS_B_DATA_P<0>
13 TO LVDS_B_DATA_P<1> — TRUE — TP_LVDS_B_DATA_P<1>
13 TO LVDS_B_DATA_P<2> — TRUE — TP_LVDS_B_DATA_P<2>

13 IN LVDS_BKLTEN — TRUE — TP_LVDS_BKLTEN
13 IN LVDS_VDDEN — TRUE — TP_LVDS_VDDEN
13 IN LVDS_IBG — TRUE — TP_LVDS_IBG
17 IN GND_NB_VSSA_LVDS — TRUE — TP_GND_NB_VSSA_LVDS

13 OUT LVDS_VREFH — TRUE — TP_LVDS_VREFH
13 OUT LVDS_VREFL — TRUE — TP_LVDS_VREFL

19 17 =PP2V5_S0_NB_VCCA_LVDS
19 17 =PP1V5_S0_NB_VCCD_LVDS
19 17 =PP2V5_S0_NB_VCC_TXLVDS

13 IN LVDS_BKLTCTL — TRUE — TP_LVDS_BKLTCTL
13 IN LVDS_CLKCTLA — TRUE — TP_LVDS_CLKCTLA
13 IN LVDS_CLKCTLB — TRUE — TP_LVDS_CLKCTLB
13 IN LVDS_DDC_CLK — TRUE — TP_LVDS_DDC_CLK
13 IN LVDS_DDC_DATA — TRUE — TP_LVDS_DDC_DATA

TVOUT DISABLE

19 6 =PP1V5_S0_NB
PP3V3_S0_NB_VCCA_TVDACA — 17
PP3V3_S0_NB_VCCA_TVDACB — 17
PP3V3_S0_NB_VCCA_TVDACC — 17
PP3V3_S0_NB_VCCA_TVBG — 17
13 TV_DACA_OUT IN
13 TV_DACB_OUT IN
13 TV_DACC_OUT IN
13 TV_IREF IN
13 TV_IRTNA IN
13 TV_IRTNB IN
13 TV_IRTNC IN

GND_NB_VSSA_TVBG — 17

CRITICAL
C1921 22000pF-1000mA 16V NFM10
6 19 =PP1V5_S0_NB_TVDAC
PP1V5_S0_NB_VCCD_TVDAC — 17
VOLTAGE=1.5V MIN_LINE_WIDTH=1.0 mm MIN_NECK_WIDTH=0.2 MM
C1920 0.1uF 20% 10V CERM 402
PP1V5_S0_NB_VCCD_QTVDAC — 17
Layout Note: THESE 2 CAPS SHOULD BE within 6.35 mm of NB edge

14 IN SDVO_CTRLCLK — TP_SDVO_CTRLCLK
14 IN SDVO_CTRLDATA — TP_SDVO_CTRLDATA

NB (GM) Decoupling

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

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D	051-6949	09
SCALE: NONE	SHT 19 OF 111	

NB_CFG<3>	RESERVED

NB_CFG<4>	RESERVED

14 NB_CFG<5>
Internal pull-up

NB_CFG<5> DMI x2 Select	High = DMIx4 Low = DMIx2

NBCFG_DMI_X2
R2075
2.2K
5%
1/16W
MF-LF
402

PROBABLY NOT NEEDED

NB_CFG<6>	RESERVED

14 NB_CFG<7>
Internal pull-up

NB_CFG<7> CPU Strap	High = Mobile CPU Low = RESERVED

NO STUFF
R2077
2.2K
5%
1/16W
MF-LF
402

NB_CFG<8>	RESERVED

14 NB_CFG<9>
Internal pull-up

NB_CFG<9> PCIE Graphics Lane Reversal	High = Normal Low = Reversed

NBCFG_PEG_REVERSE
R2079
2.2K
5%
1/16W
MF-LF
402

NB_CFG<10>	RESERVED

NB_CFG<11>	RESERVED

Internal pull-ups

NB_CFG<13:12>	00 = Partial Clock Gating Disable 01 = XOR Mode Enabled 10 = All-Z Mode Enabled 11 = Normal Operation

NB_CFG<14>	RESERVED

NB_CFG<15>	RESERVED

14 NB_CFG<16>
Internal pull-up

NB_CFG<16> FSB Dynamic ODT	High = Enabled Low = Disabled

NBCFG_DYN_ODT_DISABLE
R2085
2.2K
5%
1/16W
MF-LF
402

NB_CFG<17>	RESERVED

=PP3V3_S0_NB 6 14 19 20
NBCFG_VCC_1V5
R2058
2.2K
5%
1/16W
MF-LF
402

NB_CFG<18> VCC Select	High = 1.5V Low = 1.05V

14 NB_CFG<18>
Internal pull-down

=PP3V3_S0_NB 6 14 19 20
NBCFG_DMI_REVERSE
R2059
2.2K
5%
1/16W
MF-LF
402

NB_CFG<19> DMI Lane Reversal	High = Reversed Low = Normal

14 NB_CFG<19>
Internal pull-down

945 External Design Spec says reserved

=PP3V3_S0_NB 6 14 19 20
NBCFG_SDVO_AND_PCIE
R2060
2.2K
5%
1/16W
MF-LF
402

NB_CFG<20> PCIe Backward Interop. Mode	High = Both active Low = Only SDVO or PCIe x1

14 NB_CFG<20>
Internal pull-down

PROBABLY NOT NEEDED

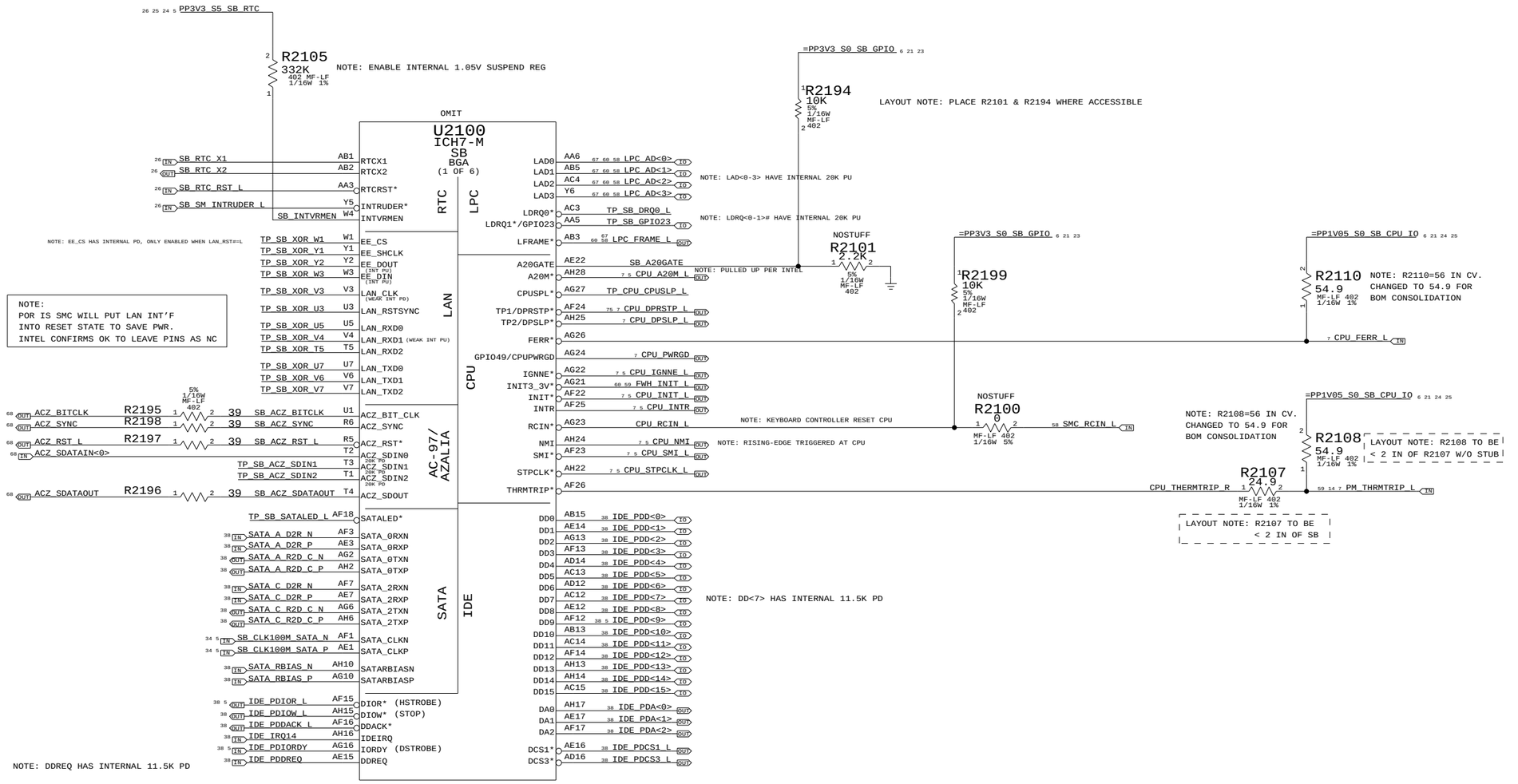
NB Config Straps

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6949 | REV. 09

SCALE NONE | SHT 20 OF 111



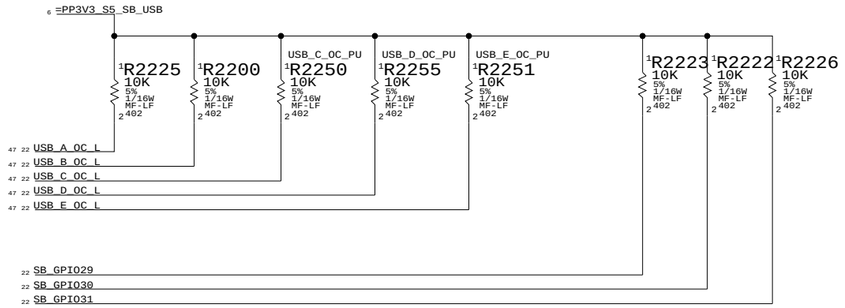
	AC '07	INTEL HIGH DEFINITION AUDIO
ACZ_BIT_CLK	INTERNAL 20K PD ENABLED WHEN	INTERNAL 20K PD ONLY ENABLED IN S3COLD
ACZ_RST#	- LSO BIT IN AC'97 GLOBAL CONTROL REG = 1; OR - BOTH FUNCTION 2 & 3 OF DEVICE 30 ARE DISABLED	NONE
ACZ_SDIN[0-2]	INTERNAL 20K PD	INTERNAL 20K PD
ACZ_SDOUT	INTERNAL 20K PD ENABLED DURING RESET AND WHEN - LSO BIT IN AC'97 GLOBAL CONTROL REG = 1; OR - BOTH FUNCTION 2 & 3 OF DEVICE 30 ARE DISABLED	INTERNAL 20K PD ENABLED WHEN - LSO BIT IN AC'97 GLOBAL CONTROL REG = 1; OR - BOTH FUNCTION 2 & 3 OF DEVICE 30 ARE DISABLED
ACZ_SYNC		INTERNAL 20K PD

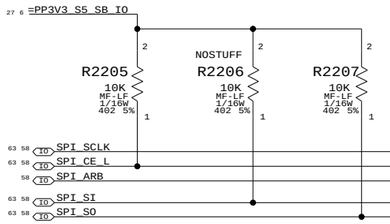
SB: 1 OF 4

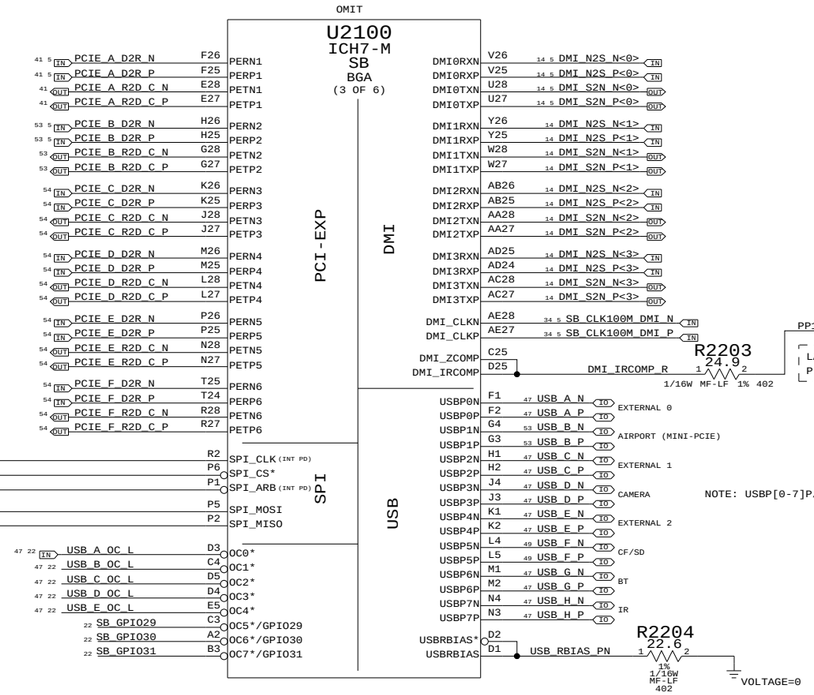
SYNC_MASTER=N/A SYNC_DATE=N/A

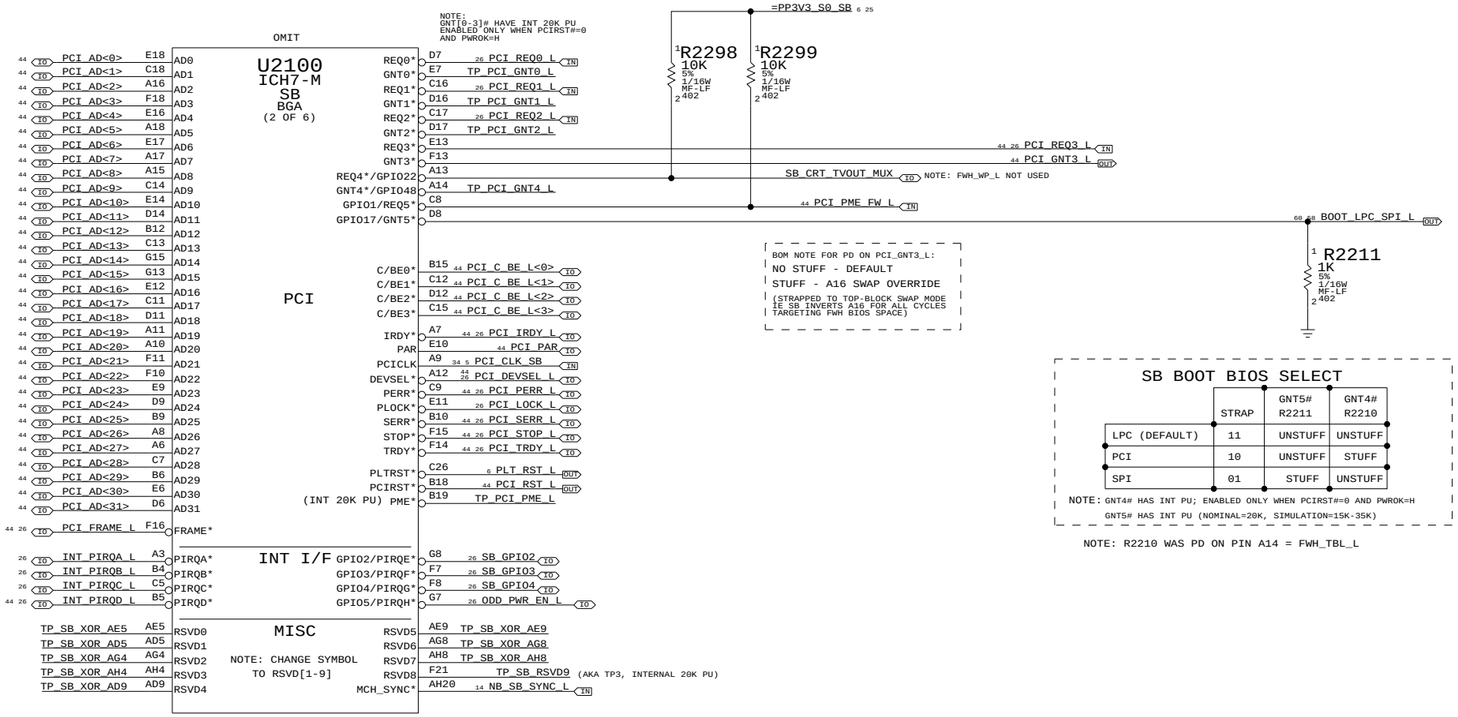
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 21 OF 111	









SB: 2 OF 4

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE SHT 22 OF 111

NOTE FOR R2323 (DEF=NOSTUFF)
STRAPPING @ PWROK RISING:
SB WILL DISABLE TCO TIMER
SYSTEM REBOOT FEATURE

=PP3V3_S0_SB_GPIO 6 21 23

=PP3V3_S5_SB 6 23 25 26

R2318 10K 1/16W 402 MF-LF 5%
R2395 8.2K 1/16W 402 MF-LF 5%
R2396 10K 1/16W 402 MF-LF 5%
R2397 8.2K 1/16W 402 MF-LF 5%
R2327 NOSTUFF 10K 1/16W 402 MF-LF 5%
R2326 NOSTUFF 10K 1/16W 402 MF-LF 5%
R2323 NO_REBOOT_MODE 1K 1/16W 402 MF-LF 5%

RP2300 10K 5% 1/16W SM-LF

OMIT

U2100
ICH7-M
SB
BGA
(4 OF 6)

SMB_CLK → SMBCLK C22
SMB_DATA → SMBDATA B22
SMB_LINK_ALERT_L → LINKALERT* A26
SMLINK<0> → SMLINK0 B25
SMLINK<1> → SMLINK1 A25
NOT USED
PM_RI_L → RI* A28
SB_SPKR → SPKR (INT WEAK PD) A19
PM_SUS_STAT_L → SUS_STAT* A27
PM_SYSRST_L → SYS_RST* A22
PM_BMBUSY_L → GPIO0/BM_BUSY* AB18
SMB_ALERT_L → GPIO11/SMBALERT* B23
NOTE: RESERVED FOR FUTURE
PM_STPPCI_L → GPIO18/STPPCI* AC20
PM_STPCPU_L → GPIO20/STPCPU* AF21
SB_GPIO26 → GPIO26 A21
BIOS_REC → GPIO27 B21
FWH_MFG_MODE → GPIO28 E23
PM_CLKRUN_L → GPIO32/CLKRUN* AG18
RESERVED FOR MOBILE AZALIA DOCKING INT'F
TP_AZ_DOCK_EN_L → GPIO33/AZ_DOCK_EN* AC19
TP_AZ_DOCK_RST_L → GPIO34/AZ_DOCK_RST* U2
PCIE_WAKE_L → WAKE* F20
INT_SERIRQ → SERIRQ AH21
PM_THRM_L → THRM* AF20
VR_PWRGD_CK410 → VRMPWRGD AD22
TP_SB_GPIO6 → GPIO6 AC21
GPIO7 AC18
GPIO8 E21

SMB

SATA GPIO
GPIO21/SATA0GP AF19 SB_GPIO21 100 R2302
GPIO19/SATA1GP AH18 SB_GPIO19 100 R2303
GPIO36/SATA2GP AH19
GPIO37/SATA3GP AE19 SB_GPIO37 100 R2305
38 SATA_C_DET_L (IN)

CLKS
CLK14 AC1 34 5 SB_CLK14P3M_TIMER (IN)
CLK48 B2 34 5 SB_CLK48M_USBCTLR (IN)
SUSCLK C20 59 SUS_CLK_SB (OUT)

SYS GPIO
PWR MNGT
SLP_S3* B24 79 77 88 86 PM_SLP_S3_L (OUT)
SLP_S4* D23 77 58 PM_SLP_S4_L (OUT)
SLP_S5* F22 58 PM_SLP_S5_L (OUT)
PWROK AA4 26 PM_SB_PWROK (IN)
DPRSLPVR AC22 75 14 PM_DPRSLPVR (OUT)
GPIO16/DPRSLPVR C21 NOTE: DPRSLPVR HAS INT 20K PD, ENABLED AT BOOT/RESET FOR STRAPPING FCN
TP0/BATLOW* C23 58 PM_PWRBTN_L (IN)
(INT 20K PU) PWRBTN*
LAN_RST* C19 58 PM_LAN_ENABLE (IN) NOTE: SMC WILL DRIVE 0-1-0 TO KEEP LAN INT'F IN RESET STATE TO SAVE PWR
RSMRST* Y4

GPIO
GPIO9 E20 58 26 SMS_INT_L (IN)
GPIO10 A20 58 SMC_SB_NMI (IN)
DEF=GPI GPIO12 F19 23 PATA_PWR_EN_L (OUT)
GPIO13 E19
DEF=GPI GPIO14 R4 38 IDE_RESET_L (OUT)
GPIO15 E22 SV_SET_UP 23 60
GPIO24 R3 CRB_SV_DET 23
GPIO25 D20 TP_SB_GPIO25_DO_NOT_USE
OD GPIO35 AD21 33 SB_CLK100M_SATA_OE_L (OUT)
GPIO38 AD20 TP_SB_GPIO38 (IO)
DEF=GPI GPIO39 AE20 23 SATA_C_PWR_EN_L (OUT)

NOTE FOR GPIO25:
- HAS INTERNAL 20K PU, ENABLED DURING RSMRST# AND DISABLED WITHIN 100MS AFTER RSMRST# DEASSERTS
- CAN NOT BE LOW FOR 35US AFTER RSMRST# ON BOOT (DMI AC COUPLING MODE STRAP)

=PP3V3_S5_SB_PM 6 11

R2319 10K 1/16W 402 MF-LF 5%
R2343 8.2K 5% 1/16W 402 MF-LF

58 PM_BATLOW_L (IN)
58 PM_RSMRST_L (IN)
R2399 100K 5% 1/16W 402 MF-LF
58 SMC_WAKE_SCI_L (IN)

PM_CLKRUN_L → 67 60 58 44 5 (IO)
PCIE_WAKE_L → 53 41 (IN)
INT_SERIRQ → 67 60 58 (IO)
PM_THRM_L → 58 10 (IN)
SMC_RUNTIME_SCI_L → 58 (IN)
SMC_EXTSMI_L → 58 (IN)
PM_STPPCI_L → 33 (OUT)
PM_STPCPU_L → 33 (OUT)
PM_SUS_STAT_L → 67 60 58 (OUT)
PM_SYSRST_L → 58 26 5 (IN)
PM_BMBUSY_L → 34 (IN)
SMB_CLK → 27 (IO)
SMB_DATA → 27 (IO)

=PP3V3_S5_SB 26 25 23 6

R2398 1K 1/16W 402 MF-LF 5%
R2320 10K 1/16W 402 MF-LF 5%
R2317 10K 1/16W 402 MF-LF 5%
R2316 10K 1/16W 402 MF-LF 5%

LAYOUT NOTE:
PLACE R2306-14 WHERE PHYSICALLY ACCESSIBLE

=PP3V3_S5_SB 26 25 23 6

R2306 NOSTUFF 10K 1/16W 402 MF-LF 5%
R2308 10K 1/16W 402 MF-LF 5%
R2307 10K 1/16W 402 MF-LF 5%
R2309 NOSTUFF 0 1/16W 402 MF-LF 5%

SV_SET_UP 23 60
CRB_SV_DET 23

NOTE:
SV_SET_UP IS LINDACARD DETECT
HI = PRESENT
LO = NOT PRESENT

=PP3V3_S5_SB 26 25 23 6

R2313 10K 1/16W 402 MF-LF 5%
R2310 10K 1/16W 402 MF-LF 5%
R2314 NOSTUFF 0 1/16W 402 MF-LF 5%
R2311 NOSTUFF 10K 1/16W 402 MF-LF 5%

FWH_MFG_MODE 23
BIOS_REC 23

=PP3V3_S5_SB 6 23 25 26

R2390 10K 5% 1/16W 402 MF-LF
23 PATA_PWR_EN_L

=PP3V3_S0_SB_GPIO 6 21 23

R2388 10K 5% 1/16W 402 MF-LF
23 SATA_C_PWR_EN_L

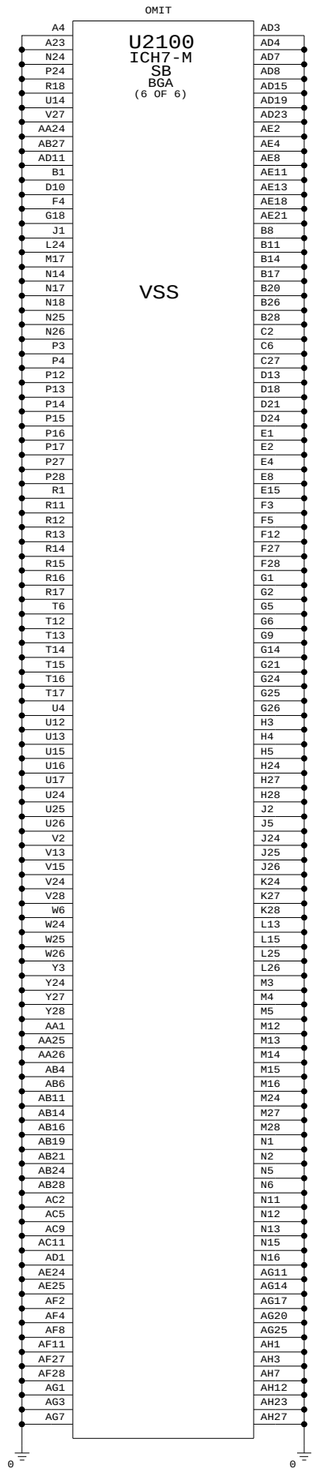
SB: 3 OF 4

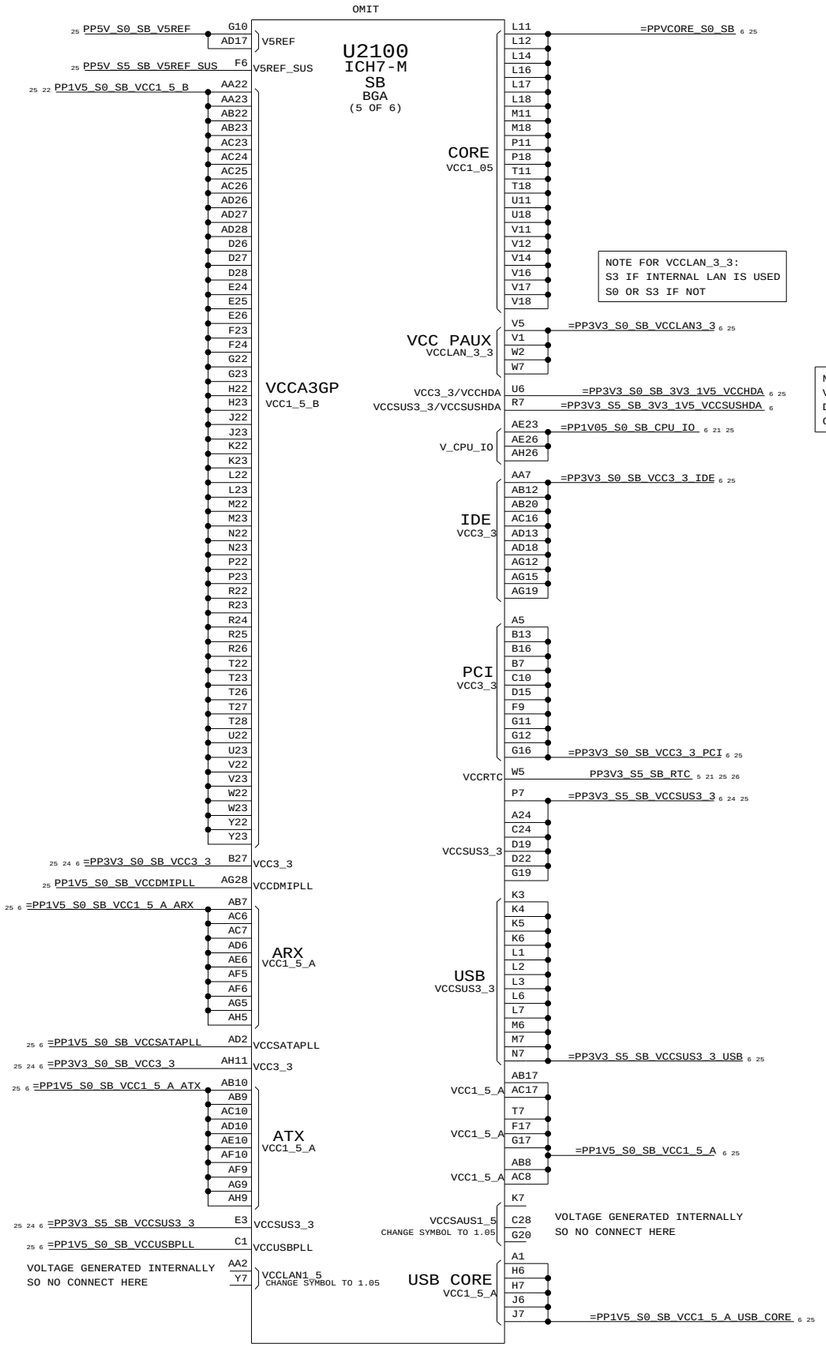
SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE SHT 23 OF 111



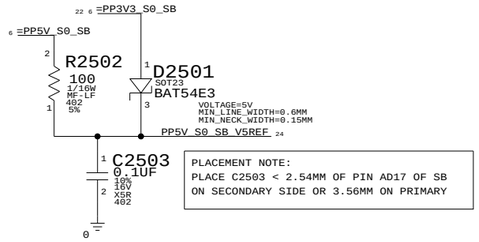


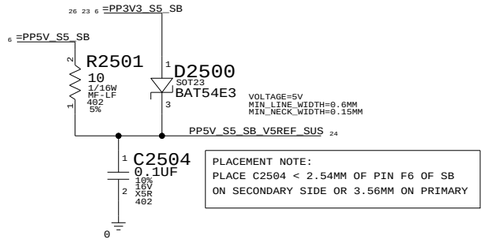
SB: 4 OF 4

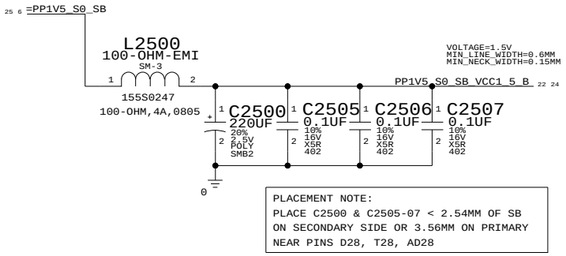
SYNC_MASTER=N/A SYNC_DATE=N/A

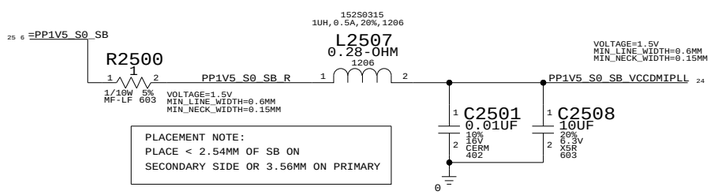
APPLE COMPUTER INC.

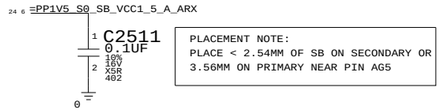
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE NONE	SHT 24 OF 111	

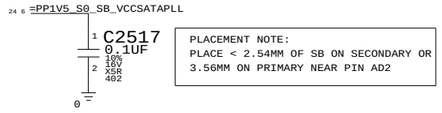


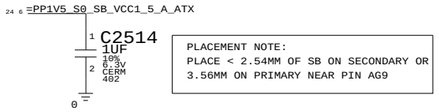


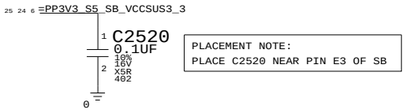


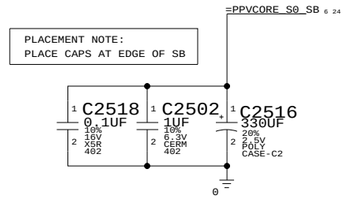


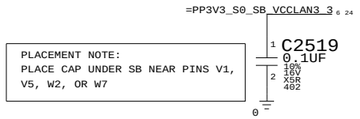


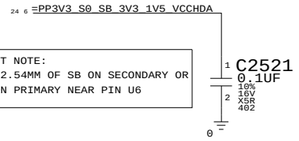


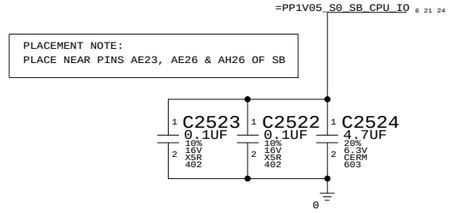


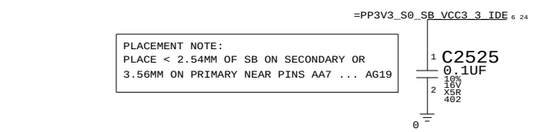


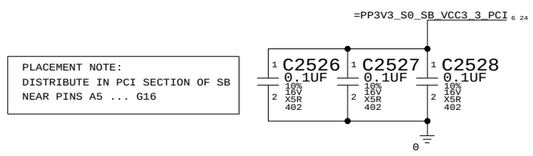


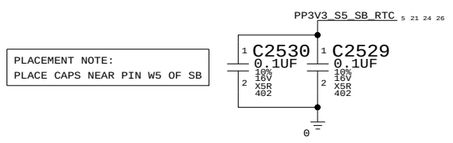


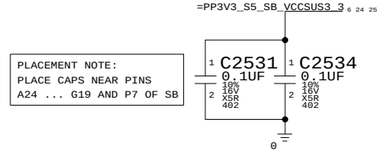


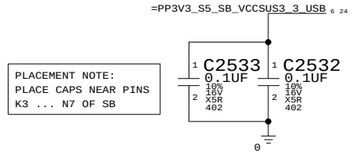


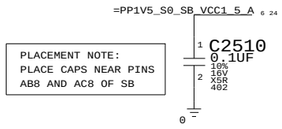


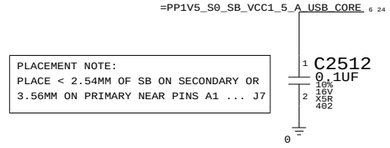












SB:DECOUPLING

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
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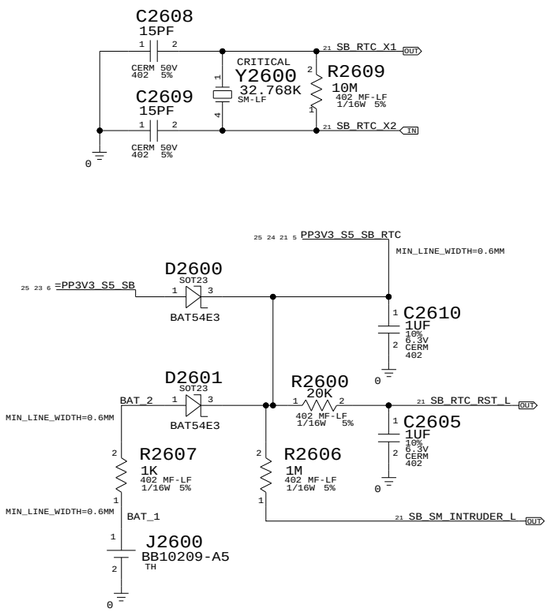
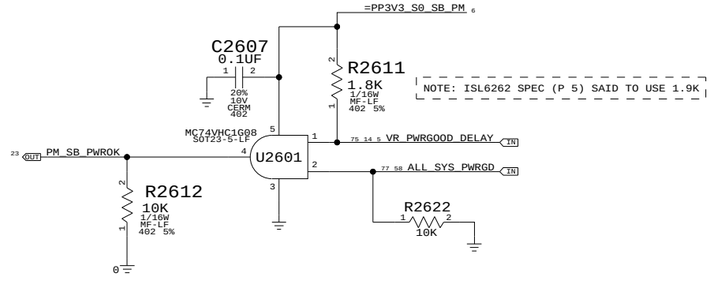
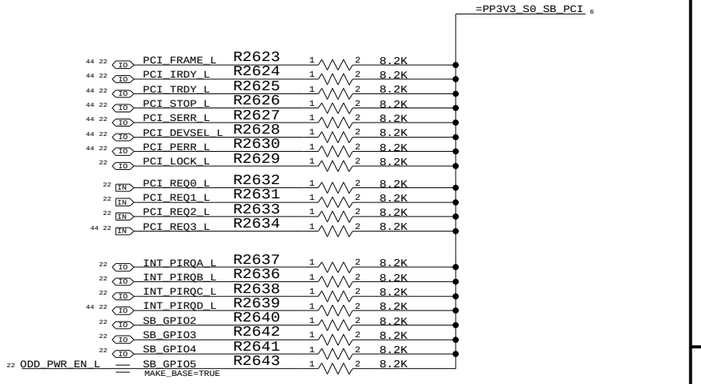
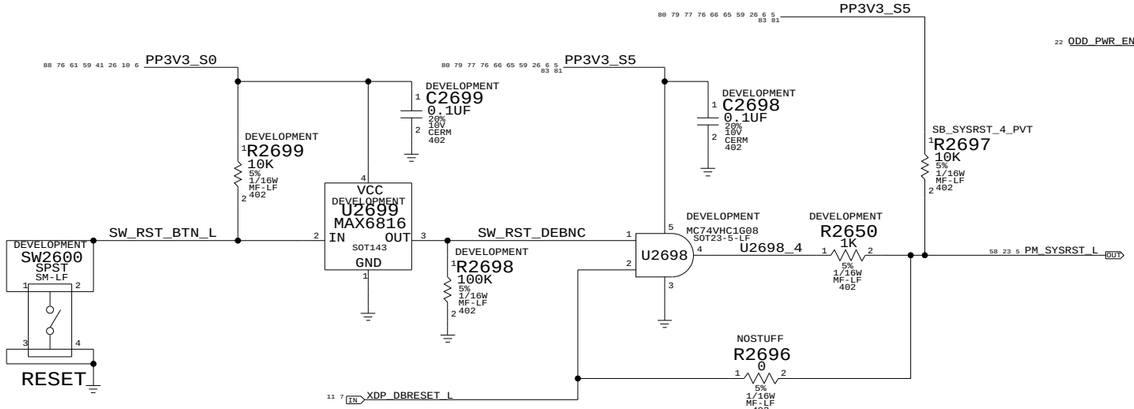
SCALE: NONE SHT 25 OF 111

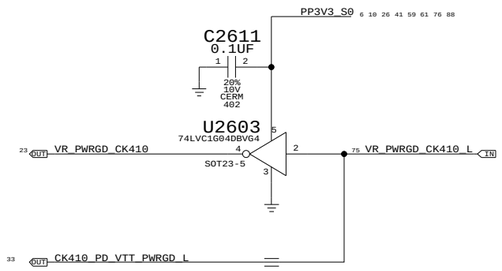








NOTE: R2696 CAN'T EXIST WITH BOTH ITP & DEVELOPMENT
SHOULD BE STUFFED WITH ITP & NO DEVELOPMENT



SB: MISC

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE

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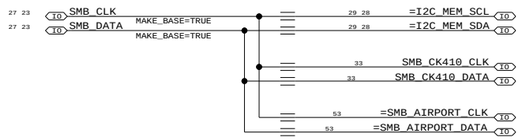
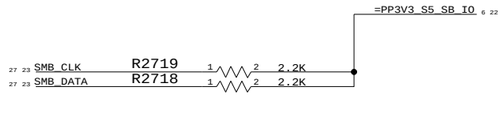
SB I2C BUSSES





SB: SMB HUB

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT
NONE	27 OF 111

Page Notes

Power aliases required by this page:
- =PP1V8_S3_MEM
- =PPSPD_S0_MEM (2.5V - 3.3V)

Signal aliases required by this page:
- =I2C_MEM_SCL
- =I2C_MEM_SDA

BOM options provided by this page:
(NONE)

DDR2 VRef

One 0.1uF per connector

29 28 6 5 =PP1V8_S3_MEM

R2800 1K 1% 1/16W MF-LF 402

MEM_VREF 5 28 29
VOLTAGE=0.9V
MIN_LINE_WIDTH=0.25 mm
MIN_NECK_WIDTH=0.25 mm

R2801 1K 1% 1/16W MF-LF 402

Yellow uses 10K divider and TLV2463
to drive MCH and DIMM connectors.
(See Capell Valley pg 47)

29 28 5 MEM_VREF

C2850 2.2UF 20% 6.3V CERM1 603

C2800 0.1uF 20% 10V CERM 402

29 28 6 5 =PP1V8_S3_MEM

J2800 — DDR2-SODIMM-STD

CRITICAL
F-RT-SM1

		VREF	1	2	VSS0	
		VSS1	3	4	DQ4	MEM_A_DQ<4> 15
15	MEM_A_DQ<0>	DQ0	5	6	DQ5	MEM_A_DQ<5> 15
15	MEM_A_DQ<1>	DQ1	7	8	VSS2	
		VSS4	9	10	DM0	MEM_A_DM<0> 15
15 5	MEM_A_DQS_N<0>	DQS0*	11	12	VSS5	
15 5	MEM_A_DQS_P<0>	DQS0	13	14	DQ6	MEM_A_DQ<6> 15
		VSS6	15	16	DQ7	MEM_A_DQ<7> 5 15
15	MEM_A_DQ<2>	DQ2	17	18	VSS7	
15	MEM_A_DQ<3>	DQ3	19	20	DQ12	MEM_A_DQ<12> 15
		VSS8	21	22	DQ13	MEM_A_DQ<13> 15
15	MEM_A_DQ<8>	DQ8	23	24	VSS9	
15	MEM_A_DQ<9>	DQ9	25	26	DM1	MEM_A_DM<1> 15
		VSS10	27	28	VSS11	
15 5	MEM_A_DQS_N<1>	DQS1*	29	30	CK0	MEM_CLK_P<0> 14
15 5	MEM_A_DQS_P<1>	DQS1	31	32	CK0*	MEM_CLK_N<0> 14
		VSS12	33	34	VSS13	
15	MEM_A_DQ<10>	DQ10	35	36	DQ14	MEM_A_DQ<14> 5 15
15	MEM_A_DQ<11>	DQ11	37	38	DQ15	MEM_A_DQ<15> 15
		VSS14	39	40	VSS15	
			KEY			
		VSS16	41	42	VSS17	
15 5	MEM_A_DQ<16>	DQ16	43	44	DQ20	MEM_A_DQ<20> 15
15	MEM_A_DQ<17>	DQ17	45	46	DQ21	MEM_A_DQ<21> 15
		VSS18	47	48	VSS19	
15 5	MEM_A_DQS_N<2>	DQS2*	49	50	NC0	DIMM_OVERTEMP_L 29 59
15 5	MEM_A_DQS_P<2>	DQS2	51	52	DM2	MEM_A_DM<2> 15
		VSS21	53	54	VSS22	
15	MEM_A_DQ<18>	DQ18	55	56	DQ22	MEM_A_DQ<22> 15
15	MEM_A_DQ<19>	DQ19	57	58	DQ23	MEM_A_DQ<23> 15
		VSS23	59	60	VSS24	
15	MEM_A_DQ<24>	DQ24	61	62	DQ28	MEM_A_DQ<28> 15
15 5	MEM_A_DQ<25>	DQ25	63	64	DQ29	MEM_A_DQ<29> 15
		VSS25	65	66	VSS26	
15	MEM_A_DM<3>	DM3	67	68	DQS3*	MEM_A_DQS_N<3> 5 15
	NC	NC1	69	70	DQS3	MEM_A_DQS_P<3> 5 15
		VSS27	71	72	VSS28	
15	MEM_A_DQ<26>	DQ26	73	74	DQ30	MEM_A_DQ<30> 15
15	MEM_A_DQ<27>	DQ27	75	76	DQ31	MEM_A_DQ<31> 15
		VSS29	77	78	VSS30	
30 14	MEM_CKE<0>	CKE0	79	80	NC/CKE1	MEM_CKE<1> 14 30
		VDD0	81	82	VDD1	
	NC	NC2	83	84	NC/A15	TP_MEM_A_A<15>
30 15	MEM_A_BS<2>	BA2	85	86	NC/A14	TP_MEM_A_A<14>
		VDD2	87	88	VDD3	
30 15	MEM_A_A<12>	A12	89	90	A11	MEM_A_A<11> 15 30
30 15	MEM_A_A<9>	A9	91	92	A7	MEM_A_A<7> 15 30
30 15	MEM_A_A<8>	A8	93	94	A6	MEM_A_A<6> 15 30
		VDD4	95	96	VDD5	
30 15	MEM_A_A<5>	A5	97	98	A4	MEM_A_A<4> 15 30
30 15	MEM_A_A<3>	A3	99	100	A2	MEM_A_A<2> 15 30
30 15	MEM_A_A<1>	A1	101	102	A0	MEM_A_A<0> 15 30
		VDD6	103	104	VDD7	
30 15	MEM_A_A<10>	A10/AP	105	106	BA1	MEM_A_BS<1> 15 30
30 15	MEM_A_BS<0>	BA0	107	108	RAS*	MEM_A_RAS_L 15 30
30 15	MEM_A_WE_L	WE*	109	110	S0*	MEM_CS_L<0> 14 30
		VDD8	111	112	VDD9	
30 15	MEM_A_CAS_L	CAS*	113	114	ODT0	MEM_ODT<0> 14 30
30 14	MEM_CS_L<1>	NC/S1*	115	116	NC/A13	MEM_A_A<13> 15 30
		VDD10	117	118	VDD11	
30 14	MEM_ODT<1>	NC/ODT1	119	120	NC3	NC
		VSS31	121	122	VSS32	
15	MEM_A_DQ<32>	DQ32	123	124	DQ36	MEM_A_DQ<36> 15
15	MEM_A_DQ<33>	DQ33	125	126	DQ37	MEM_A_DQ<37> 15
		VSS33	127	128	VSS34	
15 5	MEM_A_DQS_N<4>	DQS4*	129	130	DM4	MEM_A_DM<4> 15
15 5	MEM_A_DQS_P<4>	DQS4	131	132	VSS35	
		VSS36	133	134	DQ38	MEM_A_DQ<38> 15
15	MEM_A_DQ<34>	DQ34	135	136	DQ39	MEM_A_DQ<39> 5 15
15	MEM_A_DQ<35>	DQ35	137	138	VSS37	
		VSS38	139	140	DQ44	MEM_A_DQ<44> 15
15	MEM_A_DQ<40>	DQ40	141	142	DQ45	MEM_A_DQ<45> 15
15	MEM_A_DQ<41>	DQ41	143	144	VSS39	
		VSS40	145	146	DQS5*	MEM_A_DQS_N<5> 5 15
15	MEM_A_DM<5>	DM5	147	148	DQS5	MEM_A_DQS_P<5> 5 15
		VSS41	149	150	VSS42	
15	MEM_A_DQ<42>	DQ42	151	152	DQ46	MEM_A_DQ<46> 15
15	MEM_A_DQ<43>	DQ43	153	154	DQ47	MEM_A_DQ<47> 5 15
		VSS43	155	156	VSS44	
15	MEM_A_DQ<48>	DQ48	157	158	DQ52	MEM_A_DQ<52> 15
15	MEM_A_DQ<49>	DQ49	159	160	DQ53	MEM_A_DQ<53> 15
		VSS45	161	162	VSS46	
	NC	NC_TEST	163	164	CK1	MEM_CLK_P<1> 14
		VSS47	165	166	CK1*	MEM_CLK_N<1> 14
15 5	MEM_A_DQS_N<6>	DQS6*	167	168	VSS48	
15 5	MEM_A_DQS_P<6>	DQS6	169	170	DM6	MEM_A_DM<6> 15
		VSS49	171	172	VSS50	
15	MEM_A_DQ<50>	DQ50	173	174	DQ54	MEM_A_DQ<54> 5 15
15	MEM_A_DQ<51>	DQ51	175	176	DQ55	MEM_A_DQ<55> 15
		VSS51	177	178	VSS52	
15	MEM_A_DQ<56>	DQ56	179	180	DQ60	MEM_A_DQ<60> 15
15	MEM_A_DQ<57>	DQ57	181	182	DQ61	MEM_A_DQ<61> 15
		VSS53	183	184	VSS54	
15	MEM_A_DM<7>	DM7	185	186	DQS7*	MEM_A_DQS_N<7> 5 15
		VSS55	187	188	DQS7	MEM_A_DQS_P<7> 5 15
15	MEM_A_DQ<58>	DQ58	189	190	VSS56	
15 5	MEM_A_DQ<59>	DQ59	191	192	DQ62	MEM_A_DQ<62> 15
		VSS57	193	194	DQ63	MEM_A_DQ<63> 15
29 27	=I2C_MEM_SDA	SDA	195	196	VSS58	
29 27	=I2C_MEM_SCL	SCL	197	198	SA0	ADDR=0xA0(WR)/0xA1(RD)
		VDDSPD	199	200	SA1	
			201	202	GND	
			203	204		
			205			ALL NC'S

516S0403

29 6 =PPSPD_S0_MEM

C2851 2.2UF 20% 6.3V CERM1 603

C2852 0.1uF 20% 10V CERM 402

DDR2 Bypass Caps

(For return current)

29 28 6 5 =PP1V8_S3_MEM

C2801 10UF 20% 6.3V X5R 603
C2802 10UF 20% 6.3V X5R 603
C2803 10UF 20% 6.3V X5R 603
C2804 10UF 20% 6.3V X5R 603

C2810 0.1uF 20% 10V CERM 402
C2811 0.1uF 20% 10V CERM 402
C2812 0.1uF 20% 10V CERM 402
C2813 0.1uF 20% 10V CERM 402

C2814 0.1uF 20% 10V CERM 402
C2815 0.1uF 20% 10V CERM 402
C2816 0.1uF 20% 10V CERM 402
C2817 0.1uF 20% 10V CERM 402

C2818 0.1uF 20% 10V CERM 402
C2819 0.1uF 20% 10V CERM 402
C2820 0.1uF 20% 10V CERM 402
C2821 0.1uF 20% 10V CERM 402

=PP1V8_S3_MEM 5 6 28 29

DIMM_OVERTEMP_L 29 59

TP_MEM_A_A<15>

TP_MEM_A_A<14>

ADDR=0xA0(WR)/0xA1(RD)

ALL NC'S

DDR2 SO-DIMM Connector A

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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II NOT TO REPRODUCE OR COPY IT

III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	28	111

Page Notes

Power aliases required by this page:
- =PP1V8_S3_MEM
- =PPSPD_S0_MEM (2.5V - 3.3V)

Signal aliases required by this page:
- =I2C_MEM_SCL
- =I2C_MEM_SDA

BOM options provided by this page:
(NONE)

NOTE: This page does not supply VREF.
The reference voltage must be provided
by another page.

=PP1V8_S3_MEM

MEM_VREF

C2950 2.2UF 20% 6.3V CERM1 603
C2900 0.1uF 20% 10V CERM 402

CRITICAL
J2900
F-RT-SM1
DDR2-SODIMM-REV

1	VREF	VSS0	2				
3	VSS1	DQ4	4	MEM_B_DQ<4>	15		
5	DQ0	DQ5	6	MEM_B_DQ<5>	15		
7	DQ1	VSS2	8				
9	VSS4	DM0	10	MEM_B_DM<0>	15		
11	DQS0*	VSS5	12				
13	DQS0	DQ6	14	MEM_B_DQ<6>	5 15		
15	VSS6	DQ7	16	MEM_B_DQ<7>	15		
17	DQ2	VSS7	18				
19	DQ3	DQ12	20	MEM_B_DQ<12>	15		
21	VSS8	DQ13	22	MEM_B_DQ<13>	15		
23	DQ8	VSS9	24				
25	DQ9	DM1	26	MEM_B_DM<1>	15		
27	VSS10	VSS11	28				
29	DQS1*	CK0	30	MEM_CLK_P<3>	14		
31	DQS1	CK0*	32	MEM_CLK_N<3>	14		
33	VSS12	VSS13	34				
35	DQ10	DQ14	36	MEM_B_DQ<14>	15		
37	DQ11	DQ15	38	MEM_B_DQ<15>	15		
39	VSS14	VSS15	40				
KEY							
41	VSS16	VSS17	42				
43	DQ16	DQ20	44	MEM_B_DQ<20>	15		
45	DQ17	DQ21	46	MEM_B_DQ<21>	15		
47	VSS18	VSS19	48				
49	DQS2*	NC0	50	DIMM_OVERTEMP_L	28 59		
51	DQS2	DM2	52	MEM_B_DM<2>	15		
53	VSS21	VSS22	54				
55	DQ18	DQ22	56	MEM_B_DQ<22>	15		
57	DQ19	DQ23	58	MEM_B_DQ<23>	5 15		
59	VSS23	VSS24	60				
61	DQ24	DQ28	62	MEM_B_DQ<28>	15		
63	DQ25	DQ29	64	MEM_B_DQ<29>	15		
65	VSS25	VSS26	66				
67	DM3	DQS3*	68	MEM_B_DQS_N<3>	5 15		
NC	NC1	DQS3	70	MEM_B_DQS_P<3>	5 15		
71	VSS27	VSS28	72				
73	DQ26	DQ30	74	MEM_B_DQ<30>	15		
75	DQ27	DQ31	76	MEM_B_DQ<31>	15		
77	VSS29	VSS30	78				
79	CKE0	NC/CKE1	80	MEM_CKE<3>	14 30		
81	VDD0	VDD1	82				
NC	NC2	NC/A15	84	TP_MEM_B_A<15>	5		
85	BA2	NC/A14	86	TP_MEM_B_A<14>	5		
87	VDD2	VDD3	88				
89	A12	A11	90	MEM_B_A<11>	15 30		
91	A9	A7	92	MEM_B_A<7>	15 30		
93	A8	A6	94	MEM_B_A<6>	15 30		
95	VDD4	VDD5	96				
97	A5	A4	98	MEM_B_A<4>	15 30		
99	A3	A2	100	MEM_B_A<2>	15 30		
101	A1	A0	102	MEM_B_A<0>	15 30		
103	VDD6	VDD7	104				
105	A10/AP	BA1	106	MEM_B_BS<1>	15 30		
107	BA0	RAS*	108	MEM_B_RAS_L	15 30		
109	WE*	S0*	110	MEM_CS_L<2>	14 30		
111	VDD8	VDD9	112				
113	CAS*	ODT0	114	MEM_ODT<2>	14 30		
115	NC/S1*	NC/A13	116	MEM_B_A<13>	15 30		
117	VDD10	VDD11	118				
119	NC/ODT1	NC3	120	NC			
121	VSS31	VSS32	122				
123	DQ32	DQ36	124	MEM_B_DQ<36>	15		
125	DQ33	DQ37	126	MEM_B_DQ<37>	15		
127	VSS33	VSS34	128				
129	DQS4*	DM4	130	MEM_B_DM<4>	15		
131	DQS4	VSS35	132				
133	VSS36	DQ38	134	MEM_B_DQ<38>	5 15		
135	DQ34	DQ39	136	MEM_B_DQ<39>	15		
137	DQ35	VSS37	138				
139	VSS38	DQ44	140	MEM_B_DQ<44>	5 15		
141	DQ40	DQ45	142	MEM_B_DQ<45>	15		
143	DQ41	VSS39	144				
145	VSS40	DQS5*	146	MEM_B_DQS_N<5>	5 15		
147	DM5	DQS5	148	MEM_B_DQS_P<5>	5 15		
149	VSS41	VSS42	150				
151	DQ42	DQ46	152	MEM_B_DQ<46>	15		
153	DQ43	DQ47	154	MEM_B_DQ<47>	15		
155	VSS43	VSS44	156				
157	DQ48	DQ52	158	MEM_B_DQ<52>	15		
159	DQ49	DQ53	160	MEM_B_DQ<53>	15		
161	VSS45	VSS46	162				
NC	NC_TEST	CK1	164	MEM_CLK_P<2>	14		
165	VSS47	CK1*	166	MEM_CLK_N<2>	14		
167	DQS6*	VSS48	168				
169	DQS6	DM6	170	MEM_B_DM<6>	15		
171	VSS49	VSS50	172				
173	DQ50	DQ54	174	MEM_B_DQ<54>	15		
175	DQ51	DQ55	176	MEM_B_DQ<55>	15		
177	VSS51	VSS52	178				
179	DQ56	DQ60	180	MEM_B_DQ<60>	15		
181	DQ57	DQ61	182	MEM_B_DQ<61>	15		
183	VSS53	VSS54	184				
185	DM7	DQS7*	186	MEM_B_DQS_N<7>	5 15		
187	VSS55	DQS7	188	MEM_B_DQS_P<7>	5 15		
189	DQ58	VSS56	190				
191	DQ59	DQ62	192	MEM_B_DQ<62>	5 15		
193	VSS57	DQ63	194	MEM_B_DQ<63>	15		
195	SDA	VSS58	196				
197	SCL	SA0	198	ADDR=0XA4(WR)/0XA5(RD)			
199	VDDSPD	SA1	200	MEM_B_SPD_SA1			
201	GND						
202							
203							
204							
205							

28 27 =I2C_MEM_SDA
28 27 =I2C_MEM_SCL
30 14 MEM_CKE<2>
30 15 MEM_B_BS<2>
30 15 MEM_B_A<12>
30 15 MEM_B_A<9>
30 15 MEM_B_A<8>
30 15 MEM_B_A<5>
30 15 MEM_B_A<3>
30 15 MEM_B_A<1>
30 15 MEM_B_A<10>
30 15 MEM_B_BS<0>
30 15 MEM_B_WE_L
30 15 MEM_B_CAS_L
30 14 MEM_CS_L<3>
30 14 MEM_ODT<3>

516S0404

DDR2 Bypass Caps

(For return current)

29 28 6 5 =PP1V8_S3_MEM

C2908 1UF 10% 6.3V CERM 402	C2909 1UF 10% 6.3V CERM 402	C2910 1UF 10% 6.3V CERM 402	C2911 1UF 10% 6.3V CERM 402
C2912 1UF 10% 6.3V CERM 402	C2913 1UF 10% 6.3V CERM 402	C2914 1UF 10% 6.3V CERM 402	C2915 1UF 10% 6.3V CERM 402
C2916 1UF 10% 6.3V CERM 402	C2917 1UF 10% 6.3V CERM 402	C2918 1UF 10% 6.3V CERM 402	C2919 1UF 10% 6.3V CERM 402
C2920 1UF 10% 6.3V CERM 402	C2921 1UF 10% 6.3V CERM 402	C2922 1UF 10% 6.3V CERM 402	C2923 1UF 10% 6.3V CERM 402

29 28 6 =PPSPD_S0_MEM

C2951 2.2UF 20% 6.3V CERM1 603
C2952 0.1uF 20% 10V CERM 402

=PPSPD_S0_MEM 6 28 29

R2900 10K 5% 1/16W MF-LF 402

Resistor prevents pwr-gnd short

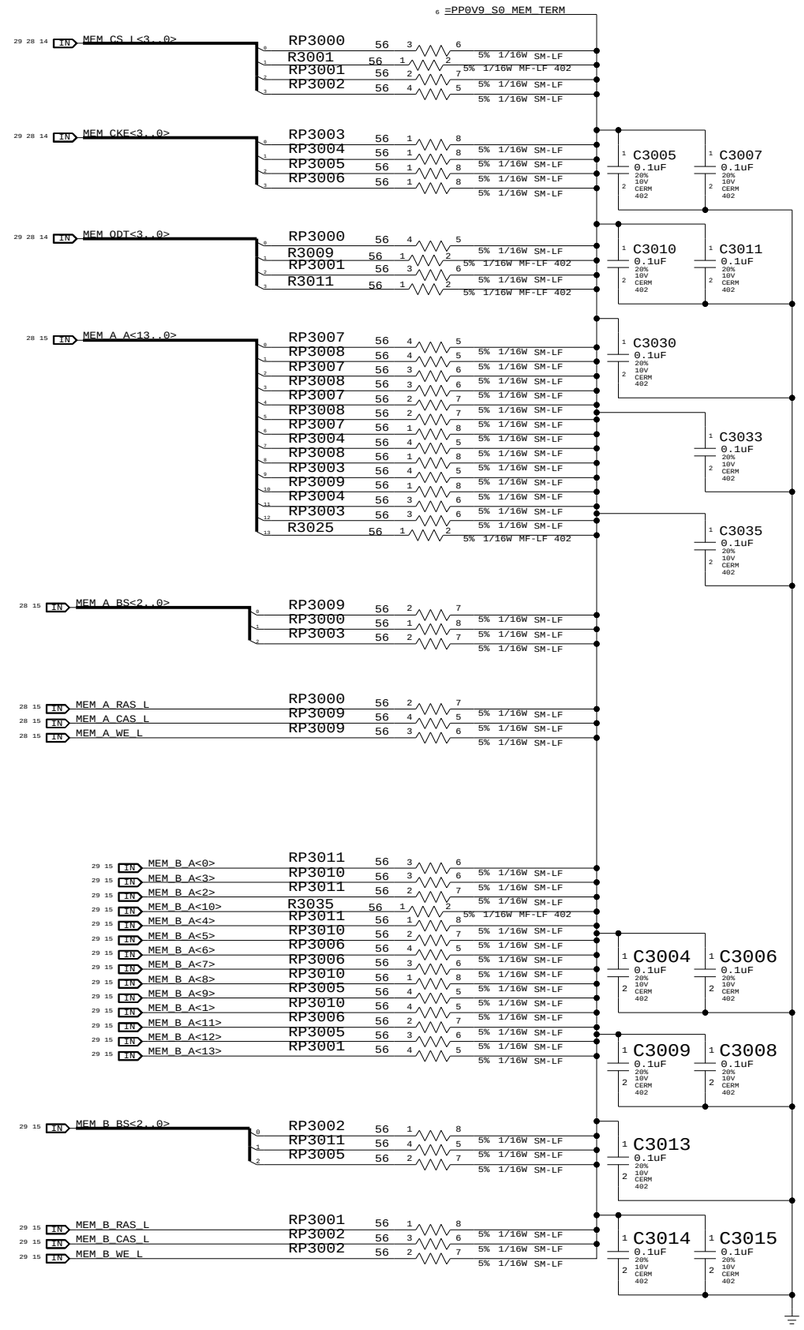
DDR2 SO-DIMM Connector B

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 29 OF 111	

One cap for each side of every RPAK, one cap for every two discrete resistors
BOMOPTION shown at the top of each group applies to every part below it



Memory Active Termination

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	30	111

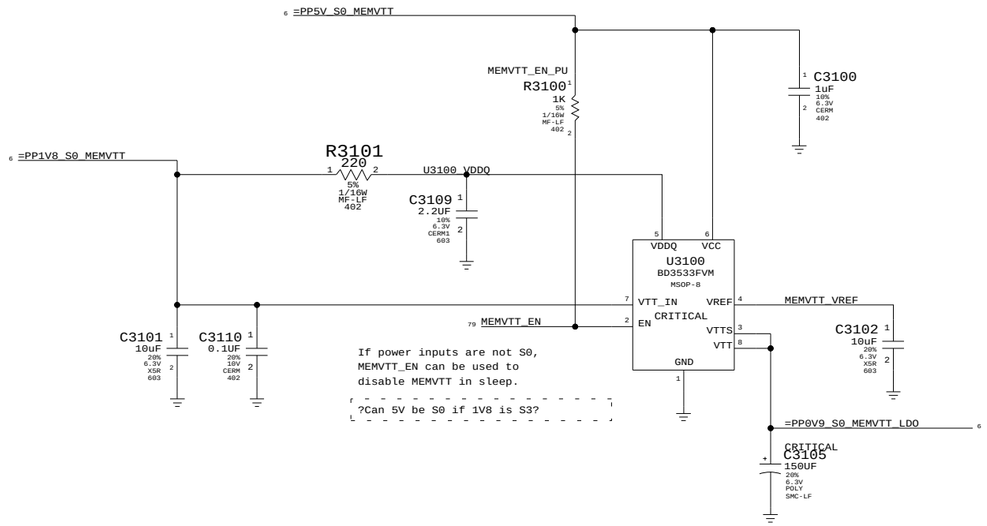
Page Notes

Power aliases required by this page:
- =PP5V_S0_MEMVTT
- =PP1V8_S0_MEMVTT
- =PP0V9_S0_MEMVTT_LDO

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)

DDR2 Vtt Regulator



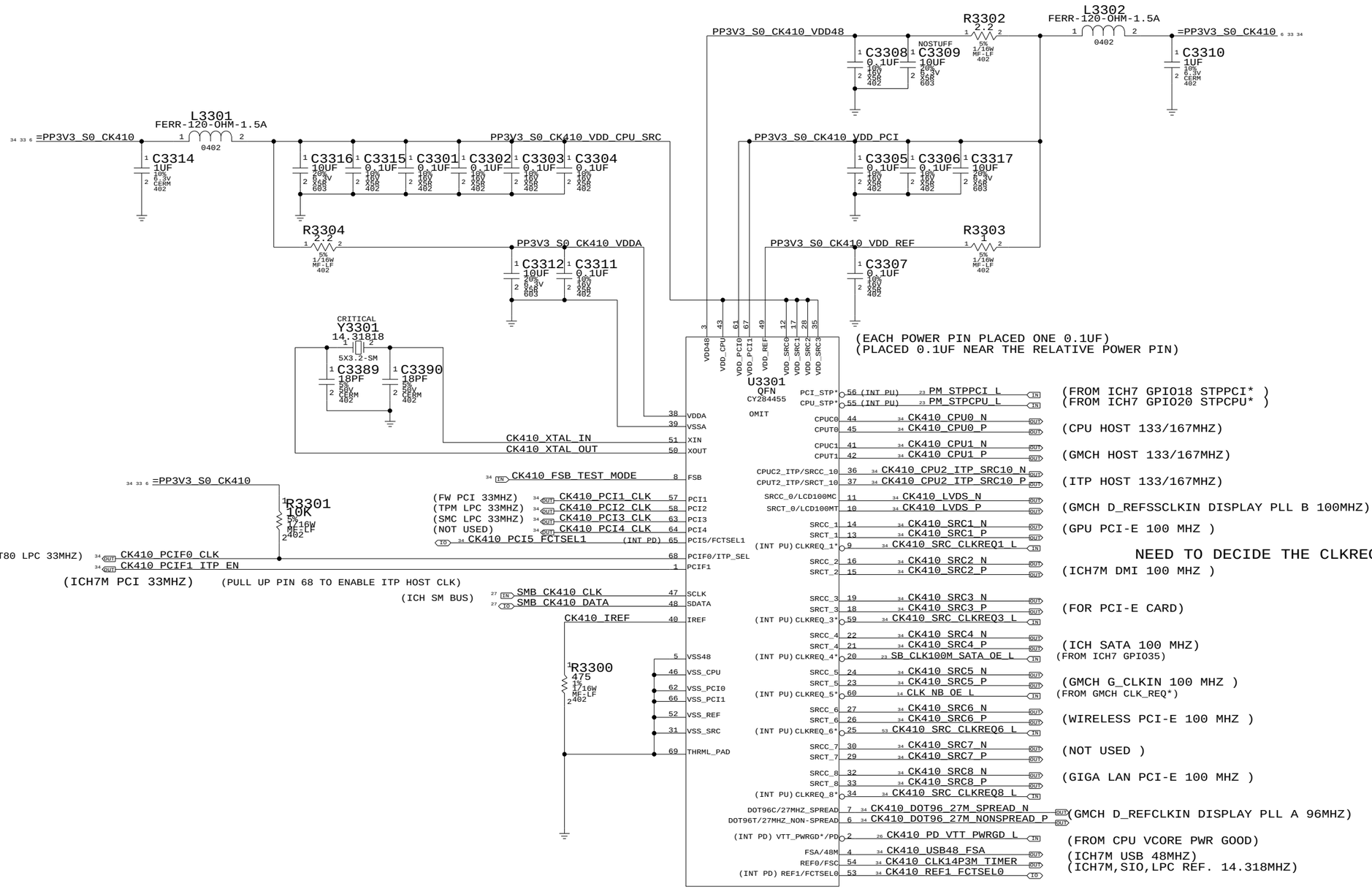
Memory Vtt Supply

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	31	111



FCTSEL1	FCTSEL0	PIN 6	PIN 7	PIN 10	PIN 11	
0	0	DOT96T	DOT96C	100MT_SST	100MC_SST	* FOR INT. GRAPHIC SYSTEM
0	1	DOT96T	DOT96C	SRCT0	SRCC0	
1	0	27M NON SPREAD	27M SPREAD	SRCT0	SRCC0	* FOR EXT. GRAPHIC SYSTEM
1	1	OFF LOW	TBD	SRCT0	SRCC0	

CLOCKS

SYNC_MASTER=CLOCK SYNC_DATE=06/03/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 33 OF 111	

NOTE: USE THESE PULL-DOWNS IF NOT CONNECTED TO GPIO'S

33 CK410_SRC_CLKREQ1_L (GPU CLK OE*) — R3495 1K
33 CK410_SRC_CLKREQ3_L (SPARE CLK OE*) — R3494 1K
33 CK410_SRC_CLKREQ8_L (YUKON CLK OE*) — R3493 1K

FSB FREQUENCY SELECT:

	STUFF	NO STUFF
CPU DRIVEN	R3454 R3459 R3463	R3452 R3457 R3461
533MHZ (133MHZ CPU CLK)	R3452 R3457 R3461	R3454 R3459 R3463
667MHZ (166MHZ CPU CLK)	R3452 R3461	R3454 R3459 R3463 R3457

81 34 6 PP1V05_S0

R3453 1K 1/16W 5% MF-LF 402 — 14 NB_BSEL<0>
34 CK410_FSA
R3455 1K 1/16W 5% MF-LF 402
NOSTUFF R3452 56 5% 1/16W MF-LF 402
R3454 0 5% 1/16W MF-LF 402
7 CPU_BSEL<0>

81 34 6 PP1V05_S0

R3458 1K 1/16W 5% MF-LF 402 — 14 NB_BSEL<1>
33 CK410_FSB_TEST_MODE
R3456 1K 5% 1/16W MF-LF 402
NOSTUFF R3457 0 5% 1/16W MF-LF 402
R3459 0 5% 1/16W MF-LF 402
7 CPU_BSEL<1>

81 34 6 PP1V05_S0

R3462 1K 1/16W 5% MF-LF 402 — 14 NB_BSEL<2>
34 CK410_FSC
R3460 1K 5% 1/16W MF-LF 402
NOSTUFF R3461 0 5% 1/16W MF-LF 402
R3463 0 5% 1/16W MF-LF 402
7 CPU_BSEL<2>

=PP3V3_S0_CK410 6 33

33 IO CK410_PCI5_FCTSEL1 — R3499 1K 1/16W 5% MF-LF 402

R3497 2.2K 5% 1/16W MF-LF 402 — CK410_FSC 34

33 IN CK410_CLK14P3M_TIMER — R3498 33 1/16W 5% MF-LF 402 — SB_CLK14P3M_TIMER OUT 5 23

33 IN CK410_REF1_FCTSEL0 — R3496 33 — TP_CLK14P3M_SPARE OUT

R3451 2.2K 5% 1/16W MF-LF 402 — CK410_FSA 34

33 IN CK410_USB48_FSA — R3400 33 1/16W 5% MF-LF 402 — SB_CLK48M_USBCTLR OUT 5 23
33 IN CK410_PCI4_CLK — R3406 33 — TP_PCI_CLK_SPARE OUT 9
33 IN CK410_PCI3_CLK — R3405 33 — PCI_CLK_SMC OUT 58
33 IN CK410_PCI2_CLK — R3404 33 — PCI_CLK_TPM OUT 67
33 IN CK410_PCI1_CLK — R3403 33 — PCI_CLK_FW OUT 44
33 IN CK410_PCIF1_ITP_EN — R3401 33 — PCI_CLK_SB OUT 5 22
33 IN CK410_PCIF0_CLK — R3402 33 — PCI_CLK_PORT80 OUT 60

33 IN CK410_CPU1_P — R3407 33 — FSB_CLK_NB_P OUT 5 12 34
33 IN CK410_CPU1_N — R3408 33 — FSB_CLK_NB_N OUT 5 12 34
33 IN CK410_CPU0_P — R3409 33 — FSB_CLK_CPU_P OUT 5 7 34
33 IN CK410_CPU0_N — R3410 33 — FSB_CLK_CPU_N OUT 5 7 34
33 IN CK410_CPU2_ITP_SRC10_P — R3411 33 — 34 FSB_CLK_XDP_P — CPU_XDP_CLK_P 11 (MAKE_BASE=TRUE)
33 IN CK410_CPU2_ITP_SRC10_N — R3412 33 — 34 FSB_CLK_XDP_N — CPU_XDP_CLK_N 11 (MAKE_BASE=TRUE)

33 IN CK410_SRC6_P — R3413 33 — AIRPORT_CLK100M_PCIE_P OUT 34 53
33 IN CK410_SRC6_N — R3414 33 — AIRPORT_CLK100M_PCIE_N OUT 34 53
33 IN CK410_SRC5_P — R3415 33 — NB_CLK100M_GCLKIN_P OUT 5 14 34
33 IN CK410_SRC5_N — R3416 33 — NB_CLK100M_GCLKIN_N OUT 5 14 34
33 IN CK410_SRC4_P — R3417 33 — SB_CLK100M_SATA_P OUT 5 21 34
33 IN CK410_SRC4_N — R3418 33 — SB_CLK100M_SATA_N OUT 5 21 34
33 IN CK410_SRC2_P — R3419 33 — SB_CLK100M_DMI_P OUT 5 22 34
33 IN CK410_SRC2_N — R3420 33 — SB_CLK100M_DMI_N OUT 5 22 34
33 IN CK410_SRC8_P — R3421 33 — ENET_CLK100M_PCIE_P OUT 5 34 41
33 IN CK410_SRC8_N — R3422 33 — ENET_CLK100M_PCIE_N OUT 5 34 41
33 IN CK410_SRC1_P — R3423 33 — GPU_CLK100M_PCIE_P OUT 5 34 84
33 IN CK410_SRC1_N — R3424 33 — GPU_CLK100M_PCIE_N OUT 5 34 84
33 IN CK410_LVDS_P — TP_CK410_LVDS_P
33 IN CK410_LVDS_N — TP_CK410_LVDS_N

33 IN CK410_DOT96_27M_SPREAD_N — R3470 33 — CK410_27M_SPREAD OUT 92
33 IN CK410_DOT96_27M_NONSPREAD_P — R3471 33 — CK410_27M_NONSPREAD OUT 92

33 IN CK410_SRC3_P — R3492 33 — SPARE_SRC3_P — R3488 49.9
33 IN CK410_SRC3_N — R3491 33 — SPARE_SRC3_N — R3487 49.9
33 IN CK410_SRC7_P — R3490 33 — SPARE_SRC7_P — R3486 49.9
33 IN CK410_SRC7_N — R3489 33 — SPARE_SRC7_N — R3485 49.9

1% 402 1/16W MF-LF

34 12 5 FSB_CLK_NB_P — R3429 49.9
34 12 5 FSB_CLK_NB_N — R3430 49.9
34 7 5 FSB_CLK_CPU_P — R3431 49.9
34 7 5 FSB_CLK_CPU_N — R3432 49.9
34 FSB_CLK_XDP_P — R3433 49.9
34 FSB_CLK_XDP_N — R3434 49.9
53 34 AIRPORT_CLK100M_PCIE_P — R3435 49.9
53 34 AIRPORT_CLK100M_PCIE_N — R3436 49.9
34 14 5 NB_CLK100M_GCLKIN_P — R3438 49.9
34 14 5 NB_CLK100M_GCLKIN_N — R3437 49.9
34 21 5 SB_CLK100M_SATA_P — R3439 49.9
34 21 5 SB_CLK100M_SATA_N — R3440 49.9
34 22 5 SB_CLK100M_DMI_P — R3442 49.9
34 22 5 SB_CLK100M_DMI_N — R3441 49.9
41 34 5 ENET_CLK100M_PCIE_P — R3443 49.9
41 34 5 ENET_CLK100M_PCIE_N — R3444 49.9
84 34 5 GPU_CLK100M_PCIE_P — R3446 49.9
84 34 5 GPU_CLK100M_PCIE_N — R3445 49.9

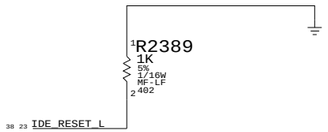
CLOCKS: TERMINATIONS

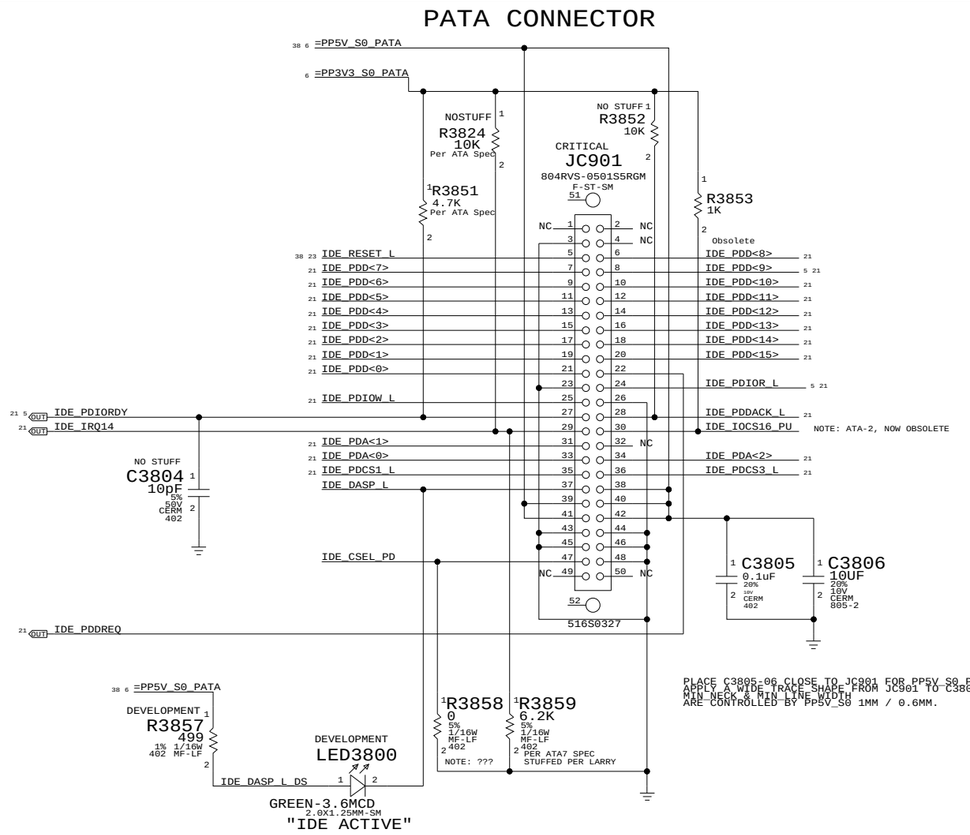
SYNC_MASTER=N/A SYNC_DATE=N/A

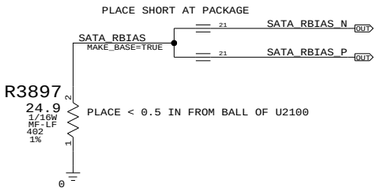
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 34 OF 111	

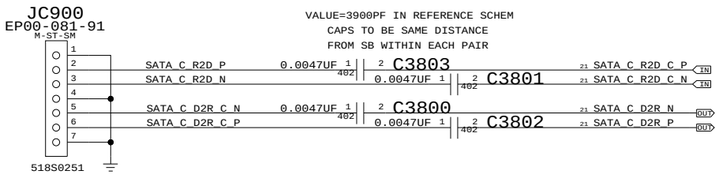
PATA CONNECTOR

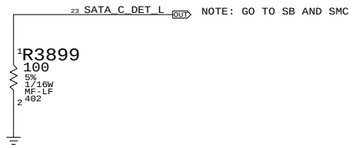


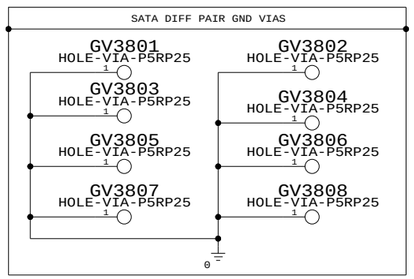




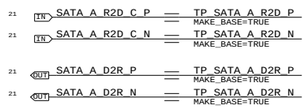
SATA CONNECTOR







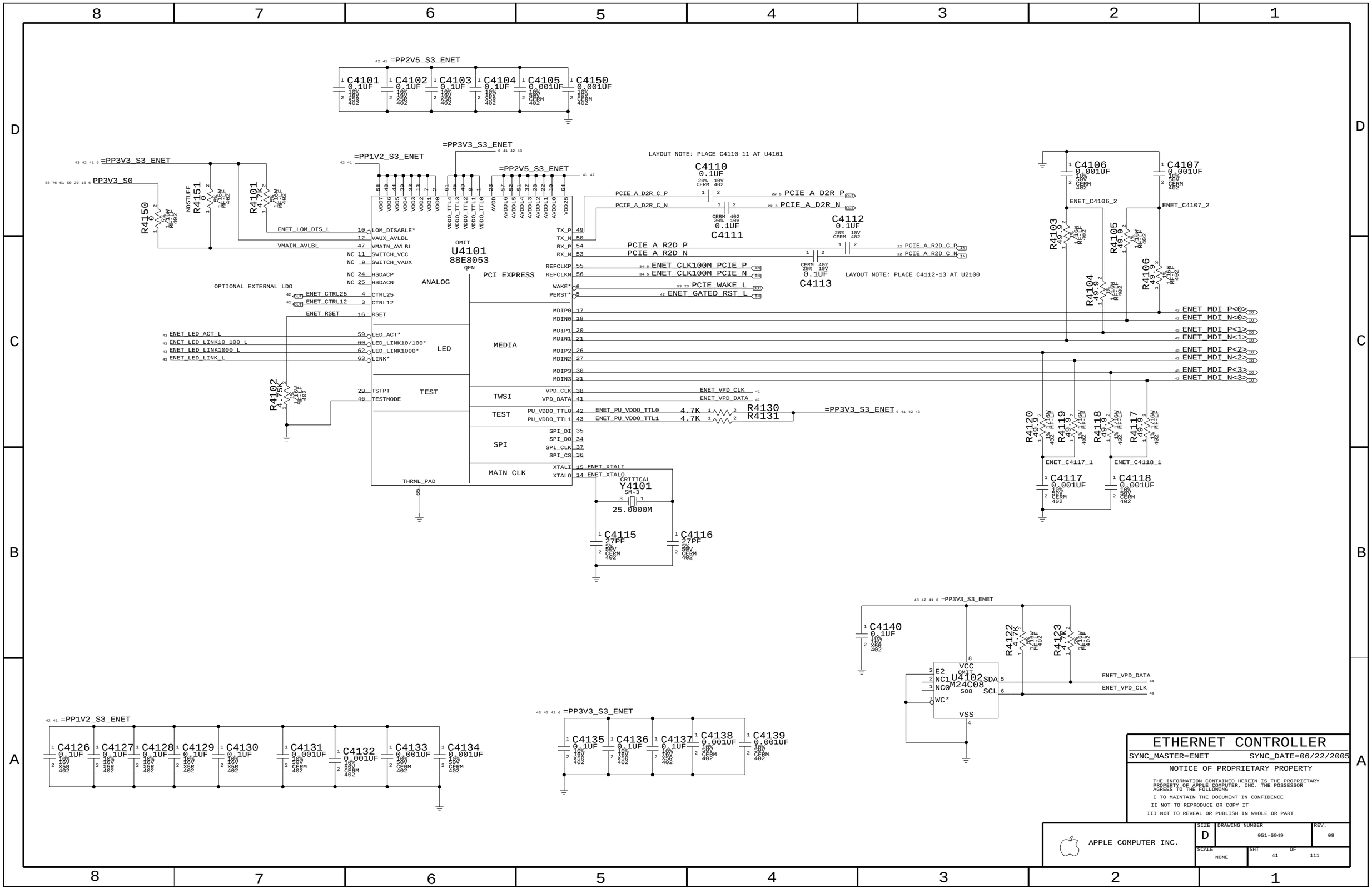
SATA PORT 0 IS NOT USED



Disk Connectors

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 38 OF 111	


=PP2V5_S3_ENET
C4101 0.1UF 10% 16V X5R 402
C4102 0.1UF 10% 16V X5R 402
C4103 0.1UF 10% 16V X5R 402
C4104 0.1UF 10% 16V X5R 402
C4105 0.001UF 10% 50V CERM 402
C4150 0.001UF 10% 50V CERM 402
=PP3V3_S3_ENET
=PP1V2_S3_ENET
=PP2V5_S3_ENET
=PP3V3_S3_ENET
PP3V3_S0
R4150 0 5% 1/16W MF-LF 402
NOSTUFF R4151 10K 5% 1/16W MF-LF 402
R4101 4.7K 5% 1/16W MF-LF 402
ENET_LOM_DIS_L
VMAIN_AVLBL
LAYOUT NOTE: PLACE C4110-11 AT U4101
C4110 0.1UF 20% 10V CERM 402
C4111 0.1UF 20% 10V CERM 402
C4112 0.1UF 20% 10V CERM 402
C4113 0.1UF 20% 10V CERM 402
PCIE_A_D2R_C_P
PCIE_A_D2R_C_N
PCIE_A_D2R_P
PCIE_A_D2R_N
PCIE_A_R2D_P
PCIE_A_R2D_N
PCIE_A_R2D_C_P
PCIE_A_R2D_C_N
LAYOUT NOTE: PLACE C4112-13 AT U2100
OMIT
U4101
88E8053
QFN
ANALOG
PCI EXPRESS
LED
MEDIA
TEST
TWSI
SPI
MAIN CLK
OPTIONAL EXTERNAL LDO
ENET_CTRL25
ENET_CTRL12
ENET_RSET
ENET_LED_ACT_L
ENET_LED_LINK10_100_L
ENET_LED_LINK1000_L
ENET_LED_LINK_L
R4102 4.75K 1% 1/16W MF-LF 402
ENET_CLK100M_PCIE_P
ENET_CLK100M_PCIE_N
PCIE_WAKE_L
ENET_GATED_RST_L
ENET_VPD_CLK
ENET_VPD_DATA
ENET_PU_VDDO_TTL0
ENET_PU_VDDO_TTL1
R4130 4.7K
R4131 4.7K
=PP3V3_S3_ENET
SPI_DI
SPI_DO
SPI_CLK
SPI_CS
ENET_XTALI
ENET_XTALO
THRML_PAD
CRITICAL
Y4101
SM-3
25.0000M
C4115 27PF 5% 50V CERM 402
C4116 27PF 5% 50V CERM 402
C4106 0.001UF 10% 50V CERM 402
C4107 0.001UF 10% 50V CERM 402
ENET_C4106_2
ENET_C4107_2
R4103 49.9 1% 1/16W MF-LF 402
R4104 49.9 1% 1/16W MF-LF 402
R4105 49.9 1% 1/16W MF-LF 402
R4106 49.9 1% 1/16W MF-LF 402
ENET_MDI_P<0>
ENET_MDI_N<0>
ENET_MDI_P<1>
ENET_MDI_N<1>
ENET_MDI_P<2>
ENET_MDI_N<2>
ENET_MDI_P<3>
ENET_MDI_N<3>
R4120 49.9 1% 1/16W MF-LF 402
R4119 49.9 1% 1/16W MF-LF 402
R4118 49.9 1% 1/16W MF-LF 402
R4117 49.9 1% 1/16W MF-LF 402
ENET_C4117_1
ENET_C4118_1
C4117 0.001UF 10% 50V CERM 402
C4118 0.001UF 10% 50V CERM 402
C4140 0.1UF 10% 16V X5R 402
R4122 4.7K 5% 1/16W MF-LF 402
R4123 4.7K 5% 1/16W MF-LF 402
U4102
M24C08
SO8
VCC
E2
NC1
NC0
WC*
VSS
SDA
SCL
ENET_VPD_DATA
ENET_VPD_CLK
C4126 0.1UF 10% 16V X5R 402
C4127 0.1UF 10% 16V X5R 402
C4128 0.1UF 10% 16V X5R 402
C4129 0.1UF 10% 16V X5R 402
C4130 0.1UF 10% 16V X5R 402
C4131 0.001UF 10% 50V CERM 402
C4132 0.001UF 10% 50V CERM 402
C4133 0.001UF 10% 50V CERM 402
C4134 0.001UF 10% 50V CERM 402
C4135 0.1UF 10% 16V X5R 402
C4136 0.1UF 10% 16V X5R 402
C4137 0.1UF 10% 16V X5R 402
C4138 0.001UF 10% 50V CERM 402
C4139 0.001UF 10% 50V CERM 402
ETHERNET CONTROLLER
SYNC_MASTER=ENET
SYNC_DATE=06/22/2005
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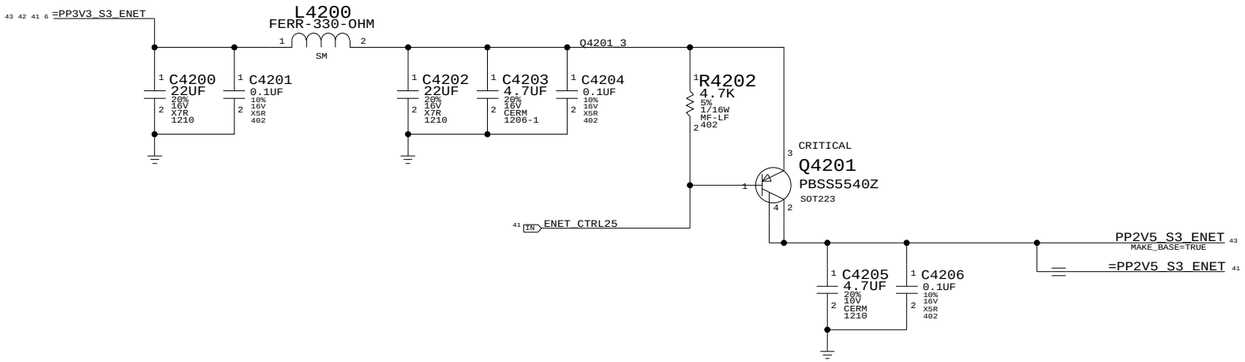
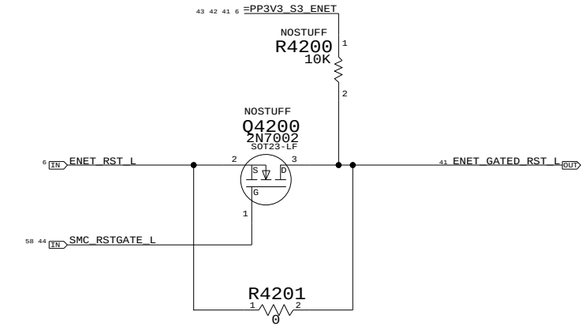
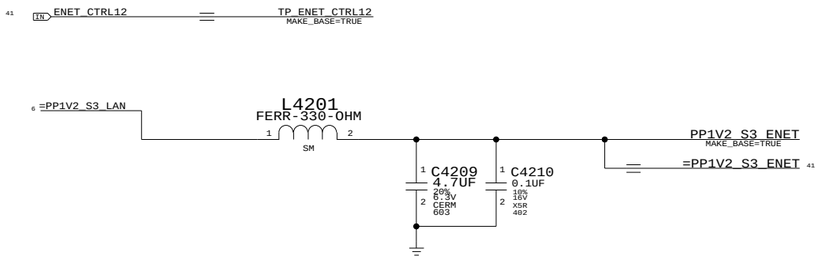
APPLE COMPUTER INC.
SIZE D
DRAWING NUMBER 051-6949
REV. 09
SCALE NONE
SHT 41 OF 111







ETHERNET MISC

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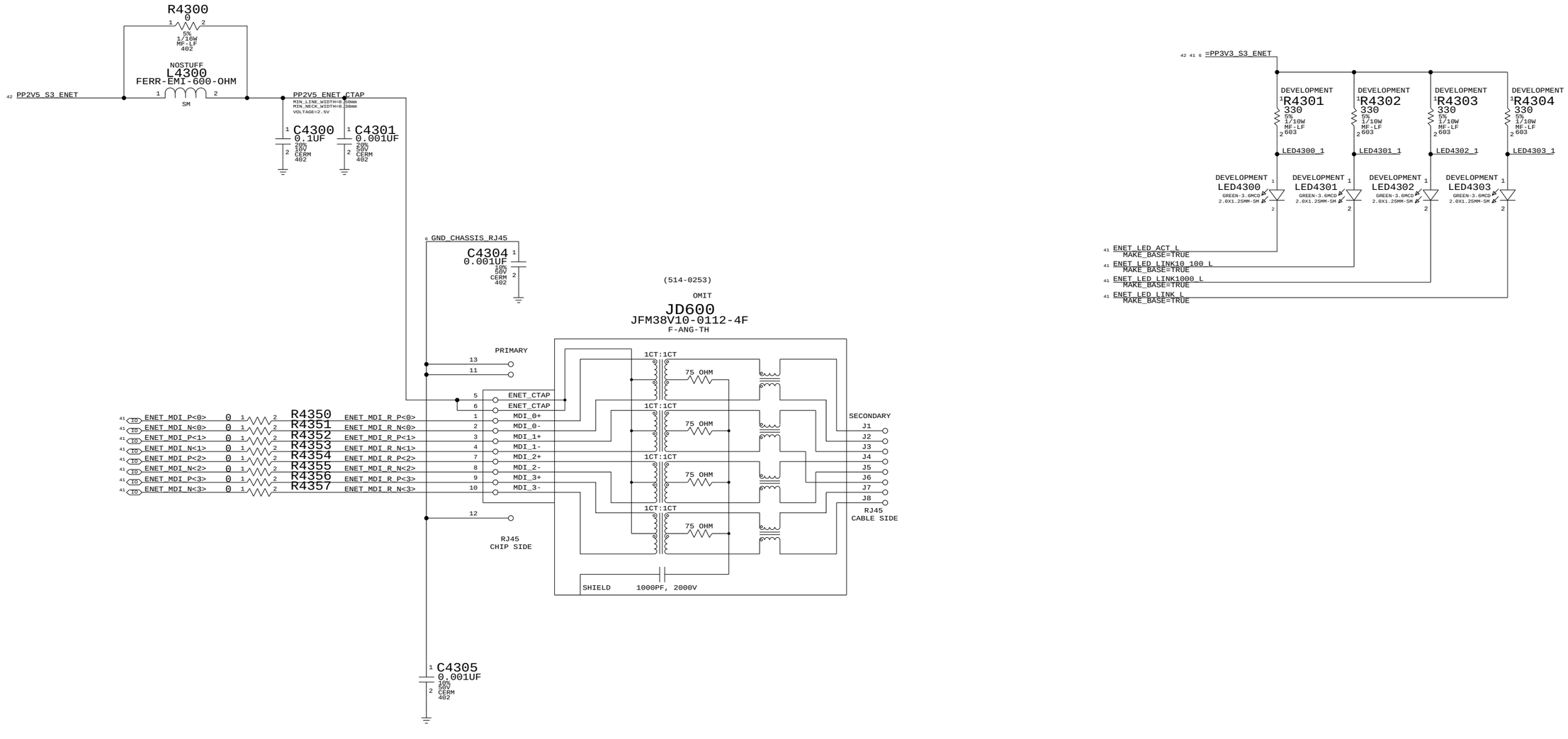
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE	SHT	OF
NONE	42	111

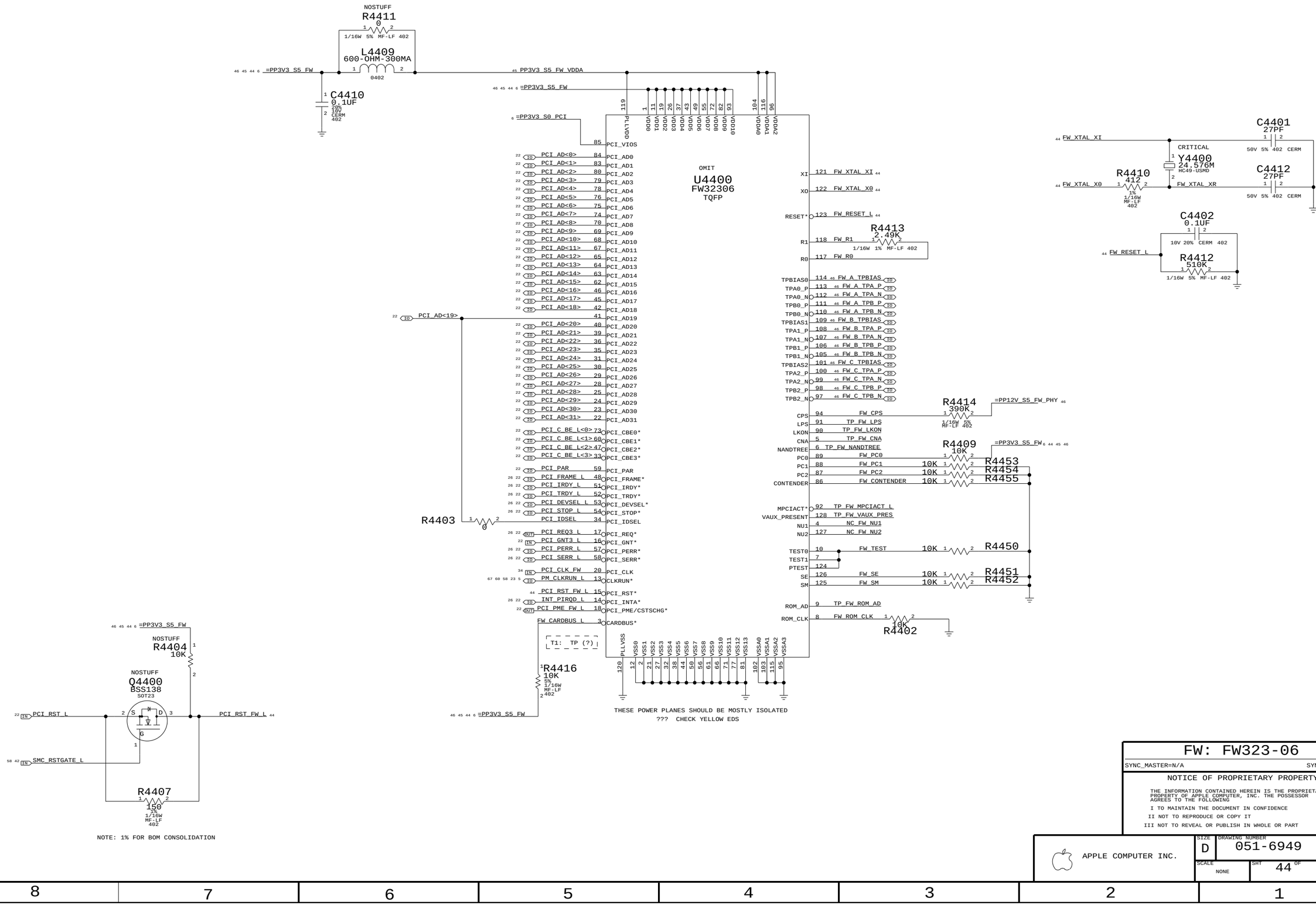


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0300	1	CON,RJ-45 7 DEGRESS	JD600	CRITICAL	17_INCH_LCD
514-0301	1	CON,RJ-45 7 DEGRESS	JD600	CRITICAL	20_INCH_LCD

ETHERNET CONNECTOR

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 43 OF 111	



FW:	FW323-06
SYNC_MASTER=N/A	SYNC_DATE=N/A

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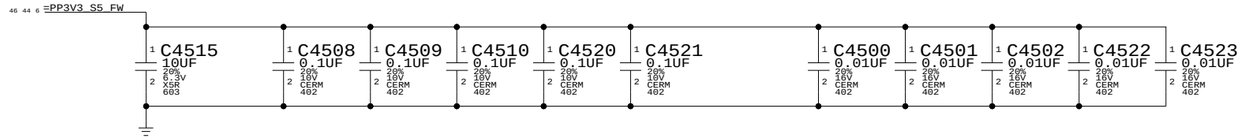
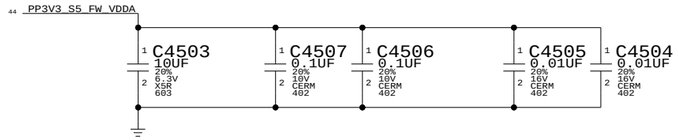
APPLE COMPUTER INC.	SIZE: D	DRAWING NUMBER: 051-6949	REV: 09
	SCALE: NONE	SHT 44 OF 111	





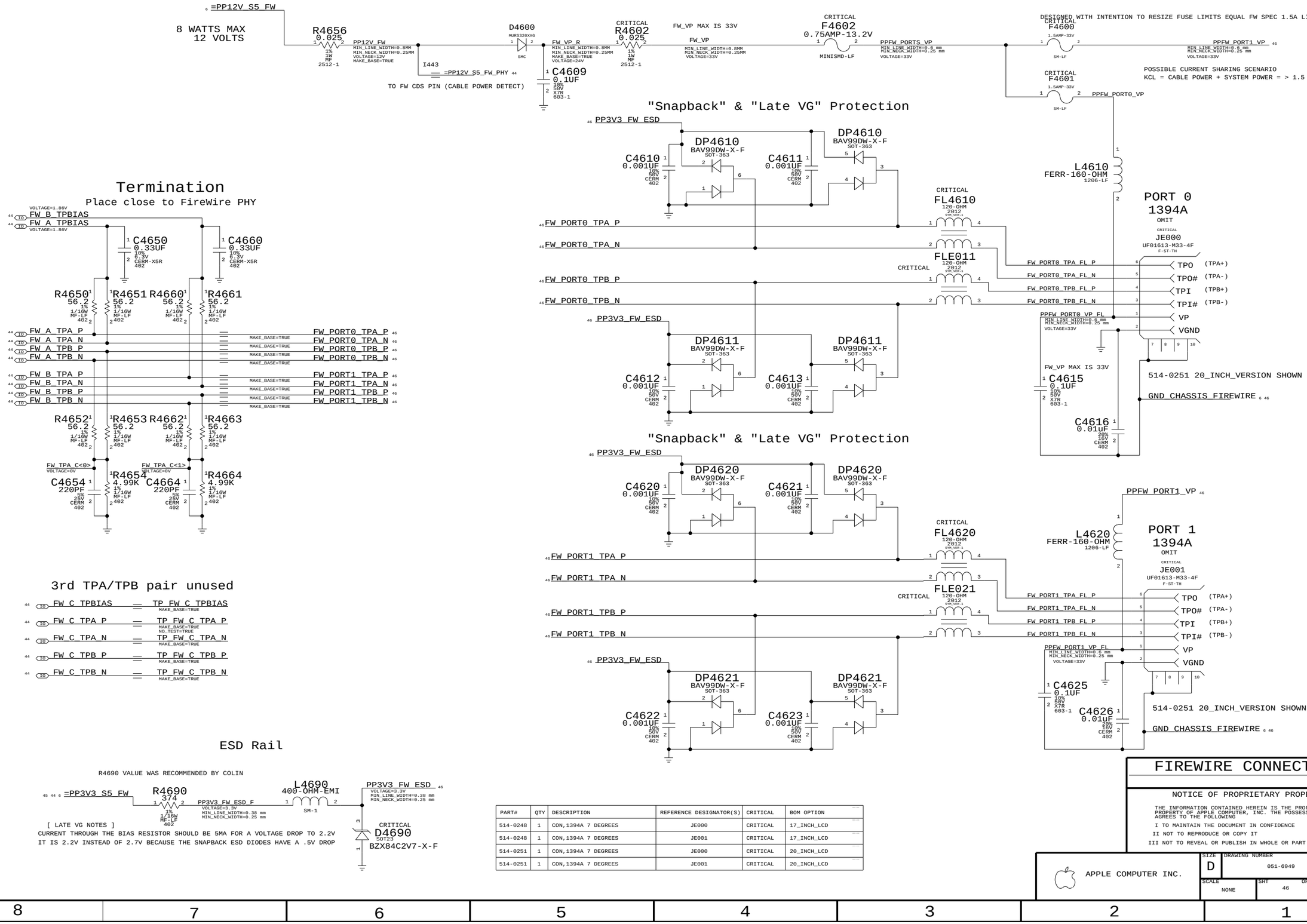
FW: DECAPS

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT
NONE	45 OF 111



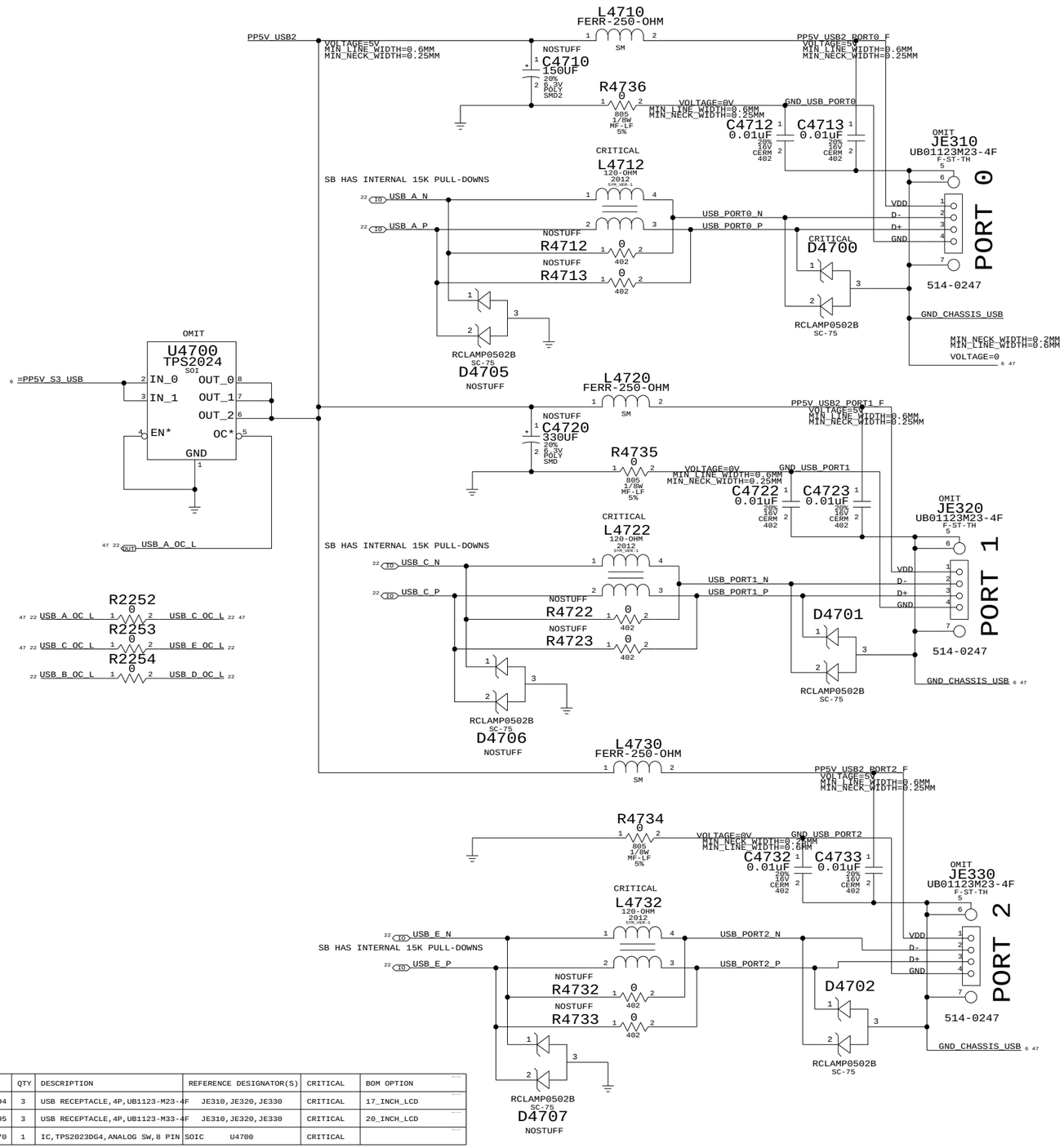
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0248	1	CON,1394A 7 DEGREES	JE000	CRITICAL	17_INCH_LCD
514-0248	1	CON,1394A 7 DEGREES	JE001	CRITICAL	17_INCH_LCD
514-0251	1	CON,1394A 7 DEGREES	JE000	CRITICAL	20_INCH_LCD
514-0251	1	CON,1394A 7 DEGREES	JE001	CRITICAL	20_INCH_LCD

FIREWIRE CONNECTORS

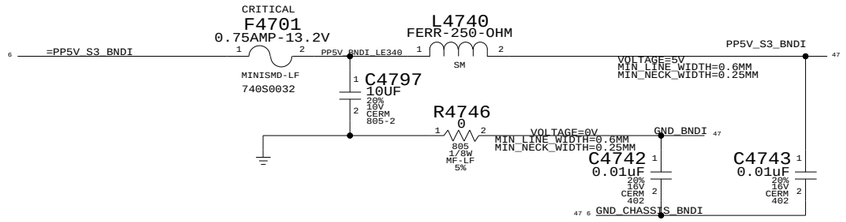
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 46 OF 111	

External USB Ports

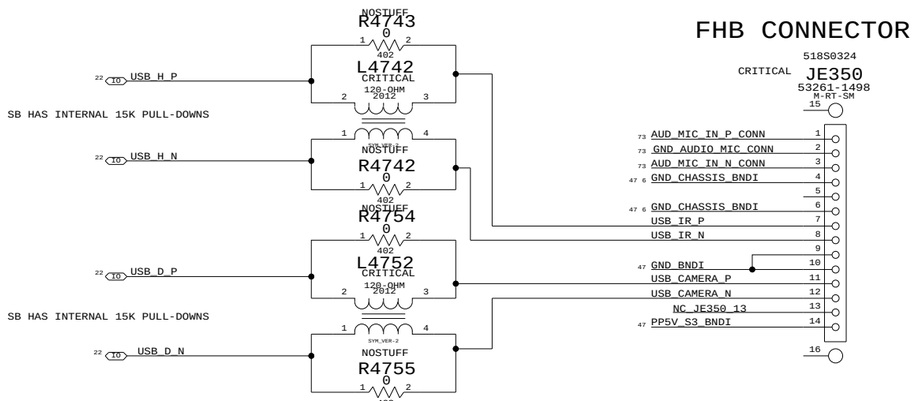


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0294	3	USB RECEPTACLE,4P,UB1123-M23-4F	JE310,JE320,JE330	CRITICAL	17_INCH_LCD
514-0295	3	USB RECEPTACLE,4P,UB1123-M33-4F	JE310,JE320,JE330	CRITICAL	20_INCH_LCD
353S1370	1	IC,TPS2023DG4,ANALOG SW,8 PIN	SOIC U4700	CRITICAL	

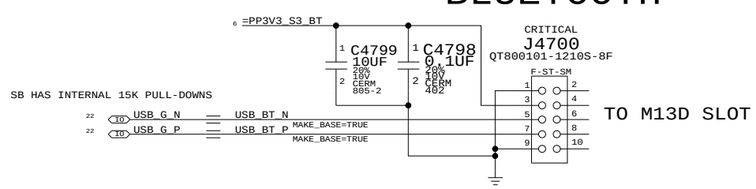


LAYOUT NOTE:
PLACE C4743, C4797 & L4740
NEAR JE350 PIN 14 IN THE
ORDER LISTED, AND NOT ON
BOTH SIDES OF THE PIN.

PLACE C4742 CLOSED TO JE350.



BLUETOOTH



NOTE: STANDOFFS FOR J4700

SDF4700
STDOFF-40D4.5H-1.35-TH

SDF4701
STDOFF-40D4.5H-1.35-TH

USB Device Interfaces

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SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 47 OF 111	

BLANK

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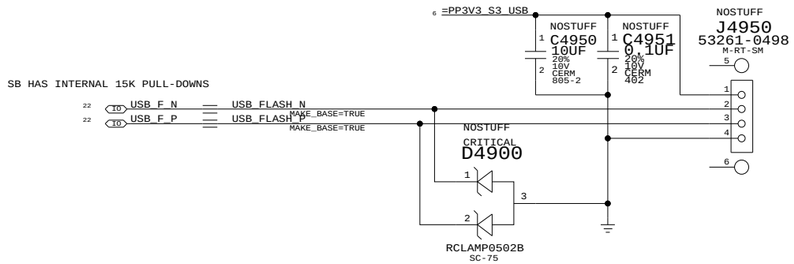
D	051-6949	09

SCALE	SHT
NONE	48 OF 111

CARD-READER USB CONN

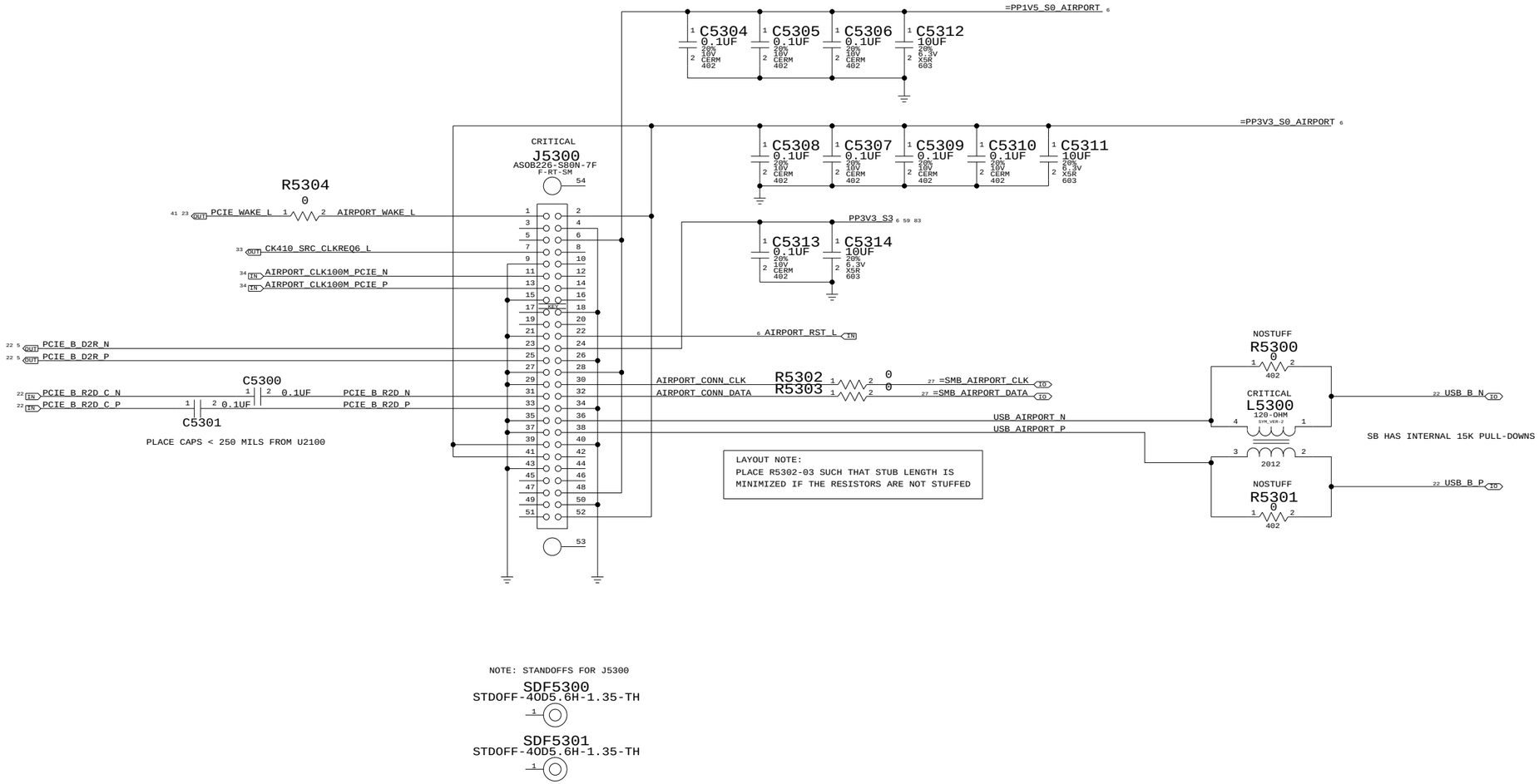


Flash Connector

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT
NONE	49 OF 111



AIRPORT CONN

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE

SHT 53 OF 111

22 IN PCIE_C_R2D_C_N — TP_PCIE_C_R2D_C_N MAKE_BASE=TRUE
22 IN PCIE_C_R2D_C_P — TP_PCIE_C_R2D_C_P MAKE_BASE=TRUE

22 OUT PCIE_C_D2R_N — TP_PCIE_C_D2R_N MAKE_BASE=TRUE
22 OUT PCIE_C_D2R_P — TP_PCIE_C_D2R_P MAKE_BASE=TRUE

22 IN PCIE_D_R2D_C_N — TP_PCIE_D_R2D_C_N MAKE_BASE=TRUE
22 IN PCIE_D_R2D_C_P — TP_PCIE_D_R2D_C_P MAKE_BASE=TRUE

22 OUT PCIE_D_D2R_N — TP_PCIE_D_D2R_N MAKE_BASE=TRUE
22 OUT PCIE_D_D2R_P — TP_PCIE_D_D2R_P MAKE_BASE=TRUE

22 IN PCIE_E_R2D_C_N — TP_PCIE_E_R2D_C_N MAKE_BASE=TRUE
22 IN PCIE_E_R2D_C_P — TP_PCIE_E_R2D_C_P MAKE_BASE=TRUE

22 OUT PCIE_E_D2R_N — TP_PCIE_E_D2R_N MAKE_BASE=TRUE
22 OUT PCIE_E_D2R_P — TP_PCIE_E_D2R_P MAKE_BASE=TRUE

22 IN PCIE_F_R2D_C_N — TP_PCIE_F_R2D_C_N MAKE_BASE=TRUE
22 IN PCIE_F_R2D_C_P — TP_PCIE_F_R2D_C_P MAKE_BASE=TRUE

22 OUT PCIE_F_D2R_N — TP_PCIE_F_D2R_N MAKE_BASE=TRUE
22 OUT PCIE_F_D2R_P — TP_PCIE_F_D2R_P MAKE_BASE=TRUE

PCIE UNUSED PORTS

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 54 OF 111	

UNUSED PINS HAVE THE FORMAT
SMC_XXX WHERE XXX IS THE PORT NUMBER.
THEY ARE SET BY SOFTWARE TO BE
DRIVEN OUTPUTS ALWAYS SO THEY
CAN BE LEFT NO-CONNECTED.

OMIT
U5800
SMC_H8S2116
BGA
(1 OF 4)

PM_LAN_ENABLE	B12	P10		P60/KIN0*	L13		SMC_PM_G2_EN
SMC_RSTGATE_L	C13	P11		P61/KIN1*	L14		SMC_ADAPTER_EN
ALL_SYS_PWRGD	A15	P12		P62/KIN2*	L15		SPI_ARB
RSMRST_PWRGD	B14	P13		P63/KIN3*	K12		SPI_SCLK
SMC_SB_NMI	B15	P14		P64/KIN4*	K13		SPI_SI
PM_RSMRST_L	C14	P15		P65/KIN5*	K14		SPI_SO
IMVP_VR_ON	D12	P16		P66/IRQ6*/KIN6*	J12		SMC_PROCHOT_3_3_L
PM_PWRBTN_L	C15	P17		P67/IRQ7*/KIN7*	J13		SMC_CPU_INIT_3_3_L
SMC_P20	D13	P20		P70/AN0	N12		SMC_CPU_ISENSE
SMC_P21	D14	P21		P71/AN1	R13		SMC_CPU_VSENSE
SMC_P22	D15	P22		P72/AN2	P13		SMC_GPU_ISENSE
SMC_P23	E12	P23		P73/AN3	R14		SMC_GPU_VSENSE
SMC_BATT_TRICKLE_EN_L	E14	P24		P74/AN4	P14		SMC_DCIN_ISENSE
SMC_BATT_CHG_EN	E15	P25		P75/AN5	R15		SMC_PBUS_VSENSE
SMC_P26	E13	P26		P76/AN6	N13		SMC_BATT_ISENSE
SMC_P27	F14	P27		P77/AN7	P15		SMC_FWIRE_ISENSE
LPC_AD<0>	D9	P30/LAD0		P80/PME*	C7		SMC_WAKE_SCI_L
LPC_AD<1>	C9	P31/LAD1		P81/GA20	A7		SMC_TPM_GPIO
LPC_AD<2>	A9	P32/LAD2		P82/CLKRUN*	B7	67 60 44 23 5	PM_CLKRUN_L
LPC_AD<3>	B9	P33/LAD3		P83/LPCPD*	D6	67 60 23	PM_SUS_STAT_L
LPC_FRAME_L	D8	P34/LFRAME*		P84/IRQ3*/TXD1	C6		SC_TX_L
SMC_LRESET_L	C8	P35/LRESET*		P85/IRQ4*/RXD1	A6		SC_RX_L
PCI_CLK_SMC	A8	P36/LCLK		P86/IRQ5*/SCK1/SCL1	B6		SMB_BSB_CLK
INT_SERIRQ	D7	P37/SERIRQ		P90/IRQ2*	K4		SMC_ONOFF_L
SMC_XDP_TMS_L	A5	P40/TMI0		P91/IRQ1*	J2		SMC_BC_ACOK
SMC_XDP_TDI_L	B5	P41/TMO0		P92/IRQ0*	J1		SMC_BS_ALRT_L
SMB_BSB_DATA	D5	P42/SDA1		P93/IRQ12*	J3	88 79 77 23 6	PM_SLP_S3_L
SMC_TPM_PP	C3	P43/TMI1/EXSCK1		P94/IRQ13*	J4	77 23	PM_SLP_S4_L
SMC_XDP_TRST_L	B1	P44/TMO1		P95/IRQ14*	H2	23	PM_SLP_S5_L
SMC_XDP_TCK	C2	P45		P96/EXCL	H1		SMC_SUS_CLK
SMC_SYS_LED	D3	P46/PWX0/PWM0		P97/IRQ15*/SDA0	G2		SMC_SMB_0_DATA
SMC_SYS_KBDLED	C1	P47/PWX1/PWM1					
SMC_TX_L	G1	P50					
SMC_RX_L	G4	P51					
SMC_SMB_0_CLK	F2	P52/SCL0					

OMIT
U5800
SMC_H8S2116
BGA
(2 OF 4)

SMC_RCIN_L	R3	PA0/KIN8*/PA2DC		PE0	M3		SMC_CASE_OPEN
BOOT_LPC_SPI_L	P3	PA1/KIN9*/PA2DD		PE1*/ETCK	M2	60 59 5	SMC_TCK
PM_SYSRST_L	R2	PA2/KIN10*/PS2AC		PE2*/ETDI	M1	60 59 5	SMC_TDI
SMC_TPM_RESET_L	N3	PA3/KIN11*/PS2AD		PE3*/ETDO	L4	60 59 5	SMC_TDO
PM_EXTTS_L<0>	R1	PA4/KIN12*/PS2BC		PE4*/ETMS	L2	60 59 5	SMC_TMS
PM_THRM_L	N2	PA5/KIN13*/PS2BD		PF0/IRQ8*/PWM2	M7		SMC_PF0
SYS_ONEWIRE	M4	PA6/KIN14*/PS2CC		PF1/IRQ9*/PWM3	P6		SMC_PF1
PM_BATLOW_L	N1	PA7/KIN15*/PS2CD		PF2/IRQ10*/TMOY	R6		SMC_LID
SMC_EXTSMI_L	B10	PB0/LSMI*		PF3/IRQ11*/TMOX	N6		SMC_CPU_RESET_3_3_L
SMC_RUNTIME_SCI_L	A10	PB1/LSCI		PF4/PWM4	M6		SMC_BATT_ISET
SMC_ODD_DETECT	D10	PB2		PF5/PWM5	R5		SMC_BATT_VSET
ISENSE_CAL_EN	A11	PB3		PF6/PWM6	P5		SMC_SYS_ISET
SMC_EXCARD_CP	B11	PB4		PF7/PWM7	N5		SMC_SYS_VSET
SMC_EXCARD_PWR_EN	C11	PB5		PG0/EXIRQ8*/TMIX	P9	63 22	SPI_CE_L
SMC_EXCARD_PWR_OC_L	A12	PB6		PG1/EXIRQ9*/TMIY	R9		SMC_XDP_TCK_3_3
SMC_XDP_TDO_3_3_L	D11	PB7		PG2/EXIRQ10*/SDA2	N9		SMB_BSA_DATA
SMC_FAN_0_CTL	G14	PC0/TIOCA0/WUE8*		PG3/EXIRQ11*/SCL2	P8		SMB_BSA_CLK
SMC_FAN_1_CTL	G15	PC1/TIOCB0/WUE9*		PG4/EXIRQ12*/EXSDAA	R8		SMB_A_S3_DATA
SMC_FAN_2_CTL	G13	PC2/TIOCC0/TCLKA/WUE10*		PG5/EXIRQ13*/EXSCLA	M8		SMB_A_S3_CLK
SMC_FAN_3_CTL	G12	PC3/TIOCD0/TCLKB/WUE11*		PG6/EXIRQ14*/EXSDAB	P7		SMB_B_S0_DATA
SMC_FAN_0_TACH	H14	PC4/TIOCA1/WUE12*		PG7/EXIRQ15*/EXSCLB	R7		SMB_B_S0_CLK
SMC_FAN_1_TACH	H15	PC5/TIOCB1/TCLKC/WUE13*		PH0/EXIRQ6*	E1		SMC_PROCHOT
SMC_FAN_2_TACH	H13	PC6/TIOCA2/WUE14*		PH1/EXIRQ7*	F3		SMC_THRMTRIP
SMC_FAN_3_TACH	H12	PC7/TIOCB2/TCLKD/WUE15*		PH2/FWE	K2		SMC_FWE
SMS_X_AXIS	M11	PD0/AN8		PH3/EXEXCL	C4		ALS_GAIN
SMS_Y_AXIS	P11	PD1/AN9		PH4	D4	26 23	SMS_INT_L
SMS_Z_AXIS	R11	PD2/AN10		PH5	B3		SMS_ONOFF_L
SMC_ANALOG_ID	N11	PD3/AN11					
SMC_NB_ISENSE	P10	PD4/AN12					
SMC_MEM_ISENSE	R10	PD5/AN13					
ALS_LEFT	N10	PD6/AN14					
ALS_RIGHT	M10	PD7/AN15					

OMIT
U5800
SMC_H8S2116
BGA
(4 OF 4)

G3	NC0	NC12	F15
H3	NC1	NC13	A14
K3	NC2	NC14	C12
L3	NC3	NC15	C10
N4	NC4	NC16	C5
M5	NC5	NC17	A3
N7	NC6	NC18	B8
M12	NC7	NC19	E4
M13	NC8	NC20	H4
L12	NC9	NC21	M9
K15	NC10	NC22	N8
J14	NC11		

=PP3V3_S5_SMC
C5802 22UF 20% 6.3V X5R 805
C5803 0.1UF 20% 10V CERM 402
C5804 0.1UF 20% 10V CERM 402
C5805 0.1UF 20% 10V CERM 402
C5806 0.1UF 20% 10V CERM 402

LAYOUT NOTE:
PLACE C5807 NEAR PIN F1

SMC_VCL
C5807 0.47UF 20% 6.3V CERM-X5R 402
VCL IS INTERNAL RAIL

LAYOUT NOTE:
PLACE R5899 AND C5820 NEAR SMC PIN N14,N15

=PP3V3_S5_SMC
R5899 4.7 5% 1/10W MF-LF 402
PP3V3_AVCC_SMC
MIN_LINE_WIDTH=0.25 MM
MIN_NECK_WIDTH=0.20 MM
C5820 0.1UF 20% 10V CERM 402
GND_SMC_AVSS

OMIT
U5800
SMC_H8S2116
BGA
(3 OF 4)

AVCC	N14		
AVCC	N15		
VCC	P2		
VCC	P1		
VCC	J15		
VCC	A1		
VCL	F1		
AVREF	M14		
AVREF	M15		
SMC_RST_L	E3	RES*	
SMC_XTAL	A2	XTAL	
SMC_EXTAL	B2	EXTAL	
MD1	F2		SMC_MD1
MD2	K1		KBC_MDE
NMI	F4		SMC_NMI
ETRST*	L1		SMC_TRST_L
AVSS	P12		
AVSS	R12		
VSS	D1		
VSS	P4		
VSS	R4		
VSS	F12		
VSS	F13		
VSS	B13		
VSS	A13		
VSS	A4		
VSS	B4		
VSS	D2		

PP3V3_AVREF_SMC
=PP3V3_S5_SMC
R5809 10K 5% 1/16W MF-LF 402
R5801 10K 5% 1/16W MF-LF 402
KBC_MDE
NOSTUFF
R5898 10K 5% 1/16W MF-LF 402
R5803 0 5% 1/16W MF-LF 402
R5802 10K 5% 1/16W MF-LF 402
XW5800 SM
GND_SMC_AVSS

SYNC_MASTER=N/A	SYNC_DATE=N/A

SMC

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SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF	
NONE	58		111

SMC RESET BUTTON

=PP3V3_S5_SMC

C5901 0.1uF 20% 10V CERM 402

CRITICAL U5900 RN5VD30A-F SOT23-5 VDD CD NC GND OUT

R5900 1K 5% 1/16W MF-LF 402

SMC_MANUAL_RST_L

DEVELOPMENT SW5900 SPST SM-LF

C5900 0.01UF 10% 16V CERM 402

SMC_RST_L

WHITE SYSLED

LED2901 WHITE-500MCD 3X2MM-SM

PP5V_S3

SYS_LED_DRV_K

MIN_LINE_WIDTH=0.6MM MIN_NECK_WIDTH=0.2MM

17_INCH_LCD

R5901 56.2 1% 1/16W MF-LF 402

SYS_LED_DRV_C

MIN_LINE_WIDTH=0.6MM MIN_NECK_WIDTH=0.25MM

Q5900 FDV301N SOT23-LF

SMC_SYS_LED

NOSTUFF R5902 4.7K 5% 1/16W MF-LF 402

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
114S0081	1	RES,LF,MTL FILM,39.2 OHM,1%,402	R5901	20_INCH_LCD

SMC ALIASES, PULLUPS, AND TESTPOINTS

NO-CONNECT UNUSED PINS

SMC_P20	NC_SMC_P20
SMC_P21	NC_SMC_P21
SMC_P22	NC_SMC_P22
SMC_P23	NC_SMC_P23
SMC_P26	NC_SMC_P26
SMC_P27	NC_SMC_P27
SMC_BATT_ISET	NC_SMC_BATT_ISET
SMC_BATT_VSET	NC_SMC_BATT_VSET
SMC_SYS_ISET	NC_SMC_SYS_ISET
SMC_SYS_VSET	NC_SMC_SYS_VSET
SMC_BATT_TRICKLE_EN_L	NC_SMC_BATT_TRICKLE_EN_L
SMC_BATT_CHG_EN	NC_SMC_BATT_CHG_EN
SMC_ANALOG_ID	NC_SMC_ANALOG_ID
ALS_GAIN	NC_ALS_GAIN

DEBUG TESTPOINTS ON SELECTED INPUTS/OUTPUTS

SMC_SYS_KBDLED	TP_SMC_SYS_KBDLED	
SMC_PF0	TP_SMC_PF0	
SMC_PM_G2_EN	TP_PM_G2_EN	FUNC_TEST=TRUE
SMC_ADAPTER_EN	TP_SMC_ADAPTER_EN	FUNC_TEST=TRUE
ALS_LEFT	TP_ALS_LEFT	FUNC_TEST=TRUE
ALS_RIGHT	TP_ALS_RIGHT	
SMC_PF1	TP_SMC_PF1	
SMC_PB7	TP_SMC_PB7	FUNC_TEST=TRUE
SMC_EXCARD_PWR_EN	TP_SMC_EXCARD_PWR_EN	FUNC_TEST=TRUE
SMC_PB7	TP_SMC_PB7	FUNC_TEST=TRUE
SMC_FAN_3_TACH	TP_SMC_FAN_3_TACH	FUNC_TEST=TRUE
SMC_FAN_3_CTL	TP_SMC_FAN_3_CTL	FUNC_TEST=TRUE

TPM RESET PULLUP

PP3V3_TPM_3VSB

SMC_TPM_RESET_L R5827 10K

WIRE-OR DIMM OVERTEMP TO SMC

DIMM_OVERTEMP_L — PM_EXTTS_L<0>

SENSE GPU REGULATOR OUTPUT CURRENT

SMC_GPU_ISENSE — GPUVCORE_IOUT

WIRE SMC TO SB PINS

SMC_CPU_INIT_3_3_L	FWH_INIT_L
SMC_SUS_CLK	SUS_CLK_SB

NC OR PULLDOWN UNUSED ANALOG SENSE PINS

SMS_X_AXIS	NC_SMS_X_AXIS
SMS_Y_AXIS	NC_SMS_Y_AXIS
SMS_Z_AXIS	NC_SMS_Z_AXIS
SMC_NB_ISENSE	NC_SMC_NB_ISENSE
SMC_MEM_ISENSE	NC_SMC_MEM_ISENSE
SMC_BATT_ISENSE	UNUSED_SMC_SENSE
SMC_FWIRE_ISENSE	UNUSED_SMC_SENSE

UNUSED_SMC_SENSE 10K R5924

PULLDOWN UNUSED ANALOG SENSE PINS ON PORT 7.

SC_RX_L 0 DEVELOPMENT_SMC R5922 SMC_RX_L

SC_TX_L 0 DEVELOPMENT_SMC R5923 SMC_TX_L

SELECT TPM GPIO

SMC_TPM_GPIO 0 R5920 TPM_GPIO1

0 R5921 TPM_GPIO2

SMC_TPM_PP R5995 0

SMC_TPM_PP — TPM_PP

SMC PULL-UPS

=PP3V3_S5_SMC

SMC_ONOFF_L	R5808	10K
SMC_ODD_DETECT	R5829	10K
SMC_EXCARD_CP	R5830	10K
SMC_EXCARD_PWR_OC_L	R5831	10K
SC_RX_L	R5832 NOT_DEVELOPMENT_SMC	10K
SC_TX_L	R5833 NOT_DEVELOPMENT_SMC	10K
SMS_ONOFF_L	R5815	10K
SMC_TX_L	R5817	10K
SMC_RX_L	R5818	100K
SYS_ONEWIRE	R5819	10K
SMC_BS_ALRT_L	R5821	10K
SMC_TMS	R5822	10K
SMC_TDO	R5823	10K
SMC_TDI	R5824	10K
SMC_TCK	R5825	10K
SMC_BC_ACOK	R5826	10K
SMC_FWE	R5828	10K

SENSE GPU VCORE

PP1V0R1V2_S0_GPU R5919 4.53K 1% 1/16W MF-LF 402

SMC_GPU_VSENSE

C5919 0.22UF 20% 6.3V X5R 402

GND_SMC_AVSS

SMC I2C BUS PULLUPS (INCLUDING UNUSED ONES)

PP3V3_S0

2.2K R5903 SMB_B_S0_CLK

2.2K R5904 SMB_B_S0_DATA

PP3V3_S3

2.2K R5905 SMB_A_S3_CLK

2.2K R5906 SMB_A_S3_DATA

=PP3V3_S5_SMC

10K R5910 SMB_BSB_CLK

10K R5911 SMB_BSB_DATA

10K R5912 SMC_SMB_0_CLK — TP_SMC_SMB_0_CLK FUNC_TEST=TRUE

10K R5913 SMC_SMB_0_DATA — TP_SMC_SMB_0_DATA FUNC_TEST=TRUE

10K R5914 SMB_BSA_CLK

10K R5915 SMB_BSA_DATA

PULLUPS FOR SYSTEM STATE PINS

10K R5916 SMC_LID

PULLDOWNS FOR SYSTEM STATE PINS

10K R5917 SMC_CASE_OPEN

ALIAS SENSORS INTO SMC I2C BUSSES

SMB_B_S0_CLK — =I2C_HD_TEMP_SCL

SMB_B_S0_DATA — =I2C_HD_TEMP_SDA

=I2C_ODD_TEMP_SCL

=I2C_ODD_TEMP_SDA

=SMB_THRM_CLK

=SMB_THRM_DATA

SMB_GPU_NB_THRM_CLK

SMB_GPU_NB_THRM_DATA

SMB_A_S3_CLK — I2C_ALS_SCL

SMB_A_S3_DATA — I2C_ALS_SDA

TIE ANALOG SENSOR OPAMP GROUNDS TO SMC GROUND

PCB: RUN A TRACE FROM EACH ANALOG OPAMP PSEUDO-DIFFERENTIALLY NEXT TO THIS GND TRACE AND TIE INTO DIGITAL GND VERY CLOSE TO SMC'S XW5800. PLACE XW5900 NEAR XW5800.

XW5900 SM

GND_NEXT_TO_SMC

SMC-CPU JTAG LEVEL-SHIFTER

XDP_TDI

(PULLUP ON CPU PAGE) NOSTUFF Q5902 2N7002DW-X-F SOT-363

SMC_XDP_TDI_L

XDP_TMS

(PULLUP ON CPU PAGE) NOSTUFF Q5902 2N7002DW-X-F SOT-363

SMC_XDP_TMS_L

=PP1V05_S0_CPU

SMC_XDP_TRST_L_R

NOSTUFF R5927 1K 5% 1/16W MF-LF 402

SMC_XDP_TRST_L

NOSTUFF Q5903 MMDT3904XF SOT-363-LF

(PULLDOWN ON ITP CONNECTOR PAGE) R5927 VALUE SUBJECT TO CHANGE.

XDP_TRST_L

=PP1V05_S0_CPU

SMC_XDP_TCK_R

NOSTUFF R5925 1K 5% 1/16W MF-LF 402

SMC_XDP_TCK

NOSTUFF Q5903 MMDT3904XF SOT-363-LF

R5925 VALUE SUBJECT TO CHANGE. (PULLDOWN ON CPU PAGE)

XDP_TCK

AMBIENT LIGHT SENSOR CONNECTOR

(REF DES PRESERVED FOR PLACEMENT PURPOSE)

I2C ADDR:72(1001000)

CRITICAL J2901 53398-0476 F-ST-SM 518S0328

PP3V3_S3

I2C_ALS_SDA

I2C_ALS_SCL

SMC 3.3V -> CPU 1.05V SHIFTER

CPU_PROCHOT_L — Q5901 2N7002DW-X-F SOT-363 — SMC_PROCHOT

PM_THRMTRIP_L — Q5901 2N7002DW-X-F SOT-363 — SMC_THRMTRIP

POWER BUTTON HEADER

(REF DES PRESERVED FOR PLACEMENT PURPOSE)

J2903 53398-0276 M-ST-SM 518S0327

POWER_BUTTON_L

SYS POWER BUTTON

SW5901 SPST SM-LF

R5907 1K 5% 1/16W MF-LF 402

SMC_ONOFF_L

C5902 0.1uF 20% 10V CERM 402

GENERATE 0.48V MID-VREF

=PP3V3_S0_FAN

R5930 6.2K 5% 1/16W MF-LF 402

P0V48_SMC_LSREF

R5931 1K 5% 1/16W MF-LF 402

SMC CRYSTAL

LAYOUT NOTE: PLACE CAPACITORS BETWEEN CRYSTAL AND SMC/TPM

C5800 22PF CERM 5% 50V 402

SMC_XTAL

OMIT Y5800 20.000M SM-3

C5801 22PF CERM 5% 50V 402

SMC_EXTAL

TPM CRYSTAL

C6704 15PF 5% 50V CERM 402

TPM_XTALI

CRITICAL Y6700 32.768K SM-LF

C6705 15PF 402 50V 5% CERM

TPM_XTALO

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
197S0165	1	XTAL,20.00,80PPM,HC49,SMD,LF	Y5800	CRITICAL	

CPU 1.05V -> SMC 3.3V SHIFTER

PP3V3_S5

=PP3V3_S0_FAN

C5903 0.1UF 20% 10V CERM 402

P0V48_SMC_LSREF

CPU_PROCHOT_L

U5999 LMV339 TSSOP

R5932 1K 5% 1/16W MF-LF 402

SMC_PROCHOT_3_3_L

R5933 1K 5% 1/16W MF-LF 402

SMC_CPU_RESET_3_3_L

TP_U5999_P1

PCB: ENSURE FSB_CPURST_L FANS OUT FROM U1200 AND MINIMIZE ROUTE LENGTH TO U5999.

R5934 1K 5% 1/16W MF-LF 402

SMC_XDP_TCK_3_3

XDP_TCK

R5935 1K 5% 1/16W MF-LF 402

SMC_XDP_TDO_3_3_L

XDP_TDO

P0V48_SMC_LSREF

TP_U5999_P13

TP_U5999_P14

PRECISION 3.3V AVREF FOR SMC

PP5V_S5

R5942 10K 5% 1/16W MF-LF 402

Q5910 NTR4101P SOT-23

SMC_REF_GATE2

SMC_REF_GATE1

R5941 10K 5% 1/16W MF-LF 402

Q5911 2N7002 SOT23-LF

C5943 1UF 10% 6.3V CERM 402

TURN ON 3.3V VREF ONLY AFTER SMC 3.3V RAIL AND AVCC RAIL IS UP.

SMC_REF_IN

MIN_LINE_WIDTH=0.4 MM MIN_NECK_WIDT=0.2 MM

=PP3V3_S5_SMC

NOSTUFF R5940 0 5% 1/16W MF-LF 402

CRITICAL U5940 REF3133 SOT23-3 IN TI OUT GND

C5940 0.47UF 20% 6.3V CERM-X5R 402

C5942 10UF 20% 6.3V X5R 603

PP3V3_AVREF_SMC

MIN_LINE_WIDTH=0.4 MM MIN_NECK_WIDTH=0.2 MM VOLTAGE=3.3V

C5941 0.01UF 20% 10V CERM 402

GND_SMC_AVSS

MIN_LINE_WIDTH=0.4 MM MIN_NECK_WIDTH=0.2 MM VOLTAGE=0V

SMC & TPM SUPPORT

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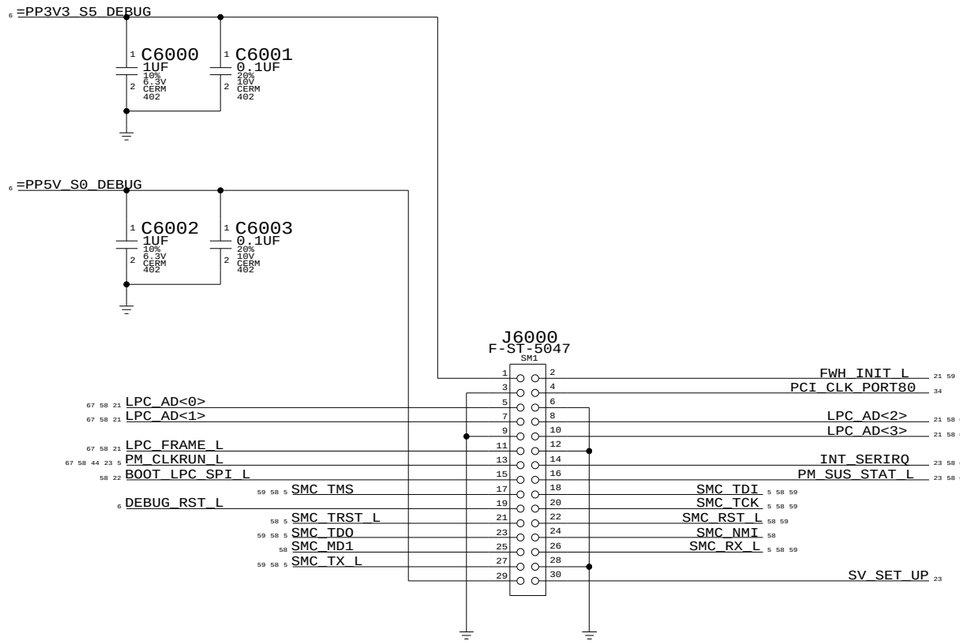
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 59 OF 111	



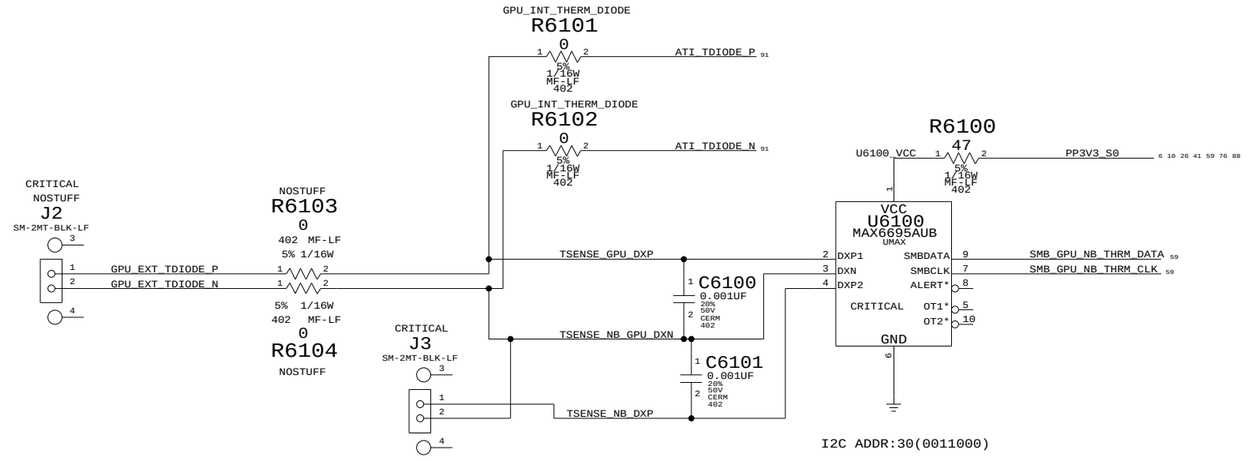
LPC+ CONN

SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT
NONE	60 OF 111



GPU+NB THERMAL

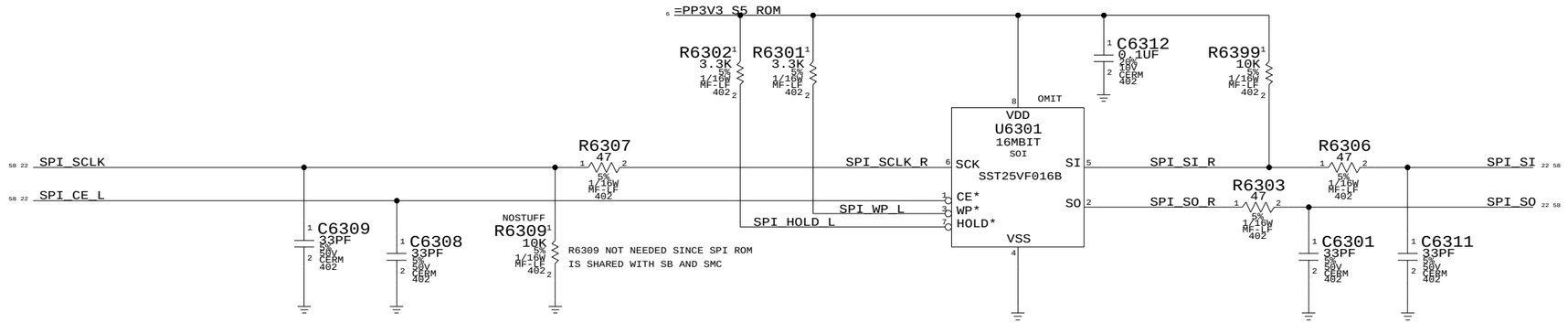
SYNC_MASTER=N/A SYNC_DATE=N/A

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE NONE

SHT 61 OF 111



R6306-07 SHOULD BE PLACED LESS THAN 2.54MM FROM U2100

R6303 SHOULD BE PLACED LESS THAN 2.54MM FROM U6301

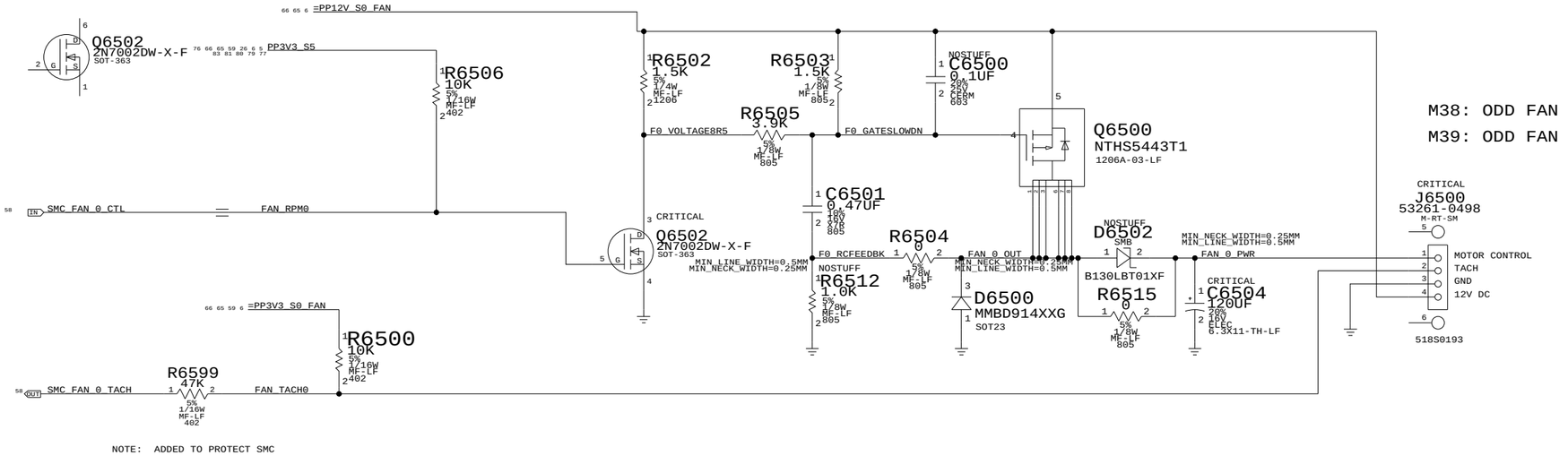
SPI BOOTROM

SYNC_MASTER=MASTER SYNC_DATE=5/23/05

APPLE COMPUTER INC.

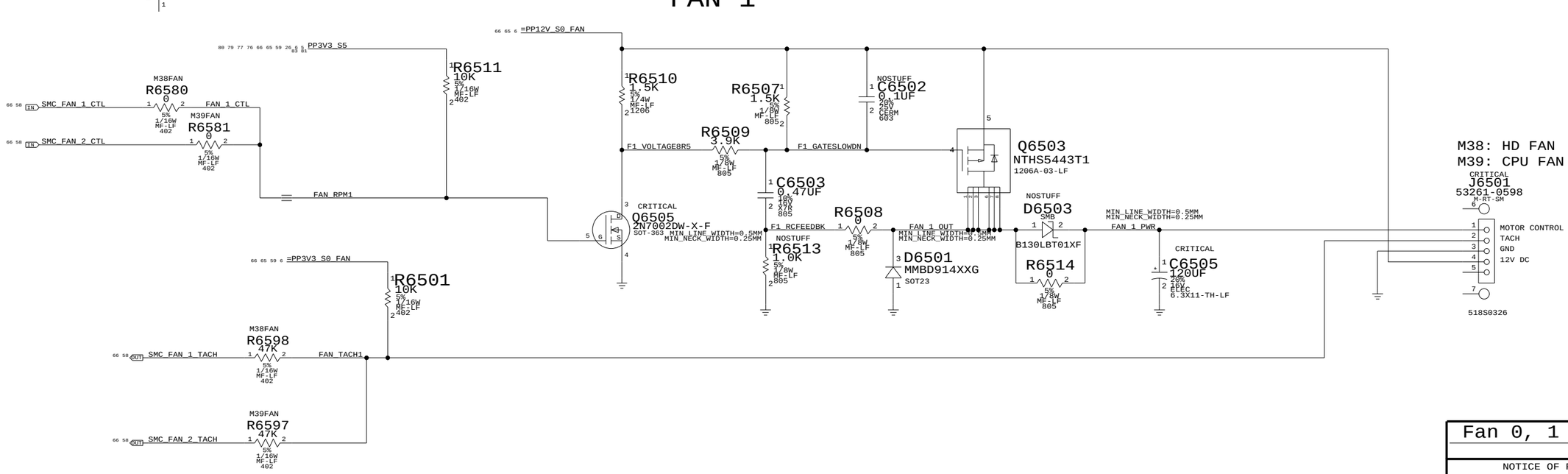
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 63 OF 111	

FAN 0



NOTE: ADDED TO PROTECT SMC

FAN 1

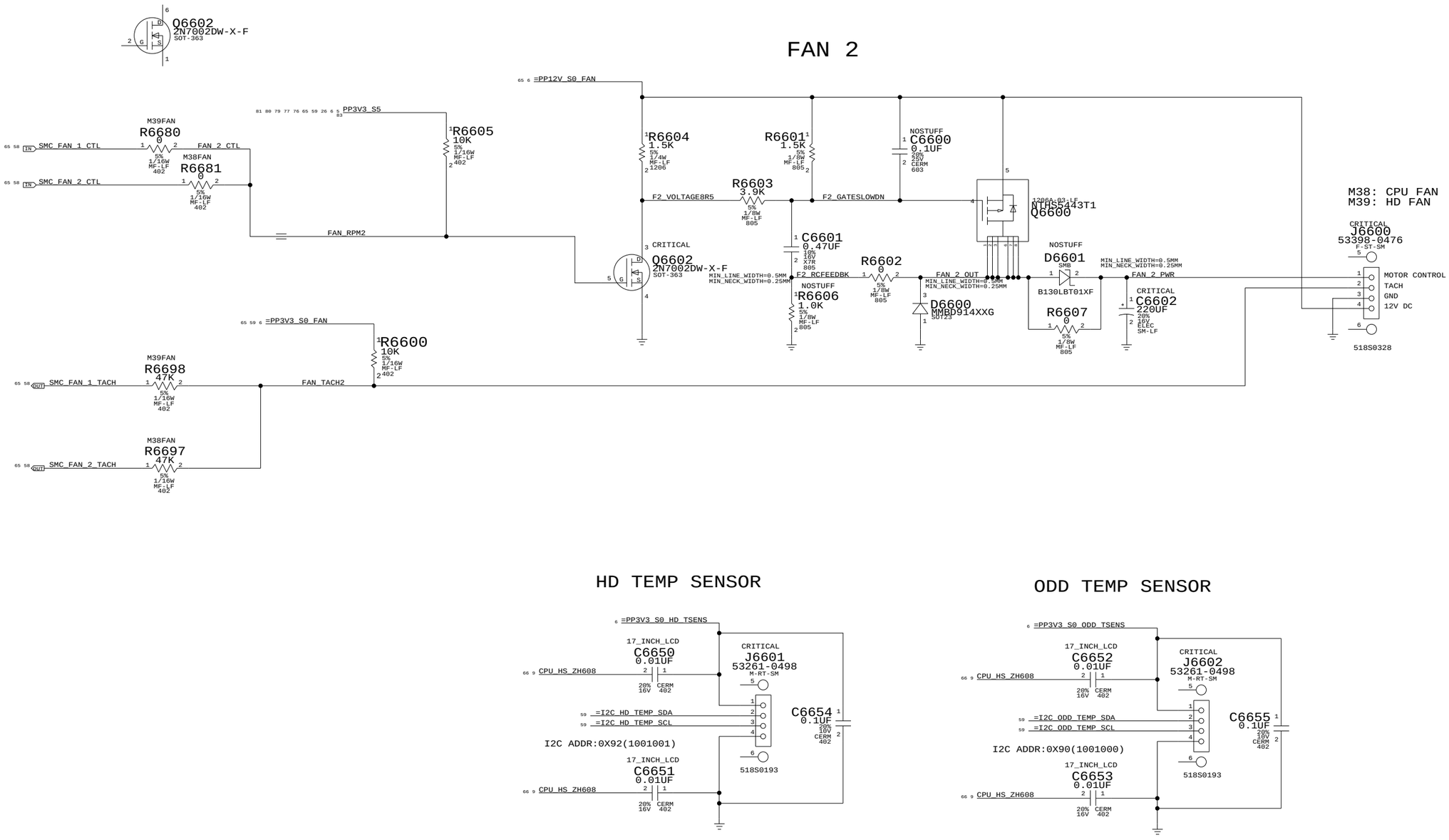


Fan 0, 1 & System Temp

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 65 OF	111

FAN 2



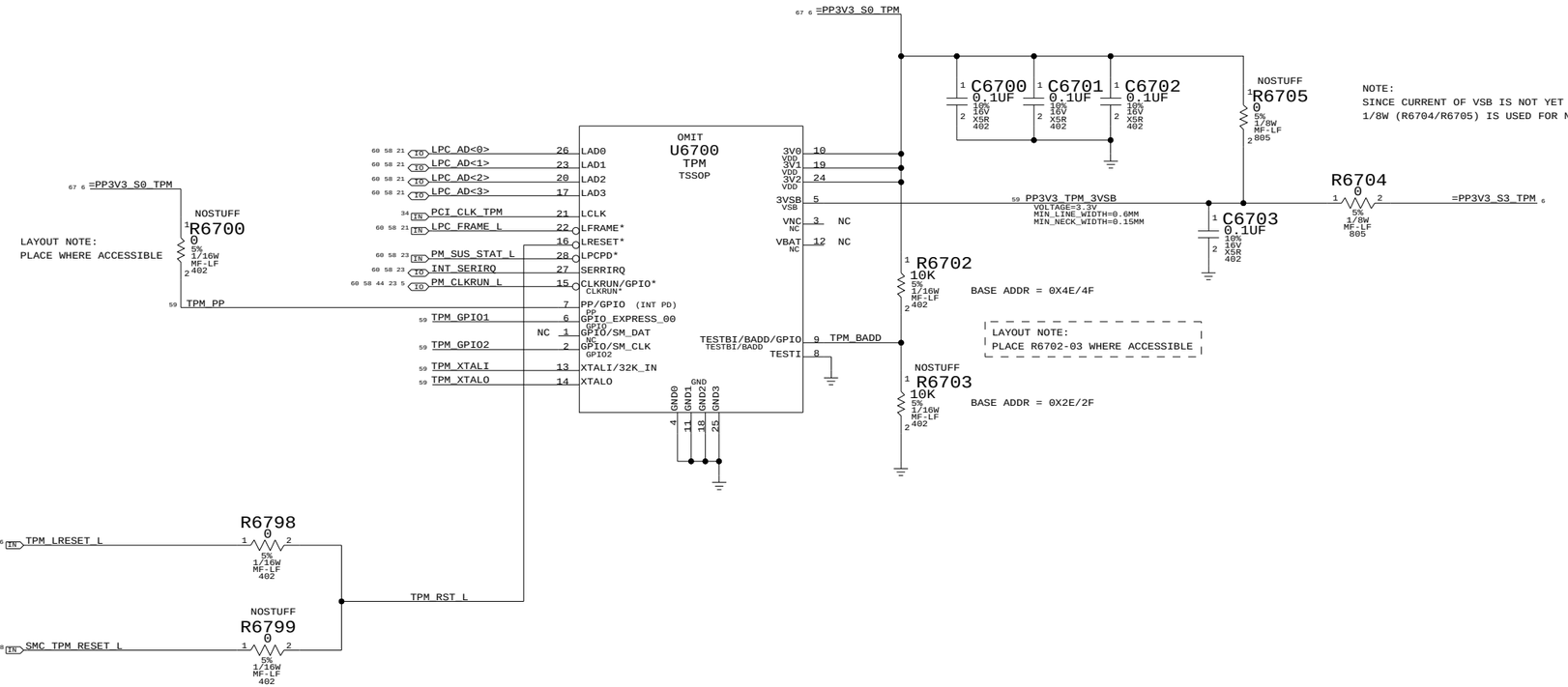
HD TEMP SENSOR

ODD TEMP SENSOR

Fan 2 & HD Temp

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 66 OF 111	



TPM

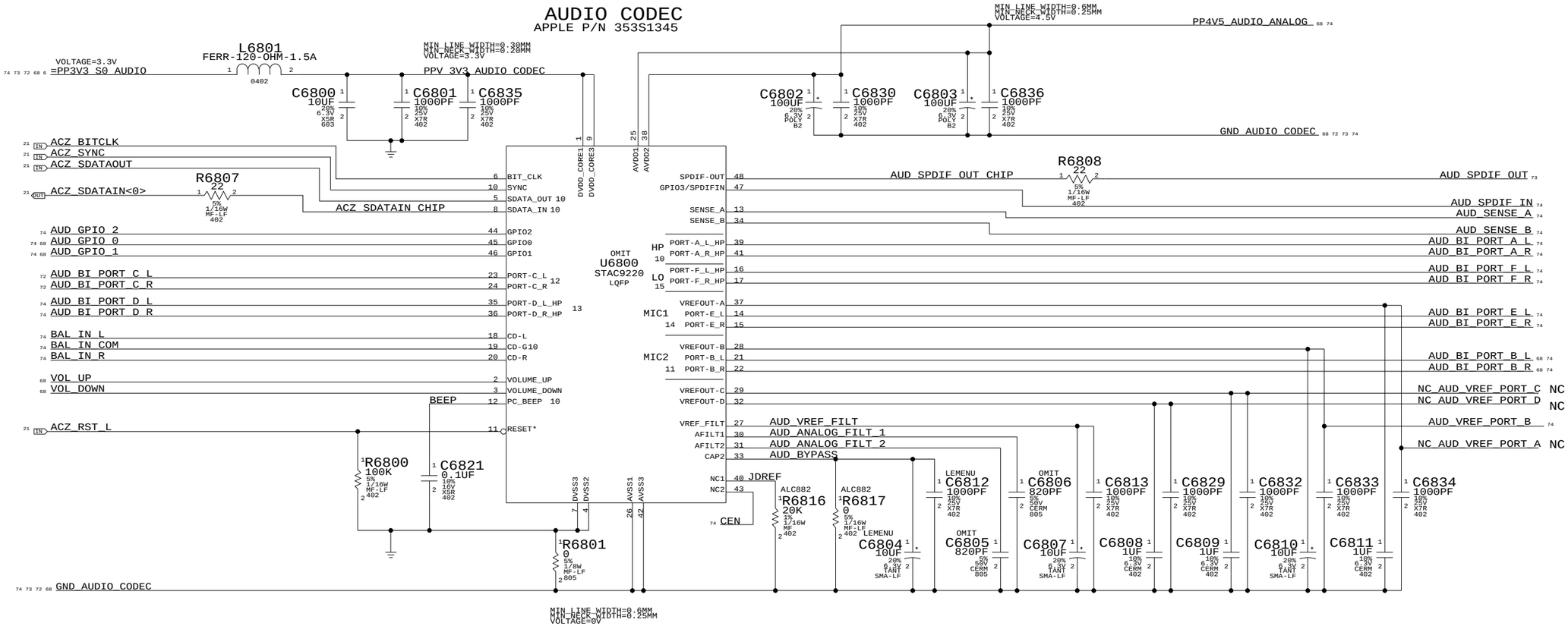
SYNC_MASTER=N/A SYNC_DATE=N/A

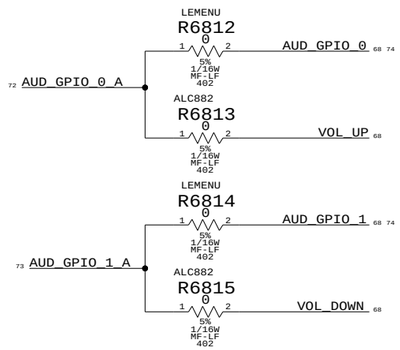
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

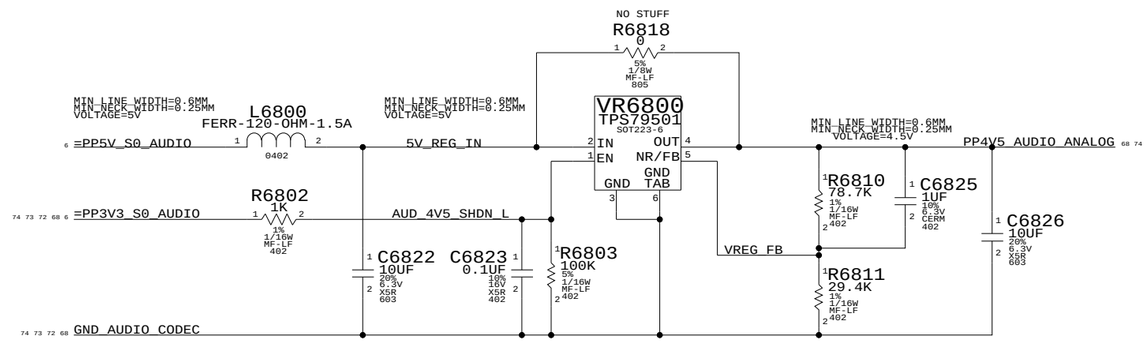
SCALE: NONE SHT 67 OF 111

AUDIO CODEC
APPLE P/N 353S1345





4.5V POWER SUPPLY FOR CODEC AND LINE IN AMP
APN: 353S1233



AUD_BI_PORT_B_L — AUD_BI_PORT_B_R

MIC INPUT TO BOTH L&R

AUDIO: CODEC

SYNC_MASTER=FINO-SO SYNC_DATE=04/28/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6790	??
SCALE: NONE	SHT 68 OF 154	

SPEAKER AMP

APPLE P/N 353S0680

=PP12V_S0_AUDIO_SPKRAMP — L7200 FERR-250-OHM (SM-1) — PP12V_AUD_SPKRAMP_PLANE

C7217 220UF 20% 16V ELEC 6.3X8-SM
C7200 220UF 20% 16V ELEC 6.3X8-SM
C7201 10UF 10% 16V CERM 1210
C7218 0.1UF 20% 16V CERM 603
C7202 1UF 10% 16V X7R 805
C7219 0.1UF 20% 16V CERM 603
C7203 10UF 10% 16V CERM 1210
C7223 10UF 10% 16V CERM 1210

GND_AUDIO_SPKRAMP_PLANE

=PP3V3_S0_AUDIO

AUD_BI_PORT_C_L — L7205 1000-OHM-200MA (0603) — AUDSAMPINLN — C7204 0.47UF 10% 16V X7R 805
GND_AUDIO_CODEC — C7215 100PF 5% 50V CERM 402
AUD_BI_PORT_C_R — L7208 1000-OHM-200MA (0603) — AUDSAMPINRN — C7207 0.47UF 10% 16V X7R 805
L7206 1000-OHM-200MA (0603) — AUDSAMPINLP — C7205 0.47UF 10% 16V X7R 805
L7207 1000-OHM-200MA (0603) — AUDSAMPINRP — C7206 0.47UF 10% 16V X7R 805
C7216 100PF 5% 50V CERM 402

R7214 10K 1% 1/16W MF-LF 402

U7200 MAX9714 QFN-LF

AUD_SAMP_INL_N	9	INL-	
AUD_SAMP_INL_P	10	INL+	
AUD_SAMP_INR_P	16	INR+	
AUD_SAMP_INR_N	15	INR-	
AUD_SAMP_G1	17	G1	
AUD_SAMP_G2	18	G2	
AUD_SAMP_FS1	19	FS1	
AUD_SAMP_FS2	20	FS2	
AUD_SAMP_SHDN_L	11	SHDN*	
	8	NC	
AUD_MAX9714_VREG	14	REG	
	7	CHOLD	
	31,32	OUTL+	
	29,30	OUTL-	
	6	C1+	
	5	C1-	
	27,28	OUTR+	
	25,26	OUTR-	
	12	SS	
	3,4,21,22	VDD	
	13,33,1,2,23,24	THM AGND PAD PGND	

MIN_LINE_WIDTH=0.3MM MIN_NECK_WIDTH=0.25MM AUD_MAX9714_CHOLD

NET_SPACING_TYPE=AUDIO MIN_LINE_WIDTH=0.6MM MIN_NECK_WIDTH=0.15MM
AUDSAMPOUTLP — L7201 180-OHM-1.5A (0603) — AUD_SPKR_OUTL_P
AUDSAMPOUTLN — L7202 180-OHM-1.5A (0603) — AUD_SPKR_OUTL_N
AUDSAMPOUTRP — L7203 180-OHM-1.5A (0603) — AUD_SPKR_OUTR_P
AUDSAMPOUTRN — L7204 180-OHM-1.5A (0603) — AUD_SPKR_OUTR_N
AUDSAMPCPP — C7208 0.1UF 10% 50V X7R 603-1
AUDSAMPCPN

C7210 1000PF 10% 25V X7R 402
C7211 1000PF 10% 25V X7R 402
C7212 1000PF 10% 25V X7R 402
C7213 1000PF 10% 25V X7R 402

R7215 10K 5% 1/16W MF-LF 402 — PP3V3_INTERCON

R7216 0 5% 1/16W MF-LF 402 NOSTUFF — SPKRAMP_MUTE
R7217 0 5% 1/16W MF-LF 402

SPKRAMP_SS — C7209 0.47UF 10% 16V X7R 805

AUD_GPIO_0_A — R7213 47K 5% 1/16W MF-LF 402 — AUD_DEBOUNCE
R7212 15K 5% 1/16W MF-LF 402
C7220 100PF 5% 50V CERM 402
C7221 100PF 5% 50V CERM 402

Q7200 2N7002DW-X-F SOT-363 (two)

C7214 1UF 10% 25V X5R 603

XC7200 50MIL20
XW7201 SM OMIT — GND_AUDIO_SPKRAMP

NOSTUFF R7219 0 5% 1/16W MF-LF 402

GND_AUDIO_CODEC — GND_AUDIO_SPKRAMP_PLANE

GAIN SETTINGS: +19DB
MODULATION SETTING: LOW EMI
GAIN AND SWITCHING FREQUENCY STUFF OPTIONS

=PP3V3_S0_AUDIO — RP7200 47K 5% 1/16W SM-LF

AUD_SAMP_FS2
AUD_SAMP_FS1
AUD_SAMP_G2
AUD_SAMP_G1

NOSTUFF R7218 0 5% 1/16W MF-LF 402
R7208 0 5% 1/16W MF-LF 402

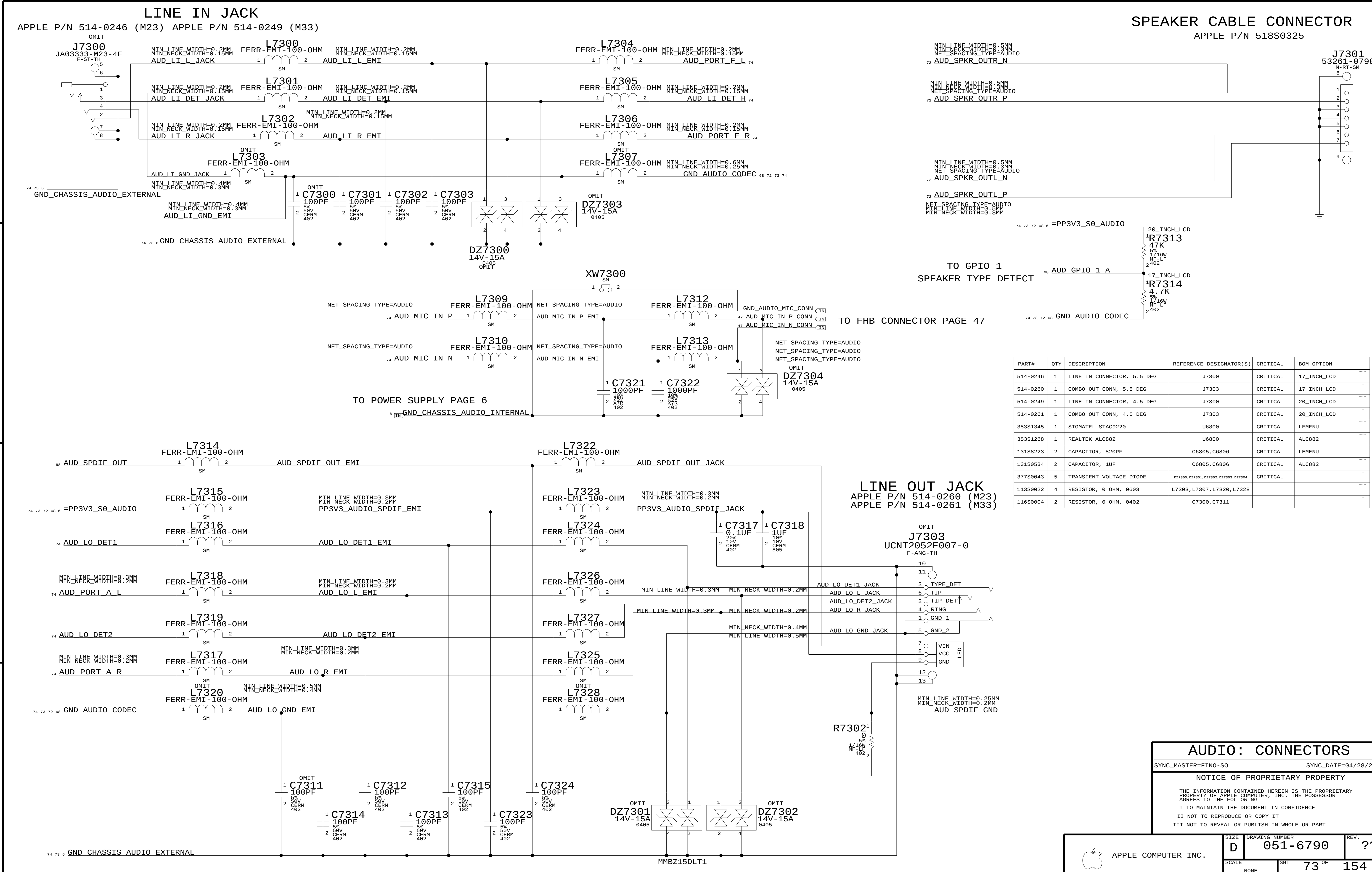
GND_AUDIO_SPKRAMP_PLANE

AUDIO: SPEAKER AMP

SYNC_MASTER=FINO-SO SYNC_DATE=04/28/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6790	??
SCALE: NONE	SHT 72 OF 154	



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0246	1	LINE IN CONNECTOR, 5.5 DEG	J7300	CRITICAL	17_INCH_LCD
514-0260	1	COMBO OUT CONN, 5.5 DEG	J7303	CRITICAL	17_INCH_LCD
514-0249	1	LINE IN CONNECTOR, 4.5 DEG	J7300	CRITICAL	20_INCH_LCD
514-0261	1	COMBO OUT CONN, 4.5 DEG	J7303	CRITICAL	20_INCH_LCD
353S1345	1	SIGMATEL STAC9220	U6800	CRITICAL	LEMENU
353S1268	1	REALTEK ALC882	U6800	CRITICAL	ALC882
131S8223	2	CAPACITOR, 820PF	C6805,C6806	CRITICAL	LEMENU
131S0534	2	CAPACITOR, 1UF	C6805,C6806	CRITICAL	ALC882
377S0043	5	TRANSIENT VOLTAGE DIODE	DZ7300,DZ7301,DZ7302,DZ7303,DZ7304	CRITICAL	
113S0022	4	RESISTOR, 0 OHM, 0603	L7303,L7307,L7320,L7328		
116S0004	2	RESISTOR, 0 OHM, 0402	C7300,C7311		

AUDIO: CONNECTORS

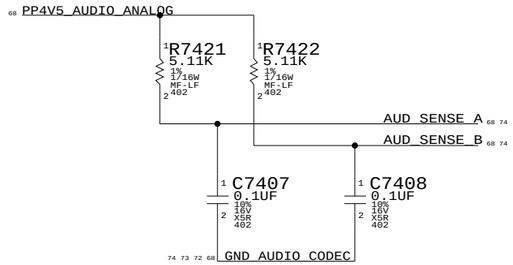
SYNC_MASTER=FINO-SO SYNC_DATE=04/28/2005

APPLE COMPUTER INC.

SIZE D | DRAWING NUMBER 051-6790 | REV. ??

SCALE NONE | SHT 73 OF 154

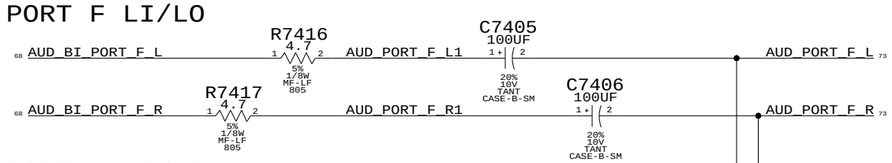
JACK SENSE PULL UPS(PLACE NEXT TO CODEC)



USED PORTS
PORT A HP/LI
PORT B MIC IN
PORT C BI SPEAKERS
PORT F LI/LO

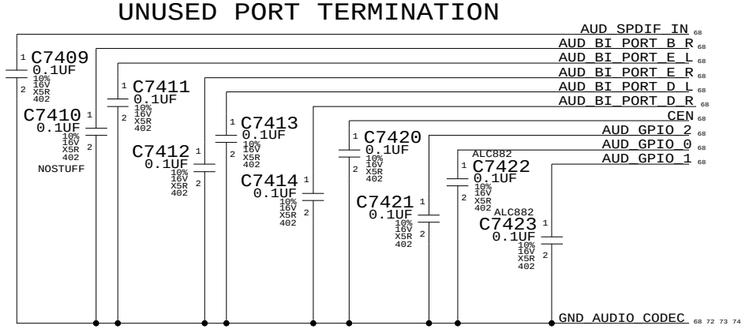
UNUSED PORTS
PORT E
PORT D

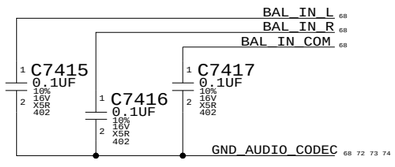
PORT F LI/LO



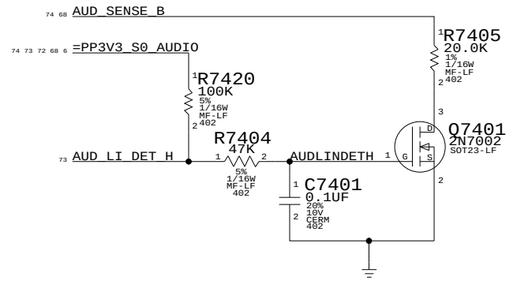
PORT A HP/LI

UNUSED PORT TERMINATION

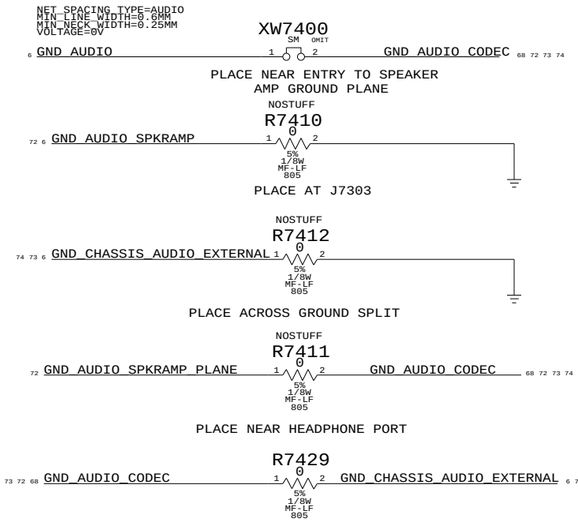




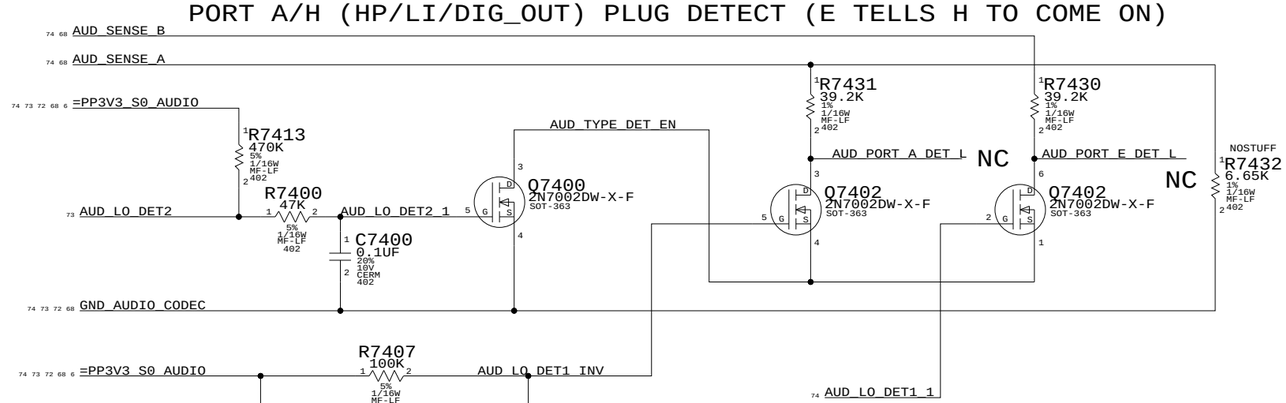
PORT F (LI/LO) PLUG DETECT



AUDIO GROUND RETURNS

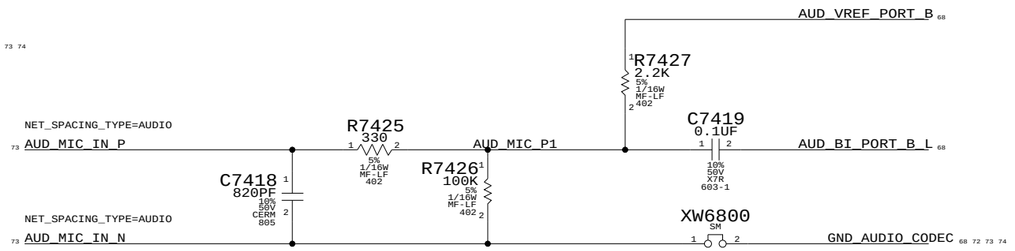


PORT A/H (HP/LI/DIG_OUT) PLUG DETECT (E TELLS H TO COME ON)



R7432 ENABLES PORT B AND C

MICROPHONE IMPEDANCE MATCHING CIRCUIT



AUDIO: POWER SUPPLIES

SYNC_MASTER=FINO-SO SYNC_DATE=04/28/2005

NOTICE OF PROPRIETARY PROPERTY

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6790	??
SCALE: NONE	SHT 74	OF 154

IMVP6 CPU VCORE REGULATOR

DPRSLPVR	DPRSTP*	PSI*	Operation Mode
0	1	1	2-Phase CCM
0	1	0	1-Phase CCM
1	0	1	1-Phase DCM
1	0	0	1-Phase DCM

Note 1: C7532,C7533 = 27.4 Ohm For Validating CPU Only.

*NEED TO CHANGE R7531 TO NTC ERT-J1VR103J PANASONIC

	MIN_LINE_WIDTH	MIN_NECK_WIDTH
IMVP6_PHASE1	1.5 MM	0.25 MM
IMVP6_BOOT1	0.25 MM	0.25 MM
IMVP6_UGATE1	1.5 MM	0.25 MM
IMVP6_LGATE1	1.5 MM	0.25 MM
IMVP6_ISEN1	0.25 MM	0.25 MM
IMVP6_FET_RC1	0.25 MM	0.25 MM
IMVP6_VSUM_R1	0.25 MM	0.25 MM
R7504_1	0.25 MM	0.25 MM

	MIN_LINE_WIDTH	MIN_NECK_WIDTH
IMVP6_PHASE2	0.25 MM	0.25 MM
IMVP6_BOOT2	0.25 MM	0.25 MM
IMVP6_UGATE2	0.25 MM	0.25 MM
IMVP6_LGATE2	0.25 MM	0.25 MM
IMVP6_ISEN2	0.25 MM	0.25 MM
IMVP6_FET_RC2	0.25 MM	0.25 MM
IMVP6_VSUM_R2	0.60 MM	0.25 MM
R7507_1	0.25 MM	0.25 MM

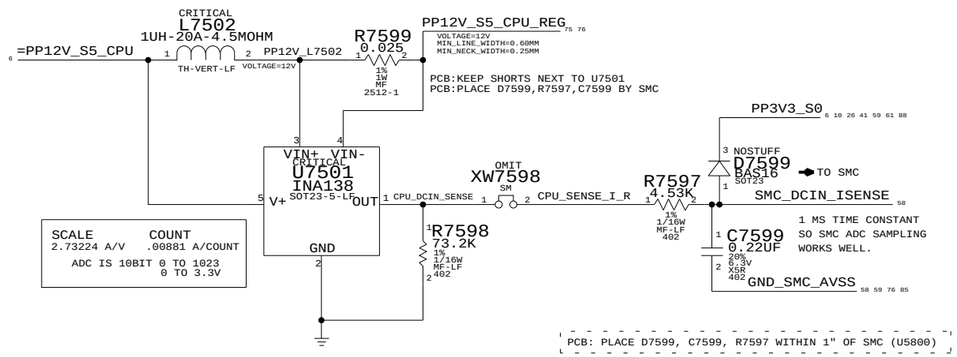
	MIN_LINE_WIDTH	MIN_NECK_WIDTH
IMVP6_OCSET	0.25 MM	0.20 MM
IMVP6_VSUM	0.25 MM	0.20 MM
GND_IMVP6_SGND	0.50 MM	0.20 MM
IMVP6_VO	0.25 MM	0.20 MM
IMVP6_DROOP	0.25 MM	0.20 MM
IMVP6_DFB	0.25 MM	0.20 MM
IMVP6_SOFT	0.25 MM	0.20 MM
IMVP6_RBIAS	0.25 MM	0.20 MM
IMVP6_VDIFF	0.25 MM	0.20 MM
IMVP6_FB2	0.25 MM	0.20 MM
IMVP6_FB	0.25 MM	0.20 MM
IMVP6_COMP	0.25 MM	0.20 MM
IMVP6_VW	0.25 MM	0.25 MM
IMVP6_RTN	0.25 MM	0.25 MM
IMVP6_VSEN	0.25 MM	0.25 MM

IMVP6 CPU VCore Regulator	
SYNC_MASTER=POWER	SYNC_DATE=07/08/2005

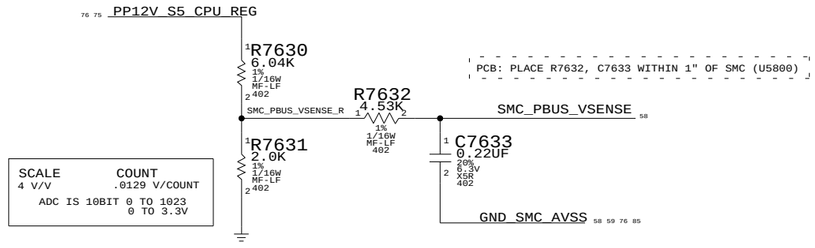
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 75 OF 111	

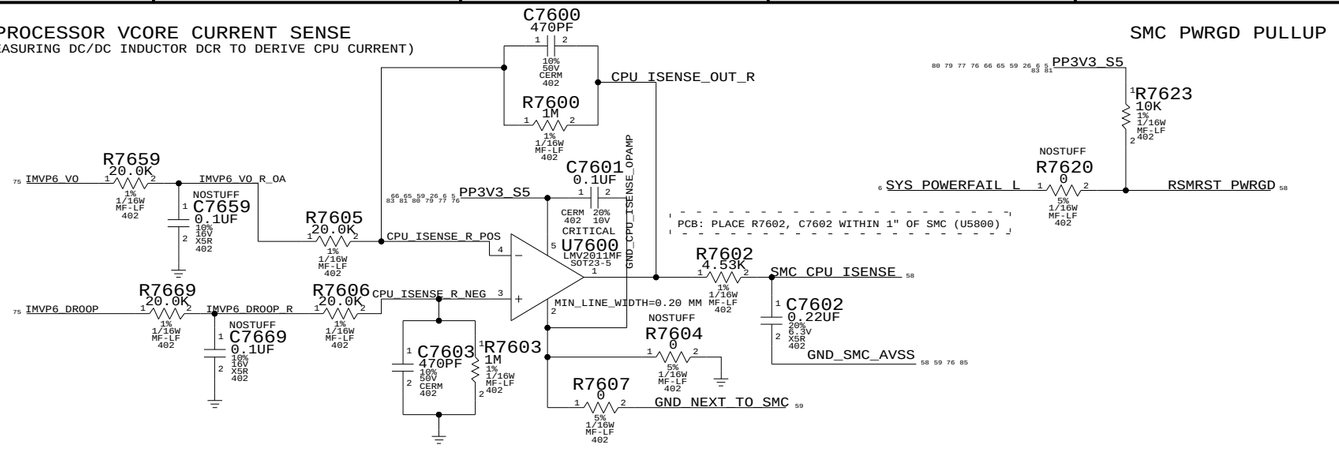
PROCESSOR VCORE CURRENT SENSE
(USING 12V INPUT CURRENT TO DERIVE CPU CURRENT)



PROCESSOR DCIN VOLTAGE SENSE
(SCALING 12V INPUT VOLTAGE TO SMC)



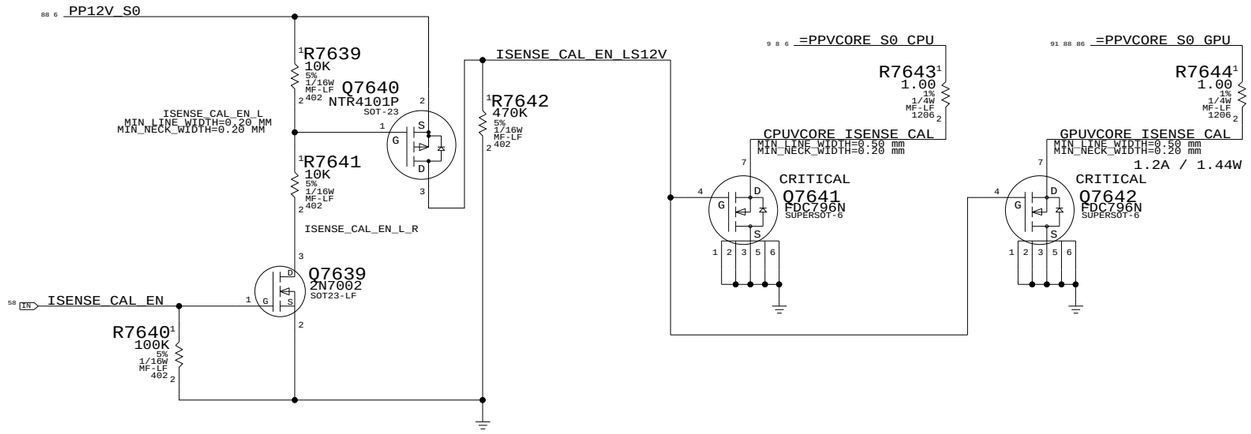
PROCESSOR VCORE CURRENT SENSE
(MEASURING DC/DC INDUCTOR DCR TO DERIVE CPU CURRENT)



PROCESSOR VCORE SENSE

Current Sense Calibration Circuit

Switches in fixed load on power supplies to calibrate current sense circuits

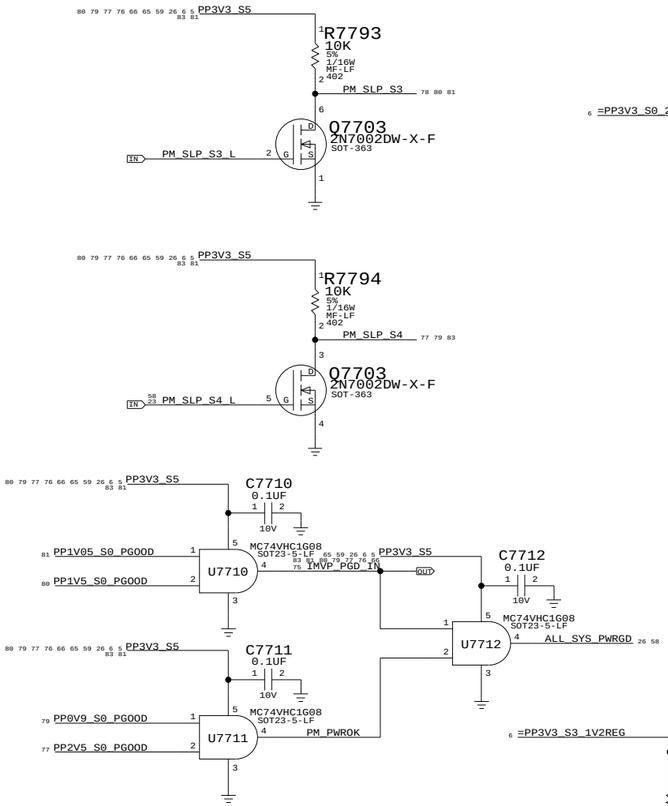


CPU SENSE CIRCUITRIES

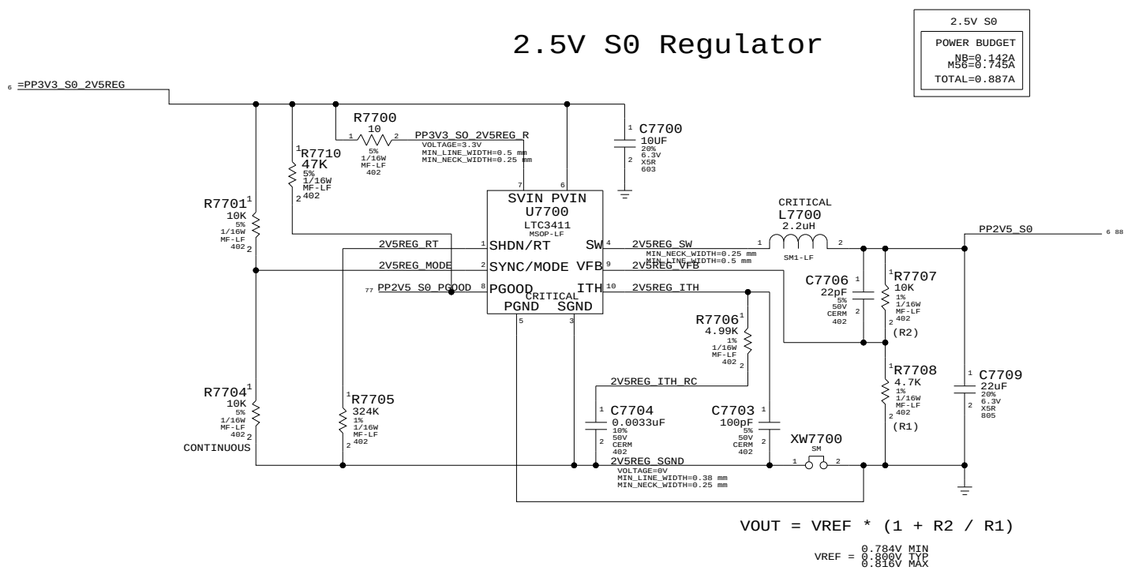
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

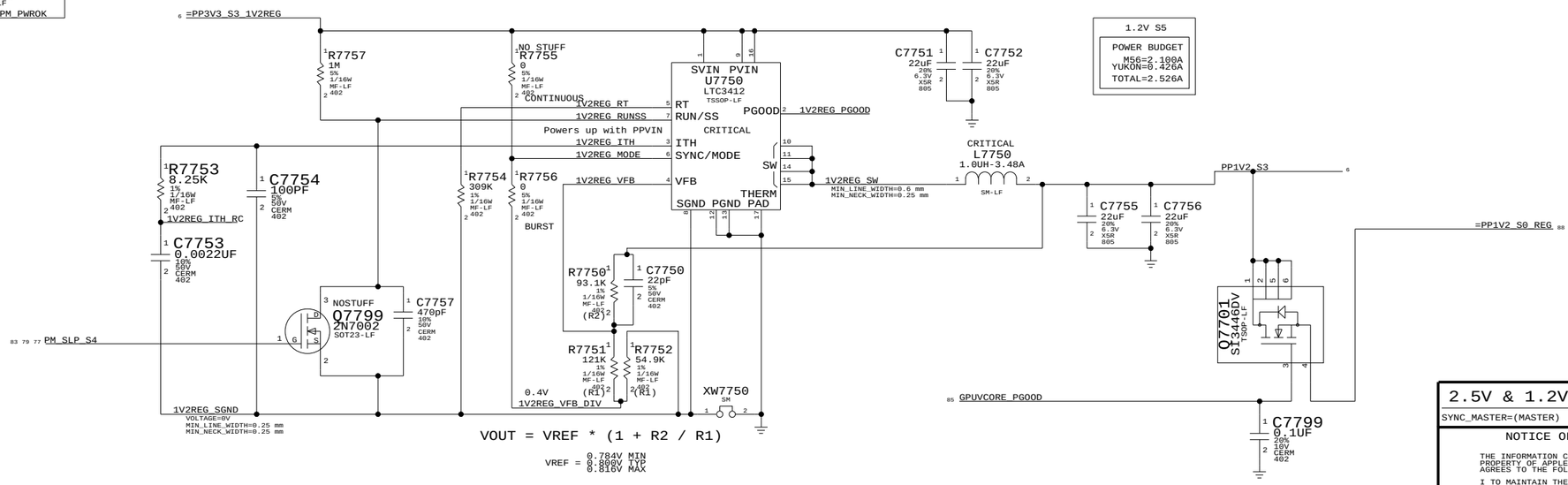
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 76 OF 111	



2.5V S0 Regulator



1.2V S3 REGULATOR / 1.2V S0 FET



2.5V & 1.2V GRAPHICS REGULATORS

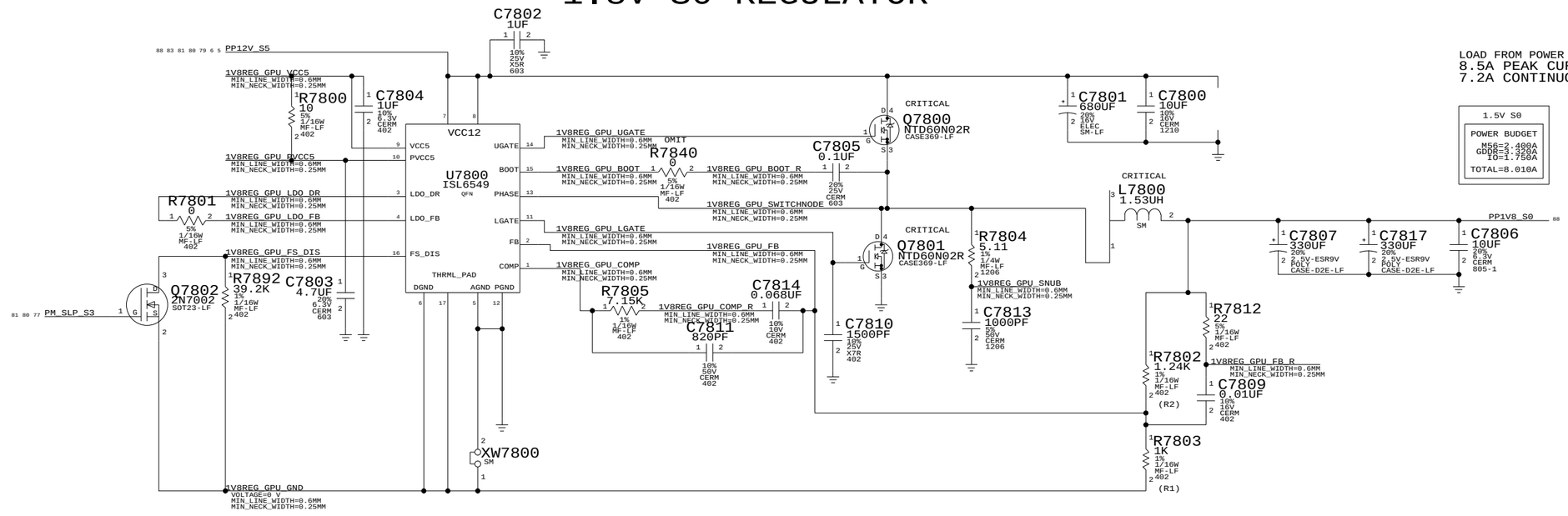
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 77 OF 111	

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
114S0514	1	5.11 OHM 0402 1% 1/16W LF	R7840		

1.8V S0 REGULATOR



LOAD FROM POWER BUDGET
8.5A PEAK CURRENT DRAW
7.2A CONTINUOUS CURRENT DRAW

1.5V S0

POWER BUDGET
M56=2.400A
GDDR=3.700A
IO=1.750A
TOTAL=8.010A

VOUT=VREF*(1+R2/R1)

VREF = 0.784V MIN
0.800V TYP
0.816V MAX

1.8V GDDR REGULATOR

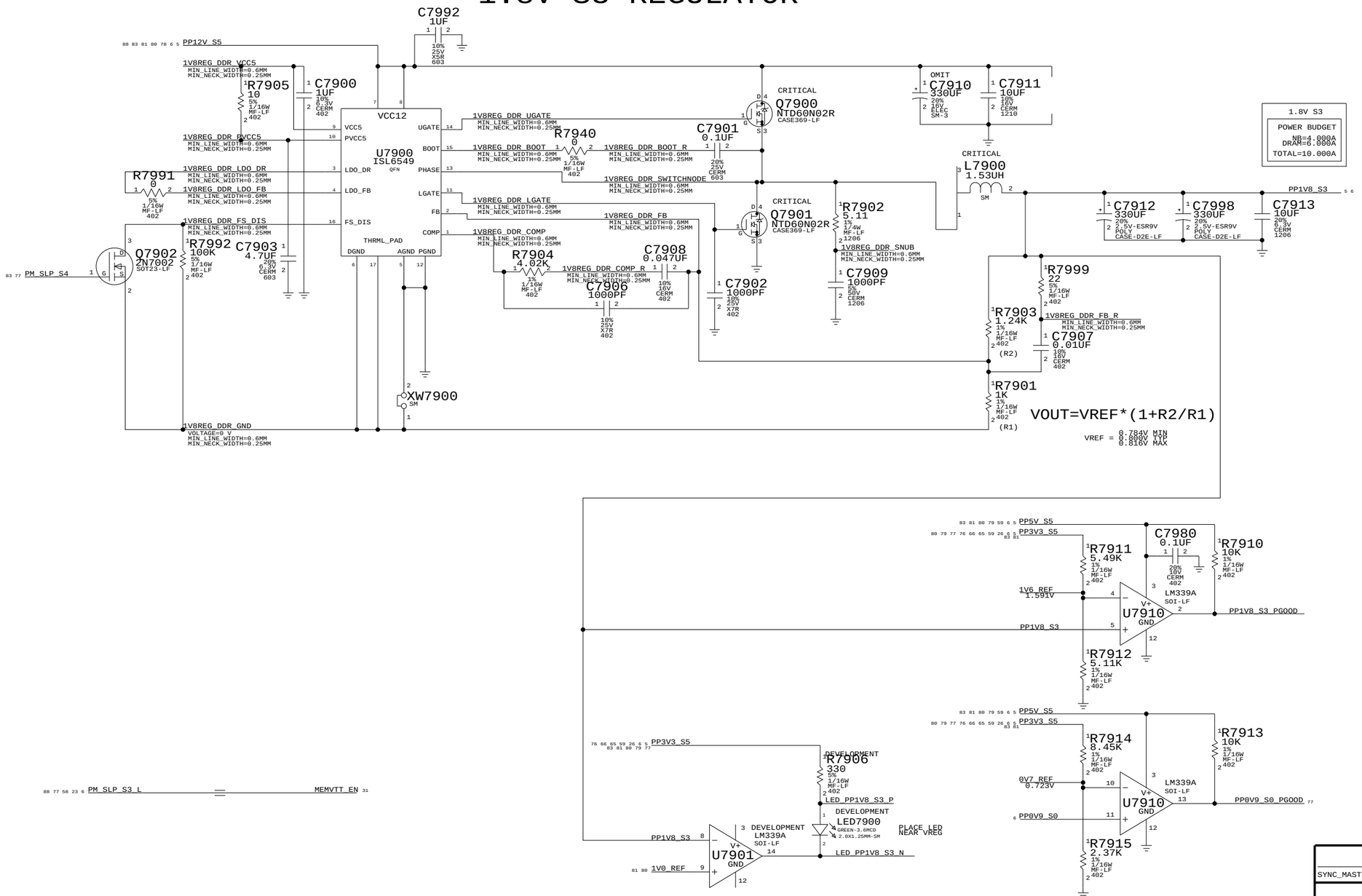
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 78 OF 111	

TRUE

1.8V S3 REGULATOR



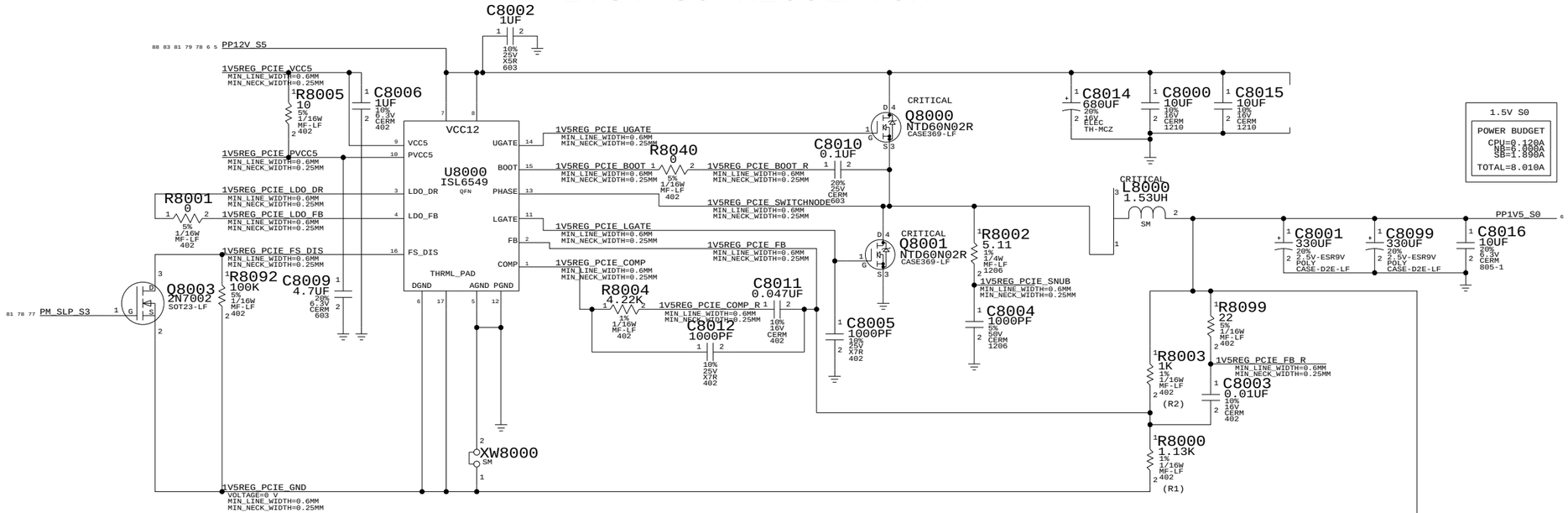
1.8V Vreg

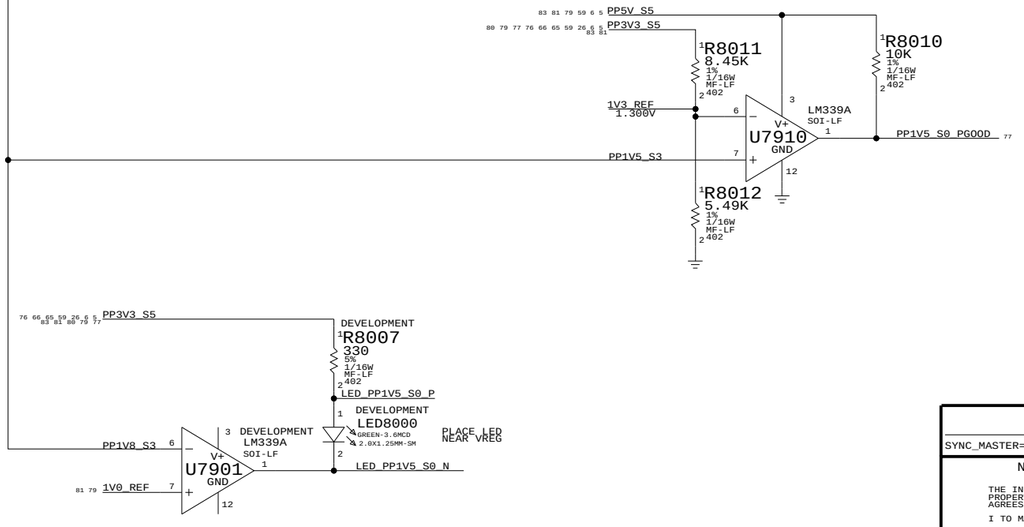
SYNC_MASTER=M23-PC SYNC_DATE=04/12/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 79 OF 111	

1.5V S0 REGULATOR





1.5V Vreg

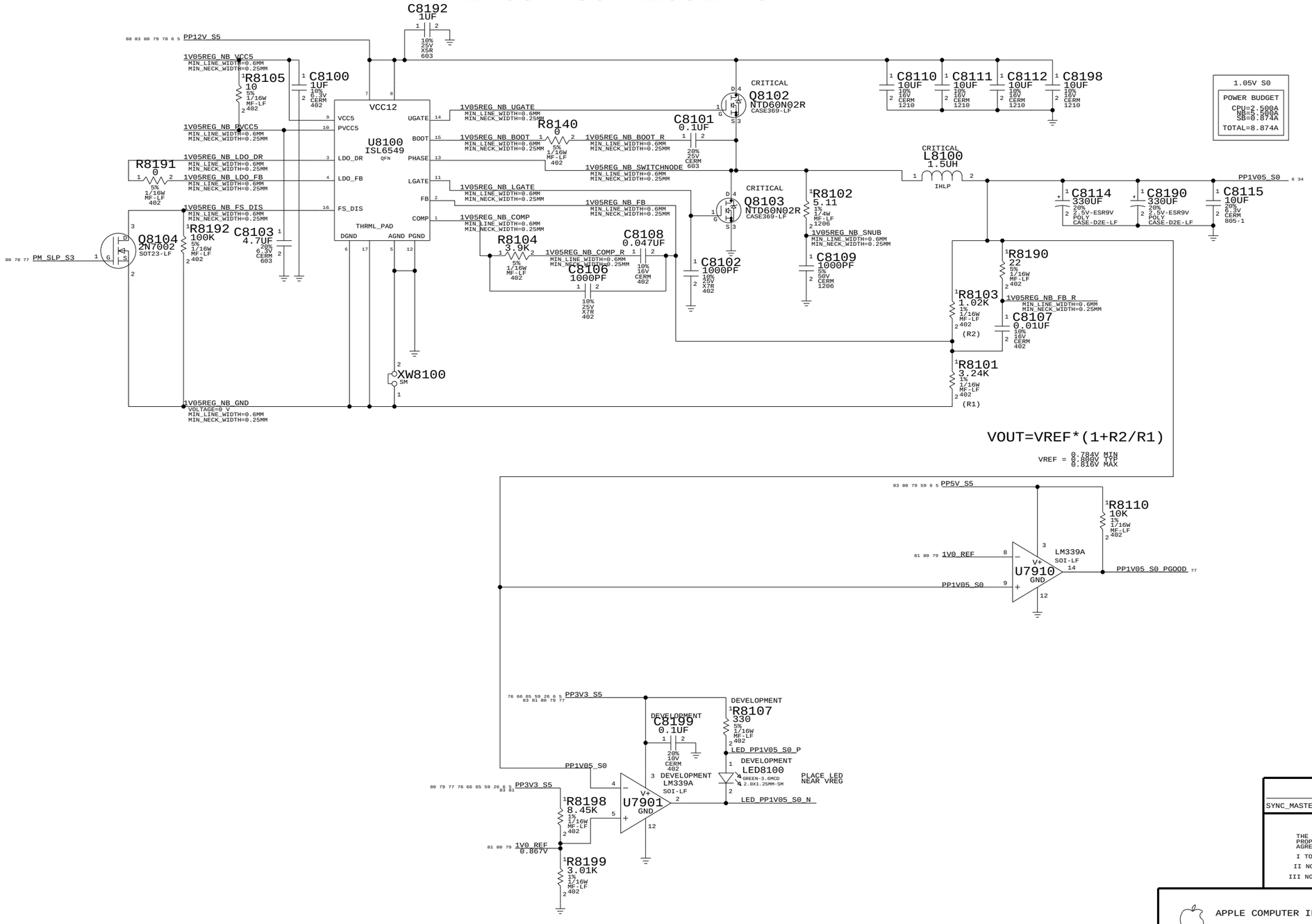
SYNC_MASTER=FINO-PC SYNC_DATE=05/18/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE SHT 80 OF 111

1.05V S0 REGULATOR



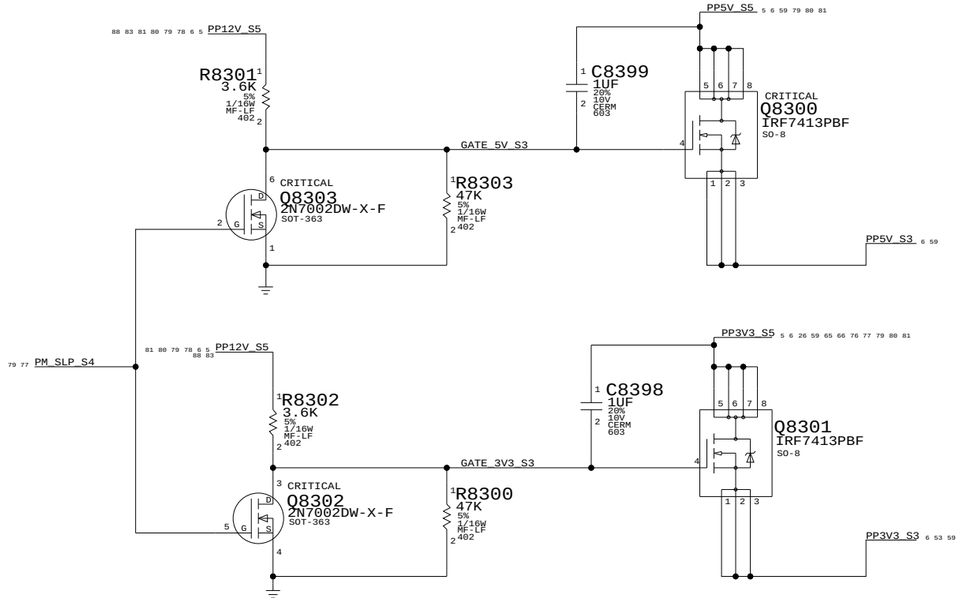
1.05V VREG

SYNC_MASTER=M38-RT SYNC_DATE=05/18/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE SHT 81 OF 111



5V & 3.3V Fets

SYNC_MASTER=FINO-PC SYNC_DATE=04/12/2005

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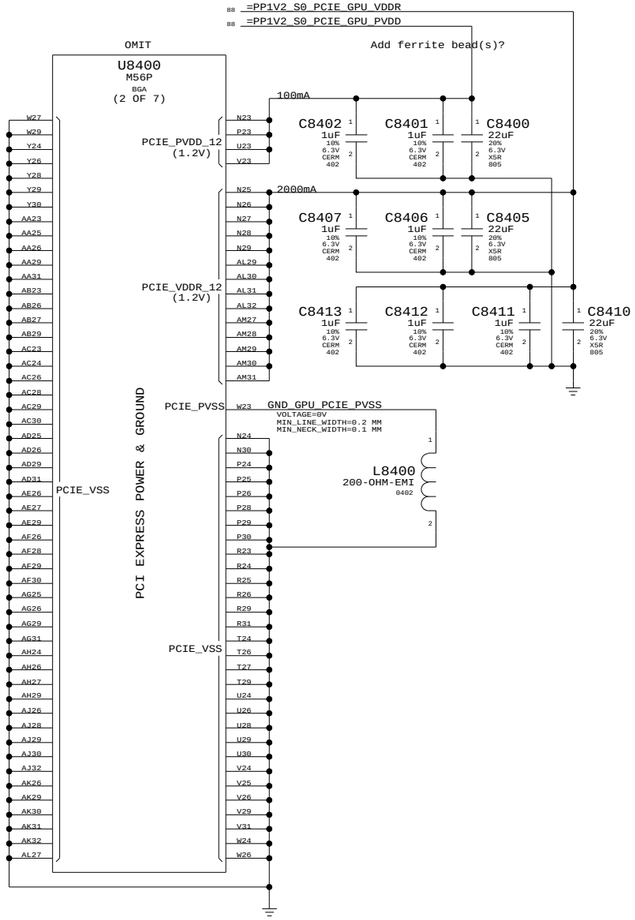
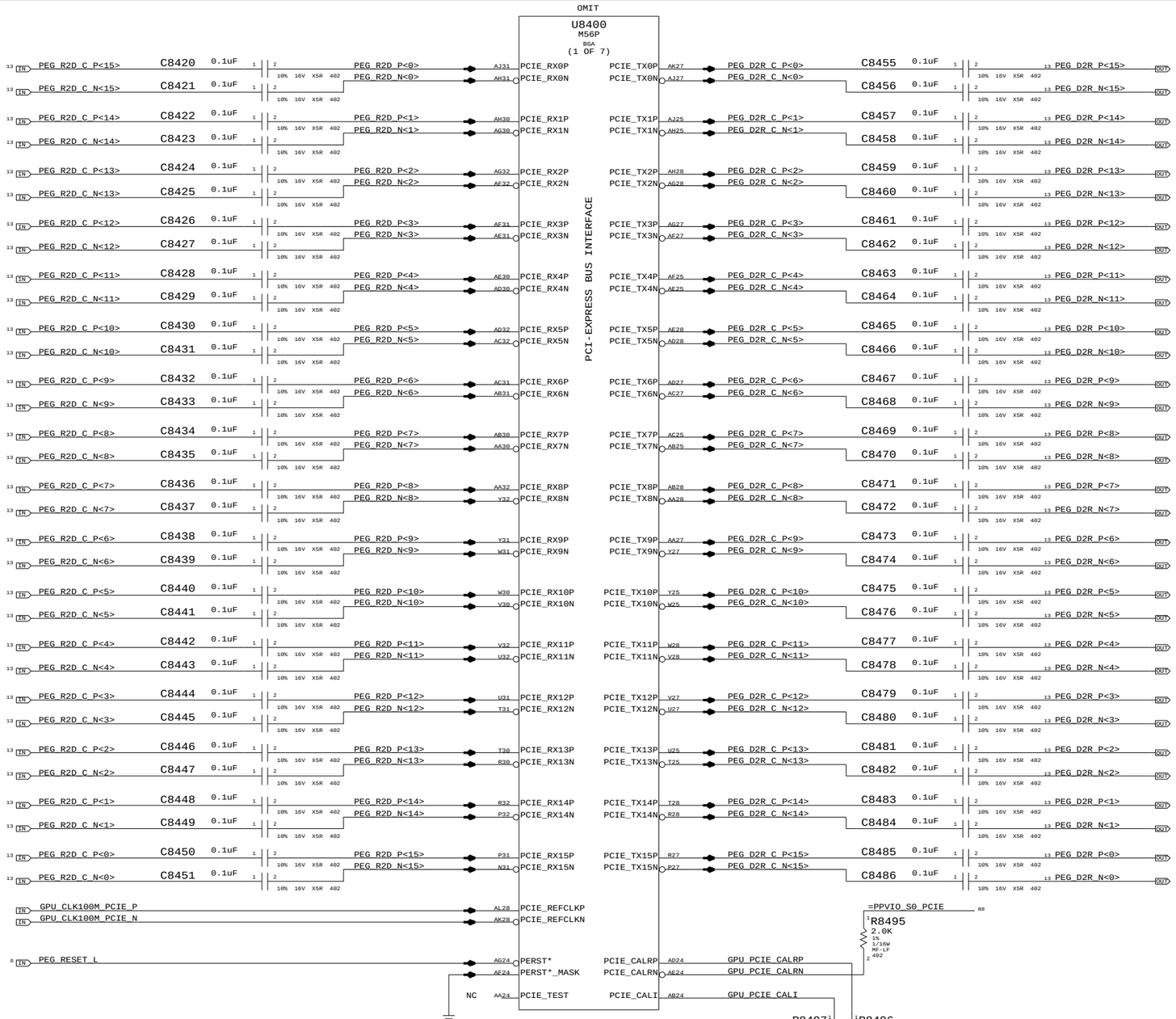
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE: NONE SHT 83 OF 111





ATI M56 PCI-E

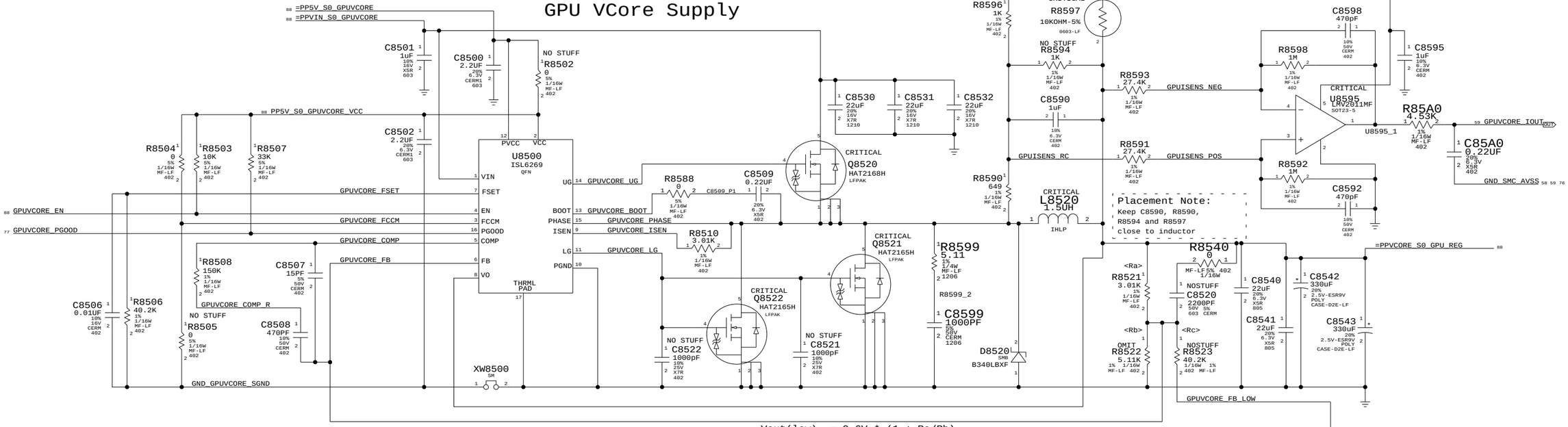
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	84	111

GPU VCore Supply

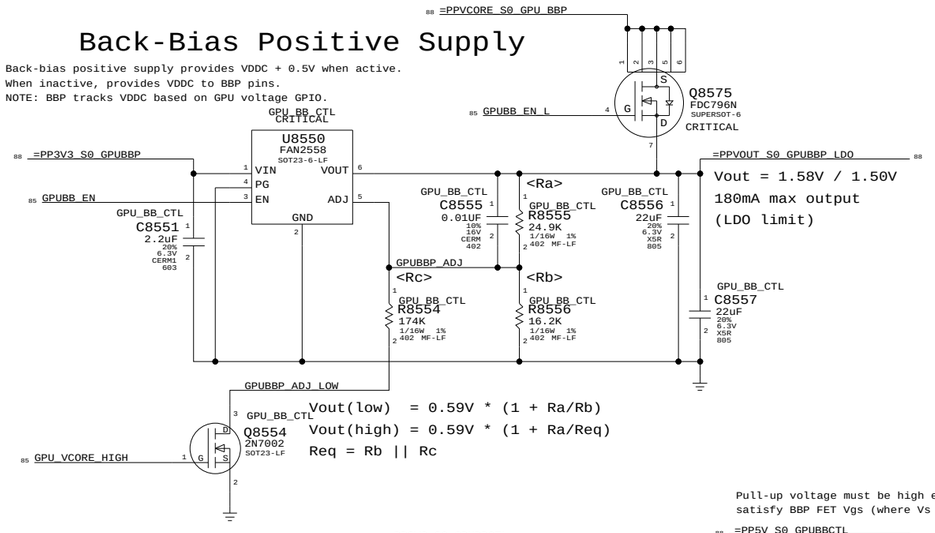


GPU VCore Current Sense

Vout(low) = 0.6V * (1 + Ra/Rb)
Vout(high) = 0.6V * (1 + Ra/Req)
Req = Rb || Rc

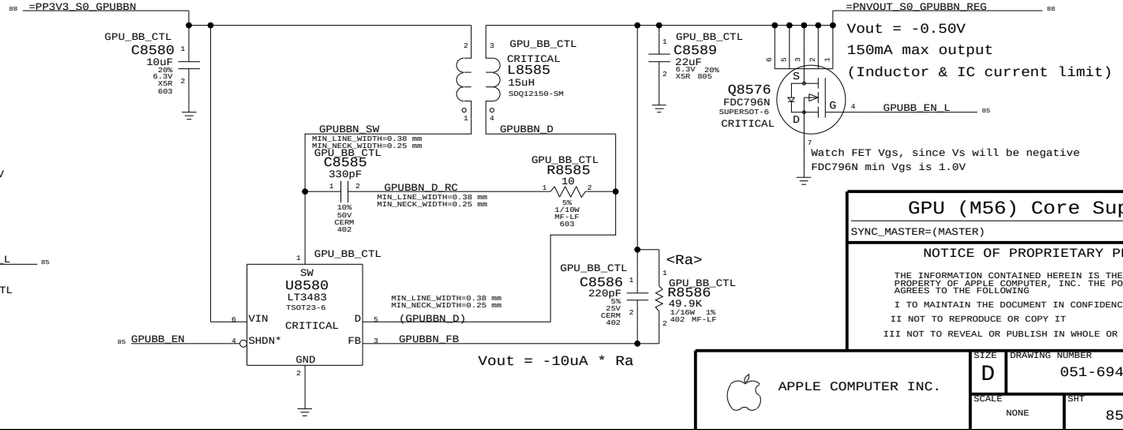
Back-Bias Positive Supply

Back-bias positive supply provides VDDC + 0.5V when active.
When inactive, provides VDDC to BBP pins.
NOTE: BBP tracks VDDC based on GPU voltage GPIO.



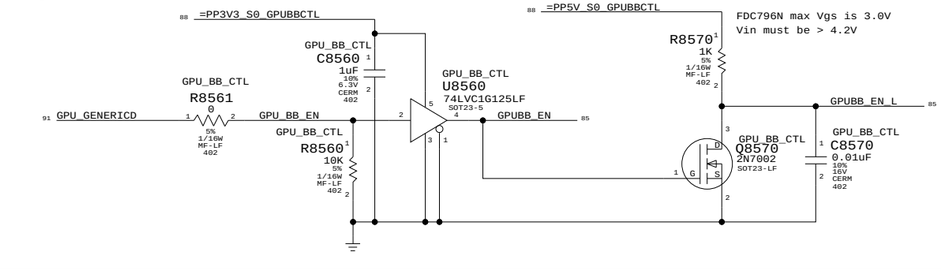
Back-Bias Negative Supply

Back-bias negative supply provides VSS - 0.5V when active.
When inactive, provides VSS to BBN pins.

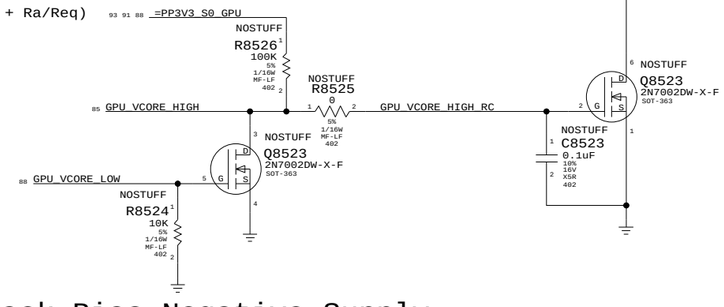


Back-Bias Pull-up Supply

Pull-up voltage must be high enough to satisfy BBP FET Vgs (where Vs = 1.2V)



Back-Bias Pull-down Supply



GPU (M56) Core Supplies

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

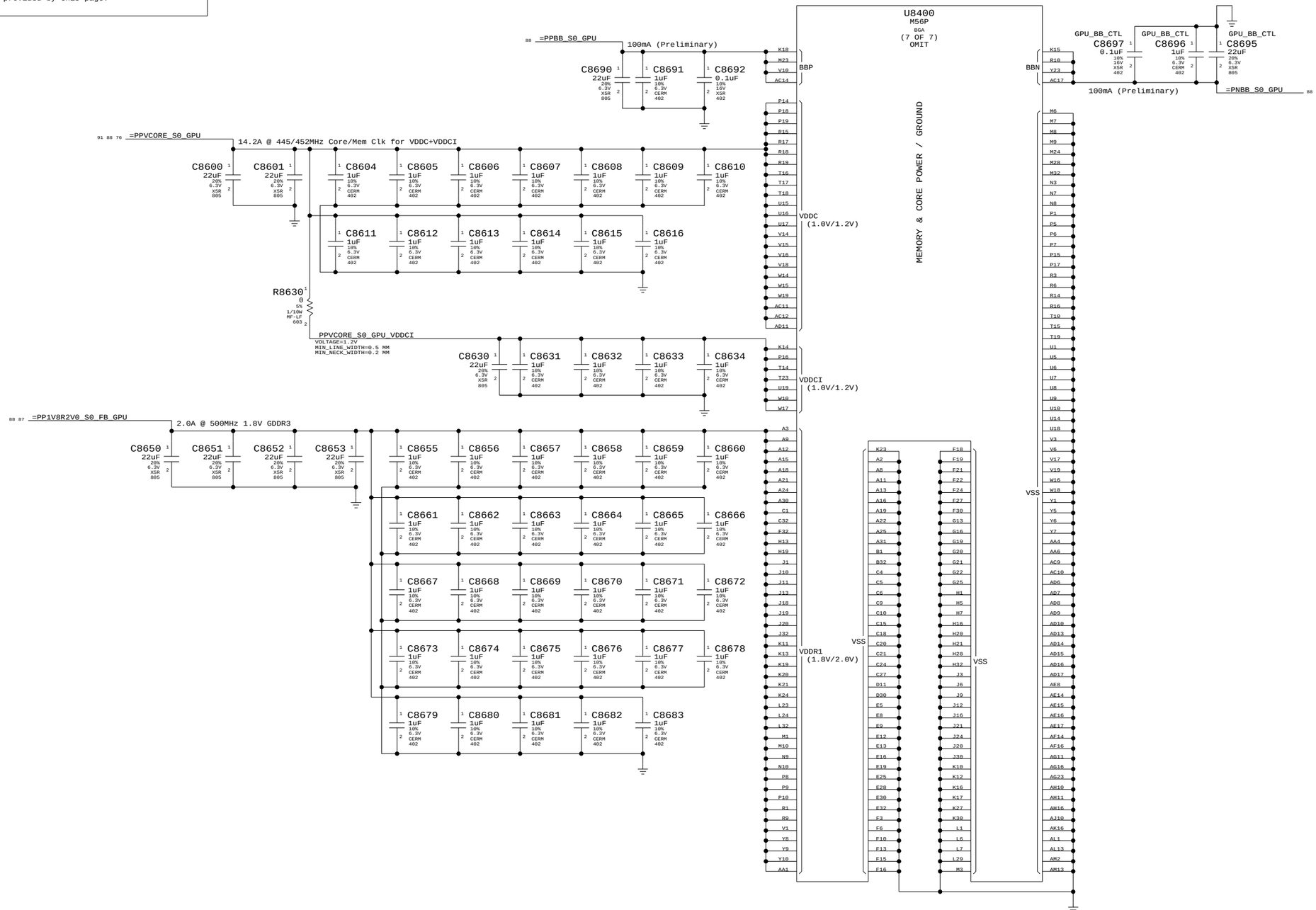
SCALE	SHT	OF
NONE	85	111

Page Notes

Power aliases required by this page:
- =PP1V5_GPU_VDD15
- =PP1VR1V3_GPU_VCORE

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)



ATI M56 Core Power

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

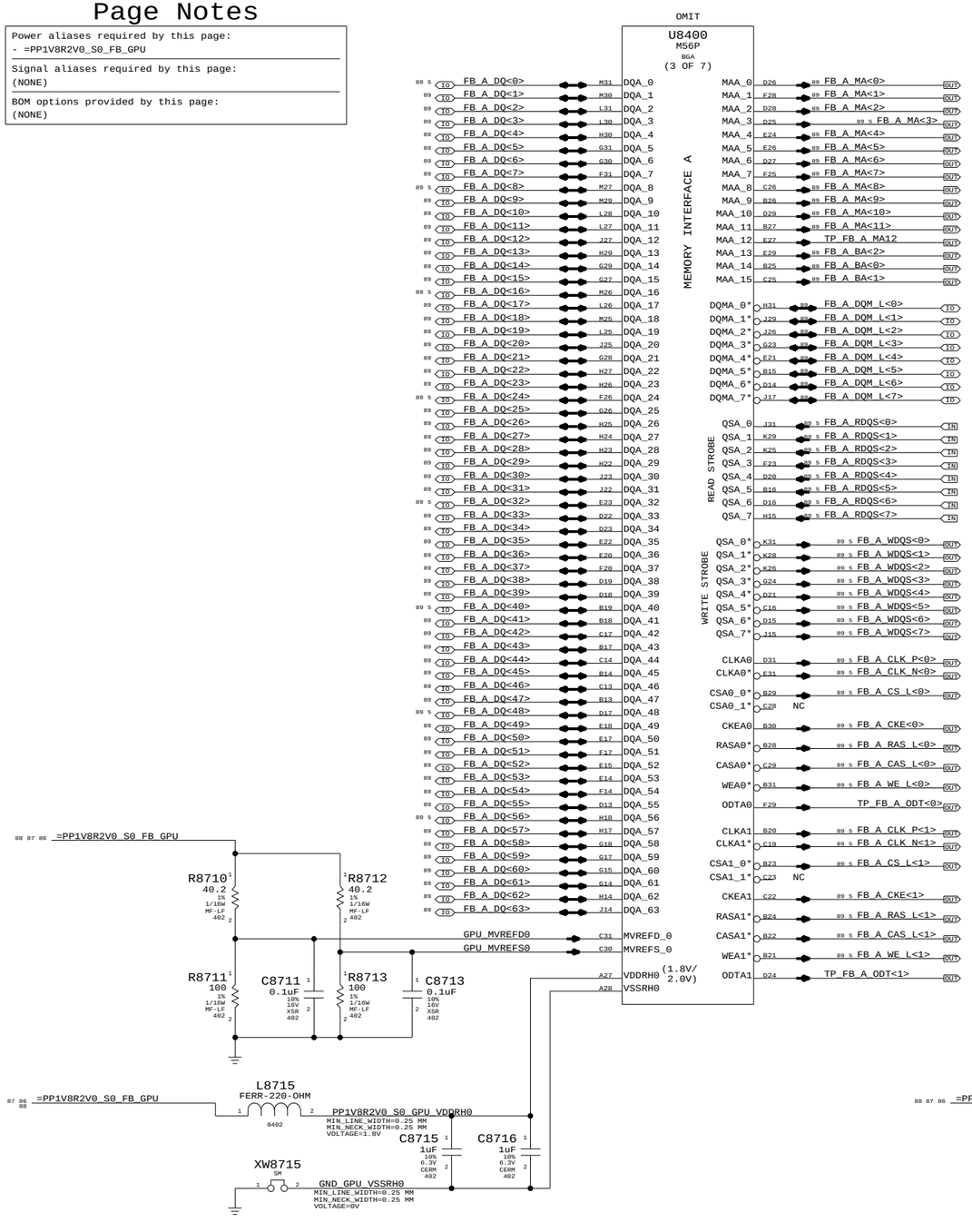
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE	SHT	OF
NONE	86	111

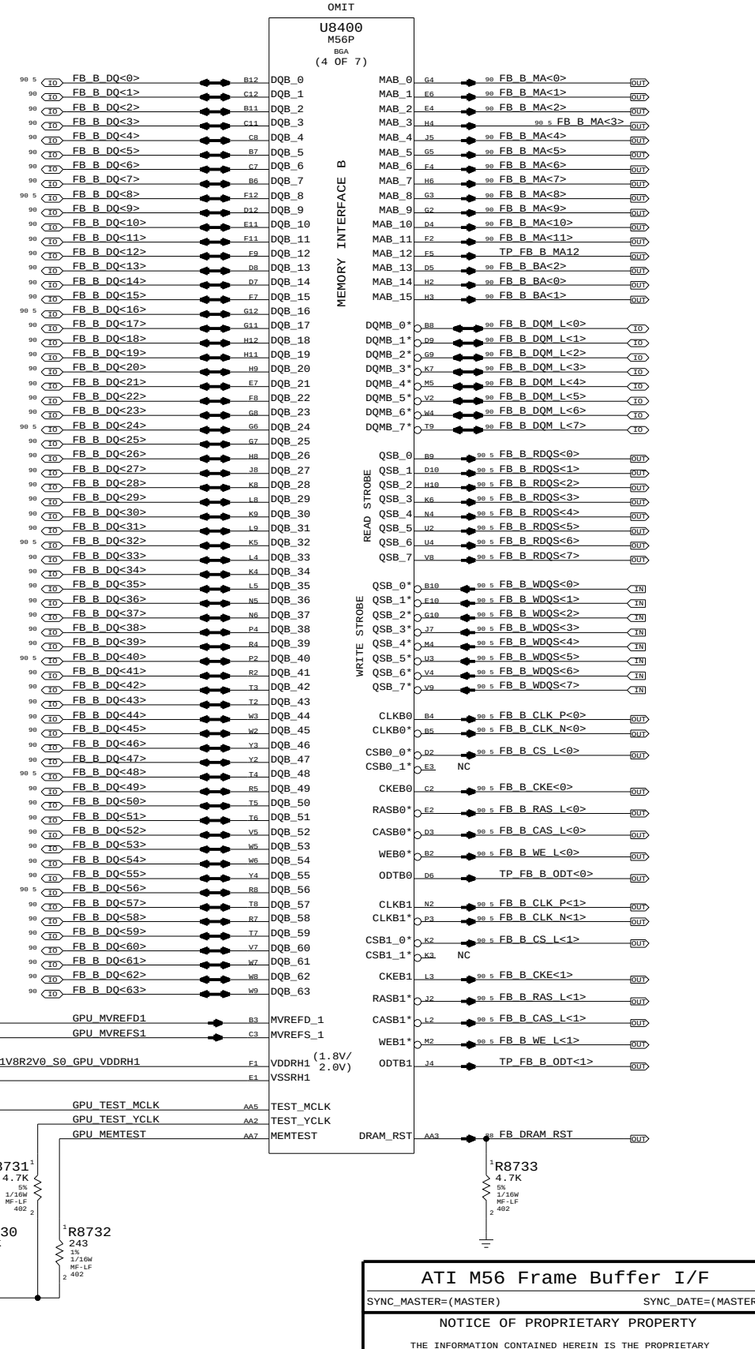
Page Notes

Power aliases required by this page:
- =PP1V8R2V0_S0_FB_GPU

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)





ATI M56 Frame Buffer I/F

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	87	111

"S0" GPU RAILS

ONLY ON IN RUN

59 PP1V0R1V2_S0_GPU
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.6MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=1.2V
=PPVCORE_S0_GPU_REG 85
=PPVCORE_S0_GPU 76 86 91
=PPVCORE_S0_GPU_BBP 85

85 PP5V_S0_GPUVCORE_VCC
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.6MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=5V
R8800 10 1/16W 603 MF-LF 5%
=PP5V_S0_GPUVCORE 85
GPUVCORE_VCC
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.6MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=5V

PP1V2_GPU_IO_S0
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.6MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=1.2V
=PP1V2_S0_PCIE_GPU_VDDR 84
=PP1V2_S0_PCIE_GPU_PVDD 84
=PPVIO_S0_PCIE 84
=PP1V2_S0_REG 77
=PP1V2_S0_GPU_VDDPLL 91

PPBB_S0_GPU
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.5MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=1.2V
=PPVOUT_S0_GPUBBP_LDO 85
=PPBB_S0_GPU 86

PNBB_S0_GPU
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.5MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=0V
=PNVOUT_S0_GPUBBN_REG 85
=PNBB_S0_GPU 86

76 61 59 41 26 10 6 PP3V3_S0
=PP3V3_S0_GPUBBP 85
=PP3V3_S0_GPUBBCTL 85
=PP3V3_DDC_DVI 97
=PP3V3_S0_LCD 94
=PP3V3_S0_GPU_VDDR3 88 91
=PP3V3_S0_GPU 85 91 93
=PP3V3_S0_GPUBBN 85
=PP3V3_S0_GPU_CLOCKS
=PP3V3_DDC_LCD 94
=PP3V3_GPU 94

77 6 PP2V5_S0
=PP2V5_S0_GPU_PVDD 91
=PP2V5_S0_GPU_VDD25 91
=PP2V5_S0_GPU_VDDC_CT 91
=PP2V5_S0_GPU 93

PP1V8R2V0_S0_FB_GPU
MAKE_BASE=TRUE
MIN_LINE_WIDTH=0.6MM
MIN_NECK_WIDTH=0.125MM
VOLTAGE=1.8V
=PP1V8_S0_FB_VDD 89 90
=PP1V8R3V3_S0_GPU_VDDR4 91
=PP1V8R3V3_S0_GPU_VDDR5 91
=PP1V8_S0_FB_VDDQ 89 90
PP1V8_S0 78
=PP1V8R2V0_S0_FB_GPU 86 87

83 81 80 79 78 6 5 PP12V_S5
=PPVIN_S0_GPUVCORE 85

76 6 PP12V_S0
=PP12V_GPU 94

97 94 75 6 PP5V_S0
=PP5V_S0_GPUBBCTL 85
=PP5V_S0_DVI_DDC 97
=PP5V_S0_GPUISENS 85

85 GPUVCORE_EN
R8801 33 1/16W 402 MF-LF 5%
PM_SLP_S3_L 6 23 58 77 79

87 FB_DRAM_RST
MAKE_BASE=TRUE
DRAM_RST 5 89 90

M56 GPIOS

=PP3V3_S0_GPU_VDDR3 88 91

94 91 GPU_GPIO_0
R8813 10K 1/16W 402 MF-LF 5%

GPIO 0 = TRANSMITTER POWER SAVINGS ENABLE
INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_1
R8802 10K 1/16W 402 MF-LF 5%

GPIO 1 = TRANSMITTER DE-EMPHASIS ENABLE
INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_2
NOSTUFF R8803 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_3
NOSTUFF R8804 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_4
NOSTUFF R8805 10K 1/16W 402 MF-LF 5%

GPIO 4 = DEBUG SIGNALS OUT

91 GPU_GPIO_5
R8806 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_6
NOSTUFF R8807 10K 1/16W 402 MF-LF 5%

TP_GPU_GPIO_7
MAKE_BASE=TRUE
GPU_GPIO_7 91

91 GPU_GPIO_8
NOSTUFF R8808 10K 1/16W 402 MF-LF 5%

NC_GPU_GPIO_10
MAKE_BASE=TRUE
GPU_GPIO_10 91

91 GPU_GPIO_9
NOSTUFF R8809 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_13
NOSTUFF R8812 10K 1/16W 402 MF-LF 5%
ATI_FB_256M

91 GPU_GPIO_12
R8810 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_11
NOSTUFF R8811 10K 1/16W 402 MF-LF 5%

GPIO 9,13,12,11 = ROM ID CFG
INTERNAL PULL DOWN
0010 = 256 M APERATURE SIZE

ATI_FB_256M
91 GPU_GPIO_24
R8830 10K 1/16W 402 MF-LF 5%

ATI_FB_HYNIX
91 GPU_GPIO_27
R8831 10K 1/16W 402 MF-LF 5%

91 GPU_GPIO_28
R8832 10K 1/16W 402 MF-LF 5%

TMDS_PANEL
91 GPU_GPIO_29
R8833 10K 1/16W 402 MF-LF 5%

85 GPU_VCORE_LOW
MAKE_BASE=TRUE
GPU_GPIO_15 91
R8850 10K 1/16W 402 MF-LF 5%

GPIO 15 = SWITCH CORE VOLTAGE HIGH TO LOW
EXTERNAL PULL DOWN RECOMMENDED

TP_GPU_GPIO_14
MAKE_BASE=TRUE
GPU_GPIO_14 91

TP_GPU_GPIO_17
MAKE_BASE=TRUE
GPU_GPIO_17 91

TP_GPU_VGA_R
MAKE_BASE=TRUE
GPU_VGA_R 93

TP_GPU_VGA_G
MAKE_BASE=TRUE
GPU_VGA_G 93

TP_GPU_VGA_B
MAKE_BASE=TRUE
GPU_VGA_B 93

TP_GPU_VGA_HSYNC
MAKE_BASE=TRUE
GPU_VGA_HSYNC 93

TP_GPU_VGA_VSYNC
MAKE_BASE=TRUE
GPU_VGA_VSYNC 93

TP_GPU_TV_Y
MAKE_BASE=TRUE
GPU_TV_Y 93

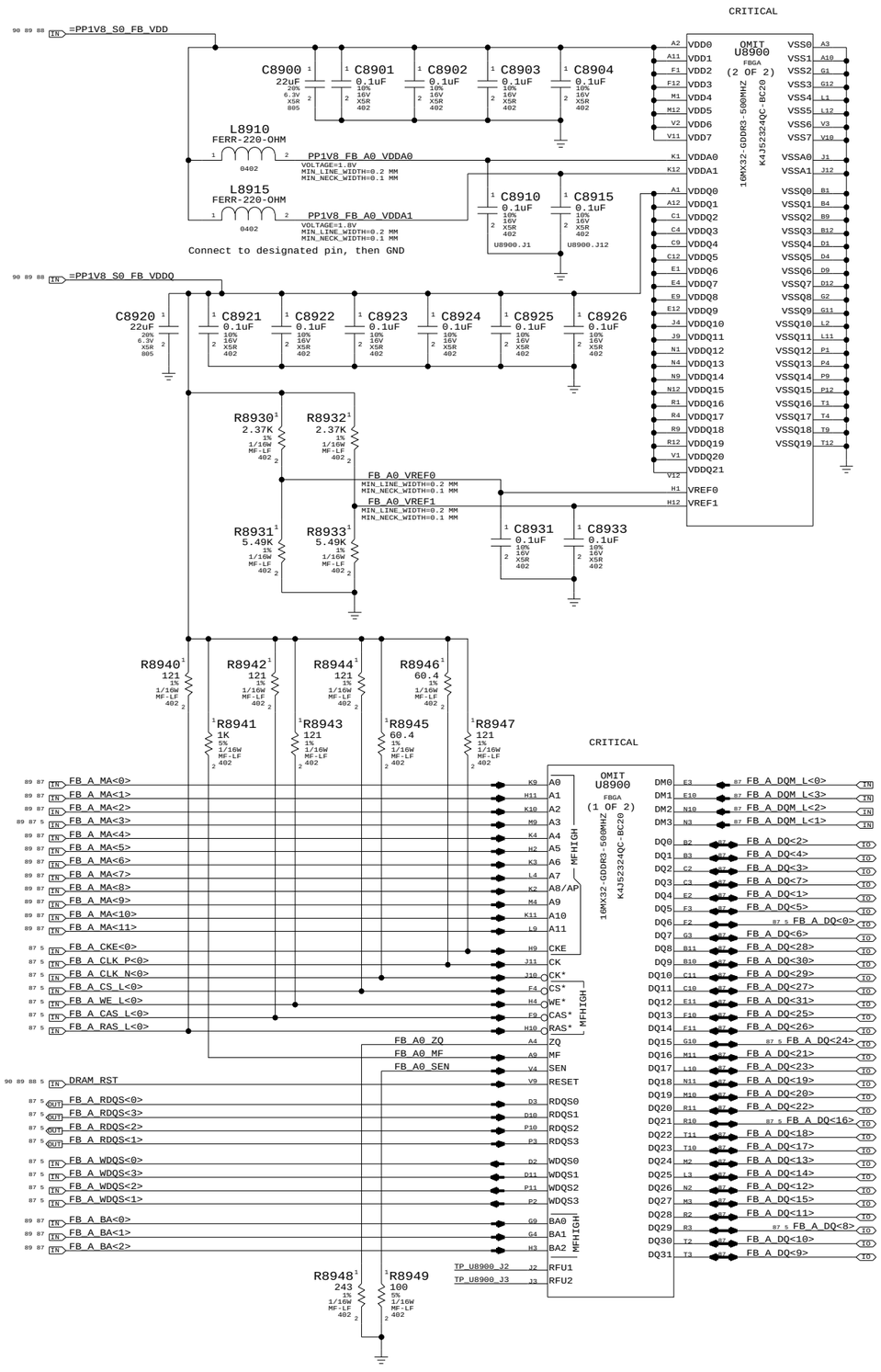
TP_GPU_TV_COMP
MAKE_BASE=TRUE
GPU_TV_COMP 93

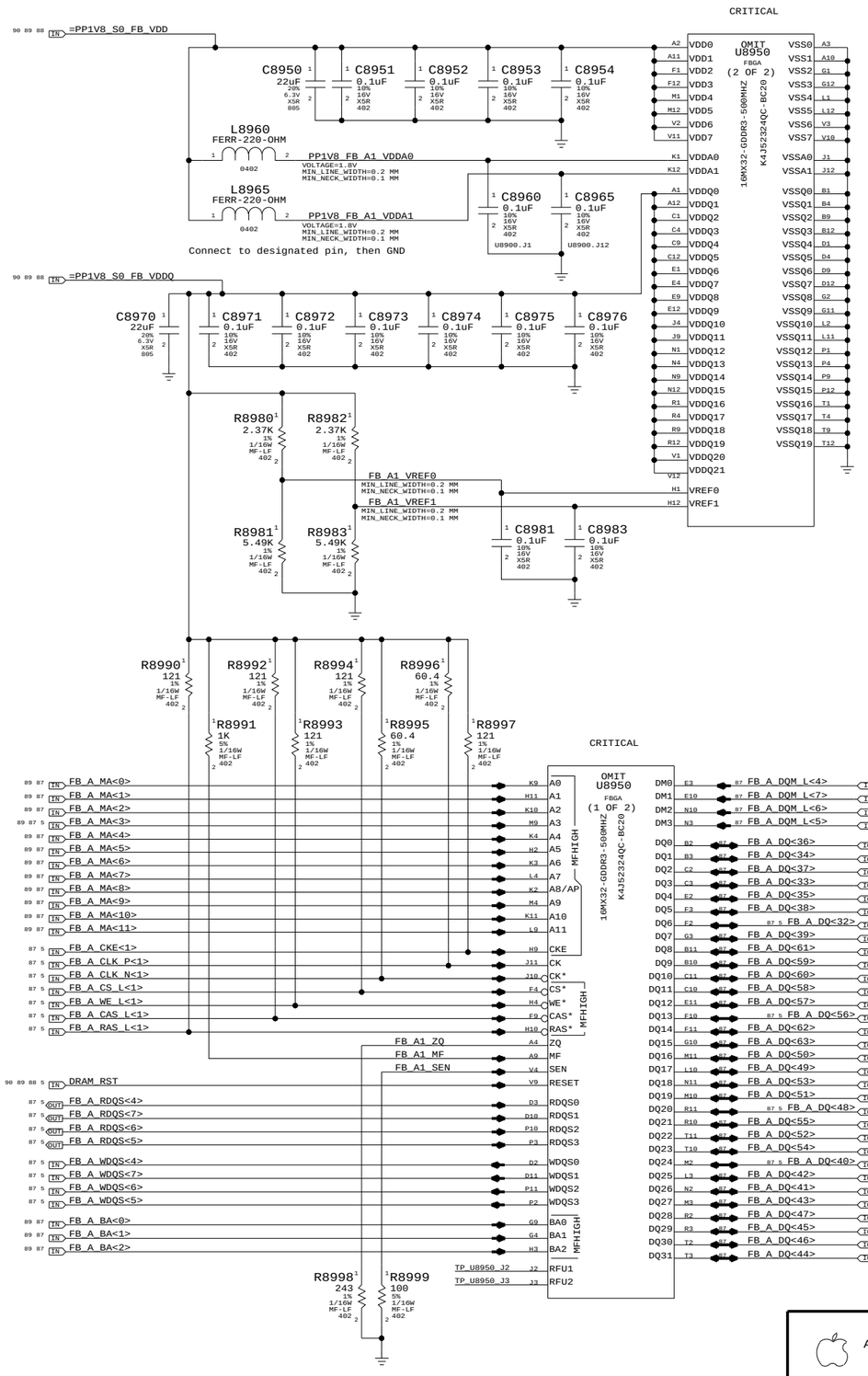
TP_GPU_TV_C
MAKE_BASE=TRUE
GPU_TV_C 93

TP_GPU_DDC_B_CLK
MAKE_BASE=TRUE
GPU_DDC_B_CLK 93

TP_GPU_DDC_B_DATA
MAKE_BASE=TRUE
GPU_DDC_B_DATA 93

GPU MISC





Page Notes

Power aliases required by this page:
- =PP1V8_S0_FB_VDD
- =PP1V8_S0_FB_VDDQ

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)

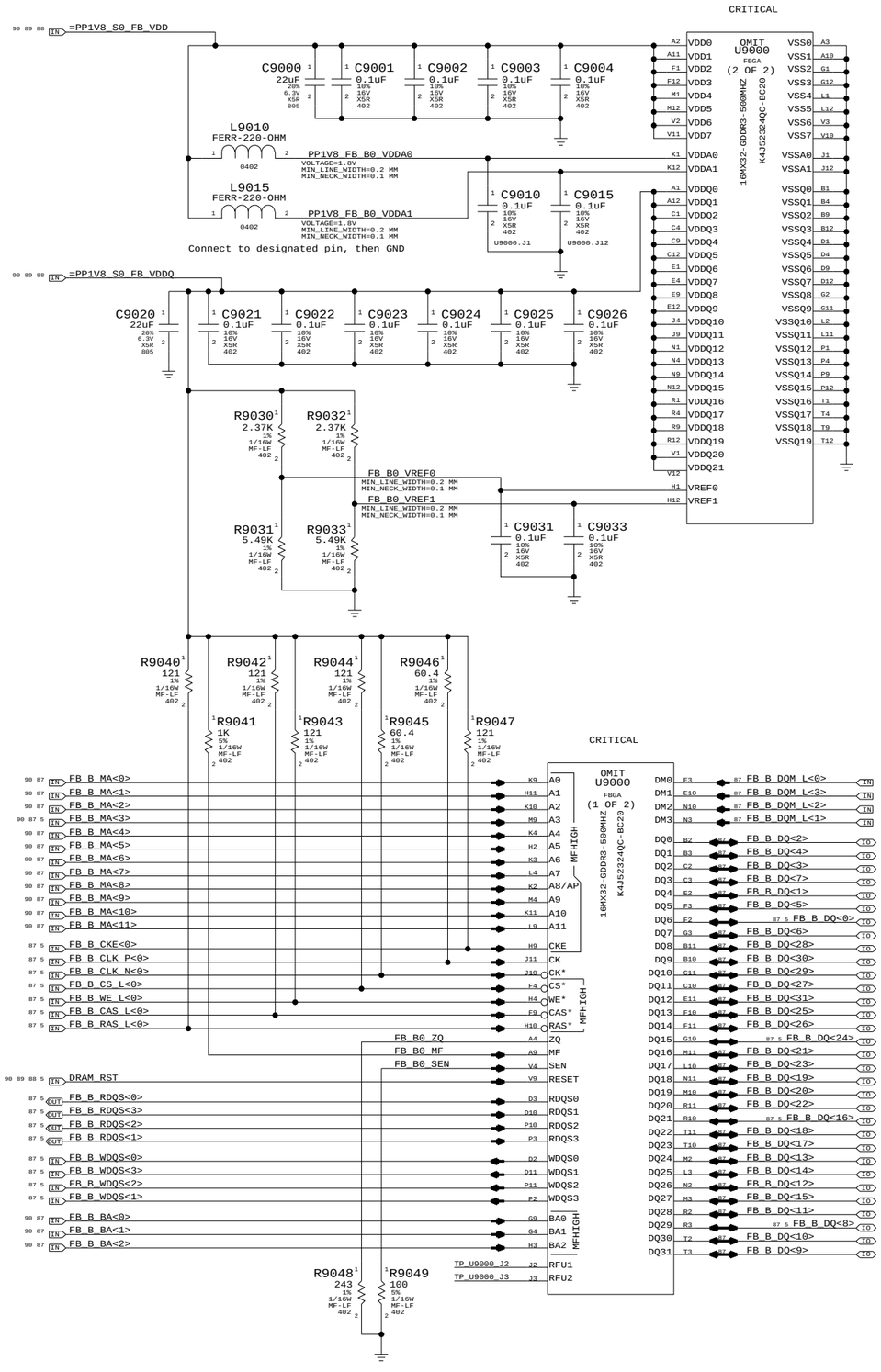
GDDR3 Frame Buffer A

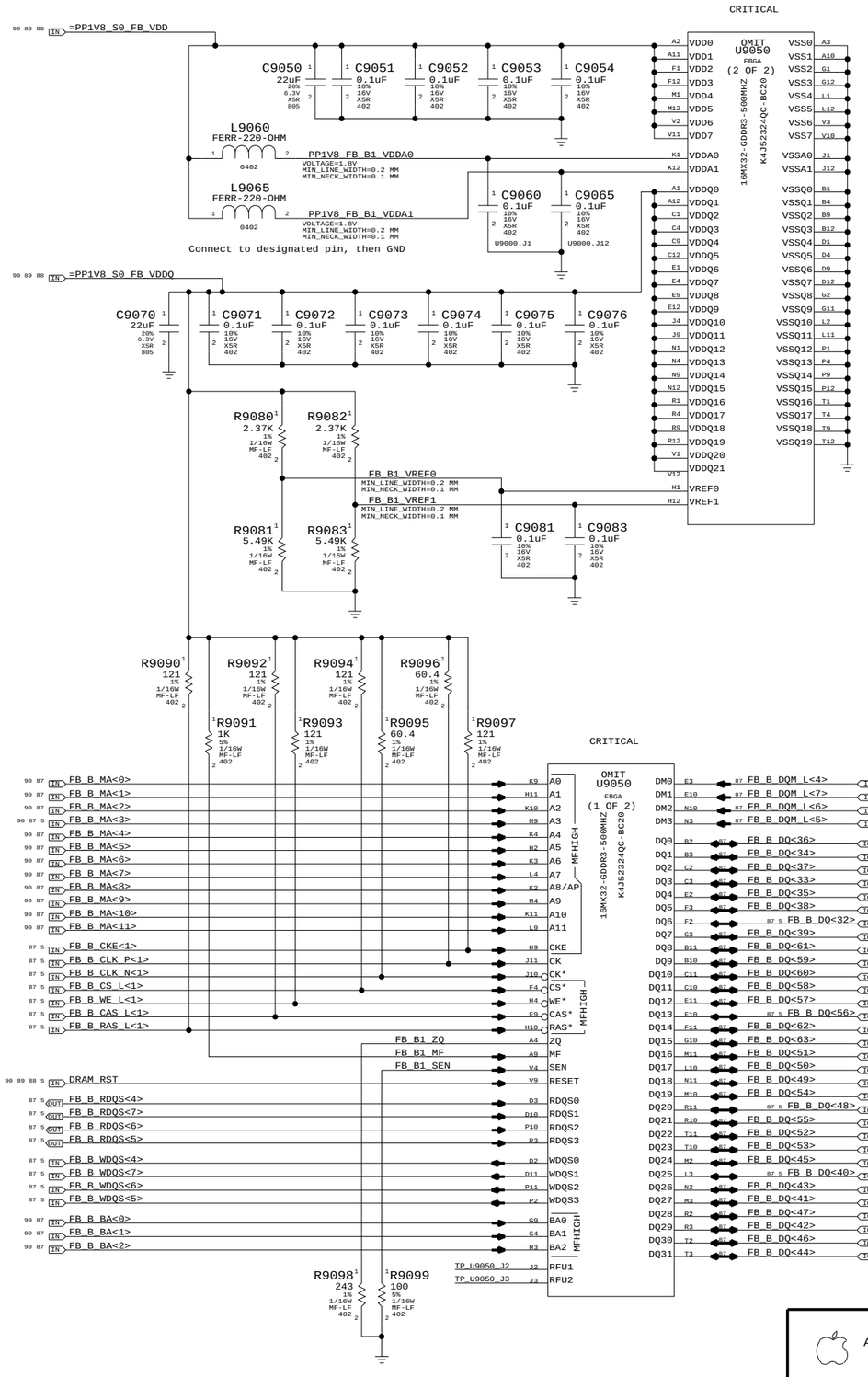
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	89	111





Page Notes

Power aliases required by this page:
- =PP1V8_S0_FB_VDD
- =PP1V8_S0_FB_VDDQ

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)

GDDR3 Frame Buffer B

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

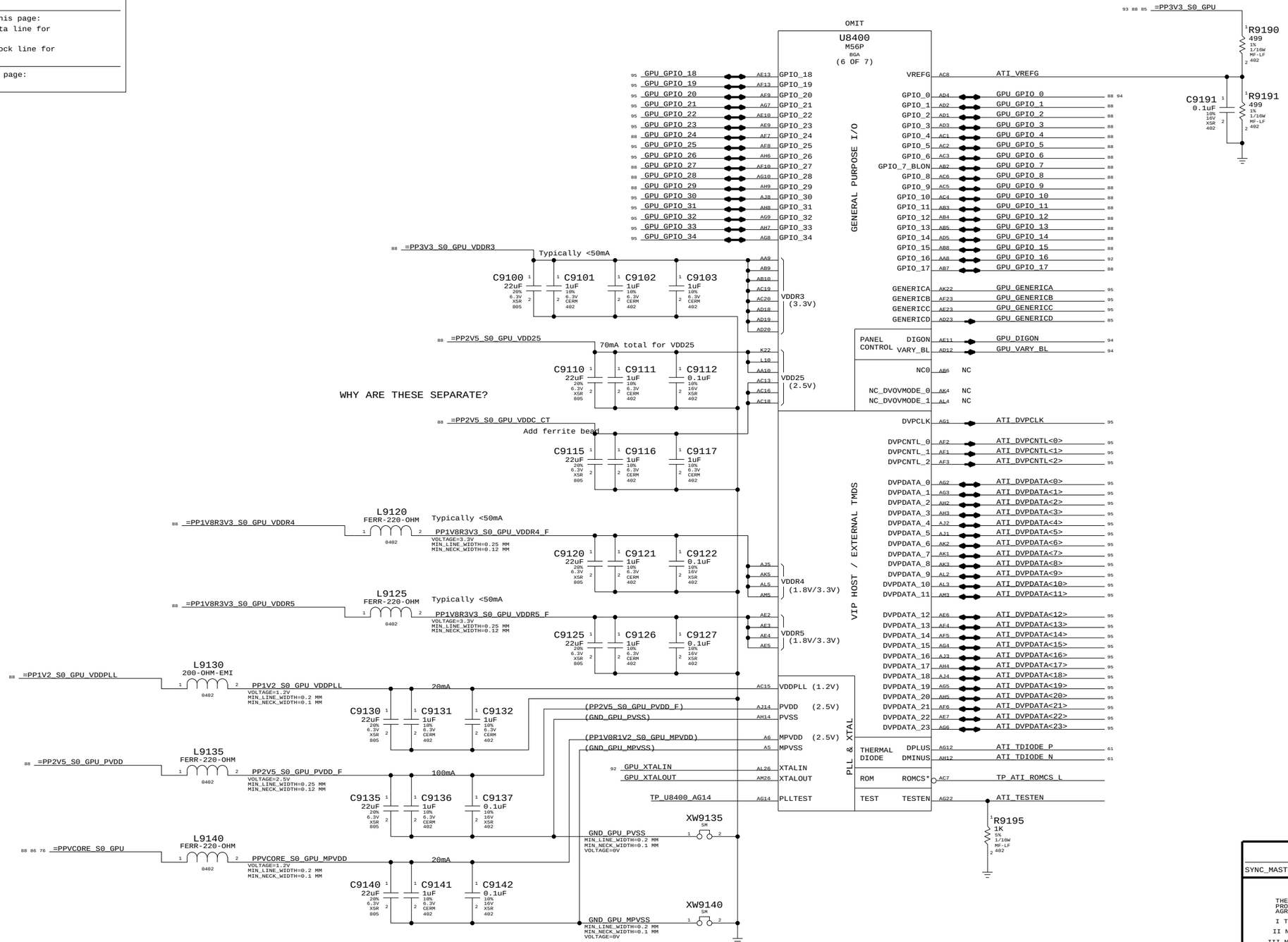
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 90 OF 111	

Page Notes

Power aliases required by this page:
- =PP3V3_GPU_GPIOS
- =PP2V5_PVDD
- =PP1V8_GPU_LVDS_PLL

Signal aliases required by this page:
- =I2C_GPU_TMDS_SDA - I2C data line for external TMDS transmitters
- =I2C_GPU_TMDS_SCL - I2C clock line for external TMDS transmitters

BOM options provided by this page:
(NONE)



ATI M56 GPIO/DVO/Misc

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

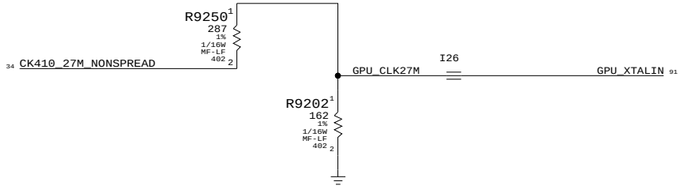
SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 91 OF 111	

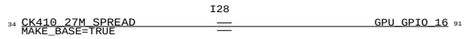
Page Notes

Power aliases required by this page:
- =PP3V3_GPU_CLOCKS
- =PPVIN_GPU_LVDDR_LDO
- =PP2V5_GPU_LVDDR_LDO
- =PP3V3_GPU_PWRSEQ
- =PP2V5_GPU_PWRSEQ
- =PP1V8_GPU_PWRSEQ
- =PP1V5_GPU_PWRSEQ

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
- GPU_SS
- GPU_LVDDR_2V8





GPU CLOCKS

SYNC_MASTER=BOZEMAN SYNC_DATE=05/21/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	92	111

Page Notes

Power aliases required by this page:
- =PP2V5_S0_GPU
- =PP1V8R2V5_S0_GPU_LVDDR

Signal aliases required by this page:
(NONE)

BOM options provided by this page:
(NONE)

Sum of peak currents on this page: 605mA

88 =PP2V5_S0_GPU

L9300 FERR-220-OHM 0402
PP2V5_S0_GPU_TPVDD — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.1 MM, VOLTAGE=2.5V
XW9300 SM — GND_GPU_TPVSS — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.1 MM, VOLTAGE=0V
20mA peak
C9300 22uF 20% 6.3V X5R 805
C9301 1uF 10% 6.3V CERM 402
C9302 1uF 10% 6.3V CERM 402

L9305 FERR-220-OHM 0402
PP2V5_S0_GPU_TXVDDR — MIN_LINE_WIDTH=0.3 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=2.5V
XW9305 SM — GND_GPU_TXVSSR — MIN_LINE_WIDTH=0.3 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=0V
150mA peak
C9305 22uF 20% 6.3V X5R 805
C9306 1uF 10% 6.3V CERM 402
C9307 0.1uF 10% 16V X5R 402

L9310 FERR-220-OHM 0402
PP2V5_S0_GPU_AVDD — MIN_LINE_WIDTH=0.25 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=2.5V
XW9310 SM — GND_GPU_AVSSN — MIN_LINE_WIDTH=0.25 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=0V
XW9314 SM — GND_GPU_AVSSQ — MIN_LINE_WIDTH=0.25 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=0V
65mA peak
C9310 22uF 20% 6.3V X5R 805
C9311 1uF 10% 6.3V CERM 402
C9312 0.1uF 10% 16V X5R 402

L9315 FERR-220-OHM 0402
PP2V5_S0_GPU_VDD1DI — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=2.5V
20mA peak
C9315 22uF 20% 6.3V X5R 805
C9316 1uF 10% 6.3V CERM 402
C9317 0.1uF 10% 16V X5R 402

L9320 FERR-220-OHM 0402
PP2V5_S0_GPU_A2VDD — MIN_LINE_WIDTH=0.3 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=2.5V
XW9320 SM — GND_GPU_A2VSSN — MIN_LINE_WIDTH=0.3 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=0V
XW9324 SM — GND_GPU_A2VSSQ — MIN_LINE_WIDTH=0.3 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=0V
130mA peak
C9320 22uF 20% 6.3V X5R 805
C9321 1uF 10% 6.3V CERM 402
C9322 0.1uF 10% 16V X5R 402

L9325 FERR-220-OHM 0402
PP2V5_S0_GPU_VDD2DI — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=2.5V
20mA peak
C9325 22uF 20% 6.3V X5R 805
C9326 1uF 10% 6.3V CERM 402
C9327 0.1uF 10% 16V X5R 402

L9330 FERR-220-OHM 0402
PP2V5_S0_GPU_LPVDD — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=2.5V
XW9330 SM — GND_GPU_LPVSS — MIN_LINE_WIDTH=0.2 MM, MIN_NECK_WIDTH=0.12 MM, VOLTAGE=0V
20mA peak
C9330 22uF 20% 6.3V X5R 805
C9331 1uF 10% 6.3V CERM 402
C9332 1uF 10% 6.3V CERM 402

L9345 FERR-220-OHM 0402
PP2V5_S0_GPU_LVDDR — MIN_LINE_WIDTH=0.35 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=2.5V
XW9345 SM — GND_GPU_LVSSR — MIN_LINE_WIDTH=0.35 MM, MIN_NECK_WIDTH=0.125 MM, VOLTAGE=0V
200mA peak
C9340 22uF 20% 6.3V X5R 805
C9345 22uF 20% 6.3V X5R 805
C9341 1uF 10% 6.3V CERM 402
C9342 0.1uF 10% 16V X5R 402
C9346 0.1uF 10% 16V X5R 402
C9347 0.1uF 10% 16V X5R 402

OMIT

U8400 M56P BGA (5 OF 7)

INTEGRATED TMDS
- AM8 TPVDD (2.5V)
- AL8 TPVSS
- AJ6 AK6 AL6 AM6 TXVDDR (2.5V)
- AJ7 AK7 AK8 AL7 AM7 TXVSSR
- AL25 AM25 AVDD (2.5V)
- AJ24 AK25 AVSS
- AK23 AVSSQ

DAC (CRT)
- AM23 VDD1DI (2.5V)
- AL23 VSS1DI
- 93 ATI_RSET — AL22 RSET

DAC2 (TV/CRT2)
- AL16 AM16 A2VDD (2.5V)
- AL17 AM17 A2VSS
- NC AL14 NC_A2VDDQ
- AK13 A2VSSQ
- AJ16 VDD2DI (2.5V)
- AJ17 VSS2DI
- 93 ATI_R2SET — AK14 R2SET

LVDS
- AE19 LVPVDD (2.5V)
- AE18 LVPVSS
- AC21 AC22 AD21 AD22 AE20 AE21 AE22 AE19 AE20 LVDDR (2.5V)
- AE17 AE18 AE21 AE22 AG17 AG19 AH17 AH19 AJ19 AK17 LVSSR

MONITOR IDENTIFICATION
- 97 GPU_HPD — AE11 HPD1

INTEGRATED TMDS
- TXCP AM9 — 97 TMDS_CLK_P — OUT
- TXCM AL9 — 97 TMDS_CLK_N — OUT
- TX0P AL10 — 97 TMDS_DATA_P<0> — OUT
- TX0M AK10 — 97 TMDS_DATA_N<0> — OUT
- TX1P AM11 — 97 TMDS_DATA_P<1> — OUT
- TX1M AL11 — 97 TMDS_DATA_N<1> — OUT
- TX2P AM12 — 97 TMDS_DATA_P<2> — OUT
- TX2M AL12 — 97 TMDS_DATA_N<2> — OUT
- TX3P AJ9 — 95 TMDS_DATA_P<3> — OUT
- TX3M AK9 — 95 TMDS_DATA_N<3> — OUT
- TX4P AJ11 — 95 TMDS_DATA_P<4> — OUT
- TX4M AK11 — 95 TMDS_DATA_N<4> — OUT
- TX5P AJ12 — 95 TMDS_DATA_P<5> — OUT
- TX5M AK12 — 95 TMDS_DATA_N<5> — OUT

DAC (CRT)
- R AK24 — 88 GPU_VGA_R — OUT
- G AM24 — 88 GPU_VGA_G — OUT
- B AL24 — 88 GPU_VGA_B — OUT
- HSYNC AJ23 — 88 GPU_VGA_HSYNC — OUT
- VSYNC AJ22 — 88 GPU_VGA_VSYNC — OUT

DAC2 (TV/CRT2)
- R2 AK15 — 97 GPU_R2 — OUT
- G2 AM15 — 97 GPU_G2 — OUT
- B2 AL15 — 97 GPU_B2 — OUT
- H2SYNC AF15 — 97 GPU_H2SYNC — OUT
- V2SYNC AG15 — 97 GPU_V2SYNC — OUT
- Y AJ15 — 88 GPU_TV_Y — OUT
- C AJ13 — 88 GPU_TV_C — OUT
- COMP AH15 — 88 GPU_TV_COMP — OUT

LVDS
- TXCLK_UP AJ21 — 94 LVDS_U_CLK_P — OUT
- TXCLK_UN AK21 — 94 LVDS_U_CLK_N — OUT
- TXOUT_U0P AG18 — 94 LVDS_U_DATA_P<0> — OUT
- TXOUT_U0N AH18 — 94 LVDS_U_DATA_N<0> — OUT
- TXOUT_U1P AK20 — 94 LVDS_U_DATA_P<1> — OUT
- TXOUT_U1N AJ20 — 94 LVDS_U_DATA_N<1> — OUT
- TXOUT_U2P AG20 — 94 LVDS_U_DATA_P<2> — OUT
- TXOUT_U2N AH20 — 94 LVDS_U_DATA_N<2> — OUT
- TXOUT_U3P AH21 — 94 LVDS_U_DATA_P<3> — OUT
- TXOUT_U3N AG21 — 94 LVDS_U_DATA_N<3> — OUT
- TXCLK_LP AM18 — 94 93 LVDS_L_CLK_P — OUT
- TXCLK_LN AL18 — 94 93 LVDS_L_CLK_N — OUT
- TXOUT_L0P AL19 — 94 93 LVDS_L_DATA_P<0> — OUT
- TXOUT_L0N AK19 — 94 93 LVDS_L_DATA_N<0> — OUT
- TXOUT_L1P AM20 — 94 93 LVDS_L_DATA_P<1> — OUT
- TXOUT_L1N AL20 — 94 93 LVDS_L_DATA_N<1> — OUT
- TXOUT_L2P AM21 — 94 93 LVDS_L_DATA_P<2> — OUT
- TXOUT_L2N AL21 — 94 93 LVDS_L_DATA_N<2> — OUT
- TXOUT_L3P AJ18 — 94 LVDS_L_DATA_P<3> — OUT
- TXOUT_L3N AK18 — 94 LVDS_L_DATA_N<3> — OUT

MONITOR IDENTIFICATION
- DDC1CLK AH23 — 97 GPU_DDC_A_CLK — TO
- DDC1DATA AH22 — 97 GPU_DDC_A_DATA — TO
- DDC2CLK AG13 — 88 GPU_DDC_B_CLK — TO
- DDC2DATA AH13 — 88 GPU_DDC_B_DATA — TO
- DDC3CLK AF12 — 94 93 GPU_DDC_C_CLK — TO
- DDC3DATA AE12 — 94 93 GPU_DDC_C_DATA — TO

TERMINATION FOR TMDS USAGE OF LVDS PINS
PLACE CLOSE TO GPU (U8400)

94 93 LVDS_L_CLK_P — TMDS_PANEL R9370 100 5% 1/10W MF-LF 402
94 93 LVDS_L_CLK_N
94 93 LVDS_L_DATA_P<0> — TMDS_PANEL R9371 100 5% 1/10W MF-LF 402
94 93 LVDS_L_DATA_N<0>
94 93 LVDS_L_DATA_P<1> — TMDS_PANEL R9372 100 5% 1/10W MF-LF 402
94 93 LVDS_L_DATA_N<1>
94 93 LVDS_L_DATA_P<2> — TMDS_PANEL R9373 100 5% 1/10W MF-LF 402
94 93 LVDS_L_DATA_N<2>

Composite/S-Video	VGA	Component
Y	G	Y
C	R	Pr
Comp	B	Pb

91 88 85 =PP3V3_S0_GPU

R9390 4.7K 5% 1/16W MF-LF 402
R9391 4.7K 5% 1/16W MF-LF 402
94 93 GPU_DDC_C_CLK
94 93 GPU_DDC_C_DATA

ATI_RSET 93 — R9350 499 1% 1/16W MF-LF 402
ATI_R2SET 93 — R9351 715 1% 1/16W MF-LF 402

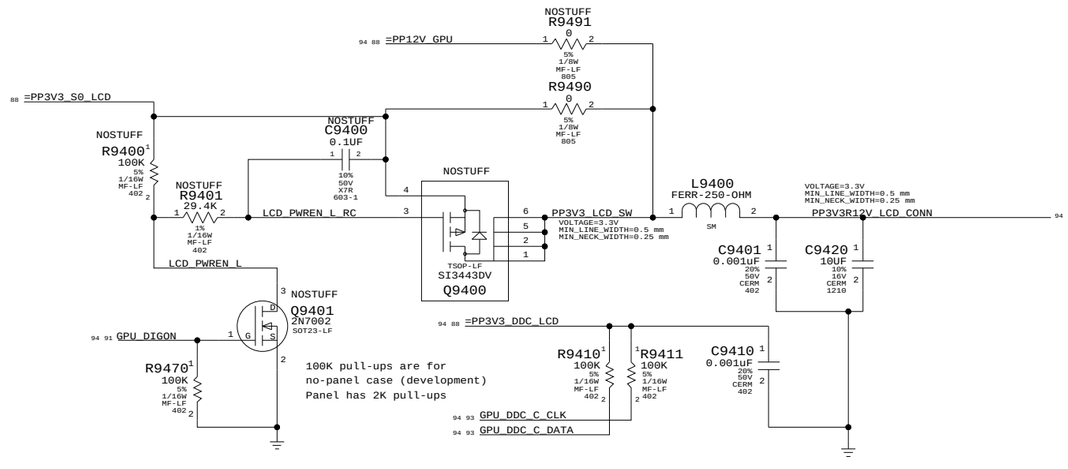
ATI M56 Video Interfaces

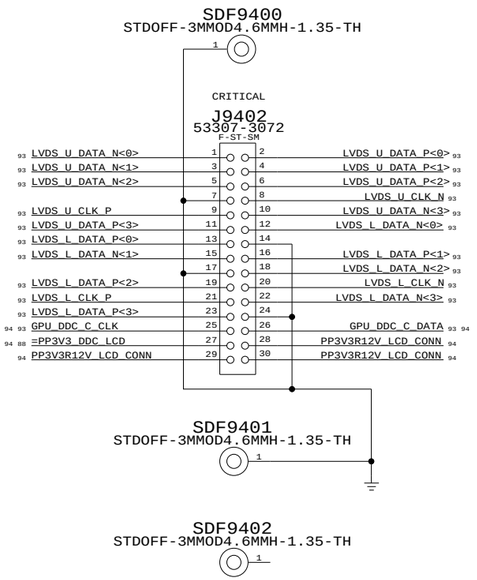
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 93 OF 111	

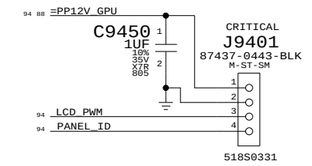
LCD (LVDS) INTERFACE

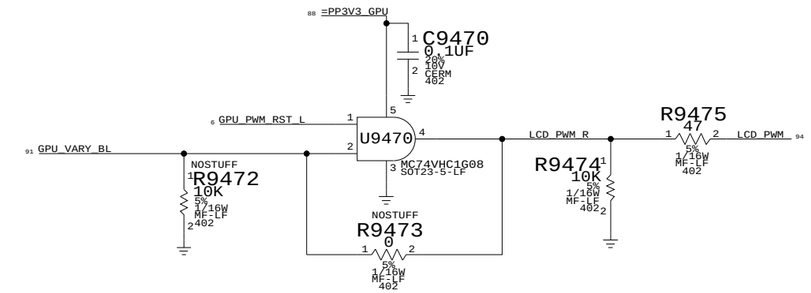




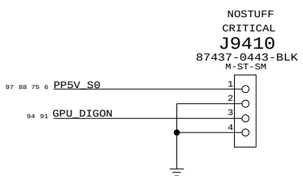
NOTE: 3RD STANDOFF FOR LVDS->TMDS CONVERTER BOARD

INVERTER INTERFACE





GATE TO PREVENT LEAKAGE ONTO PWM
MIGHT BE ABLE TO BYPASS IF SMC DRIVES SIGNAL



Internal Display Conns

SYNC_MASTER=BOZEMAN SYNC_DATE=04/27/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	94	111

TP_TMDS_DATA_P<3>	MAKE_BASE=TRUE	TMDS_DATA_P<3>	93
TP_TMDS_DATA_N<3>	MAKE_BASE=TRUE	TMDS_DATA_N<3>	93
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TP_TMDS_DATA_N<5>	MAKE_BASE=TRUE	TMDS_DATA_N<5>	93

TP_ATI_DVPDATA<23>	MAKE_BASE=TRUE	ATI_DVPDATA<23>	91
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TP_ATI_DVPCNTL<0>	MAKE_BASE=TRUE	ATI_DVPCNTL<0>	91
TP_ATI_DVPCNTL<1>	MAKE_BASE=TRUE	ATI_DVPCNTL<1>	91
TP_ATI_DVPCNTL<2>	MAKE_BASE=TRUE	ATI_DVPCNTL<2>	91

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TP_GPU_GPIO<21>	MAKE_BASE=TRUE	GPU_GPIO_21	91
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M56 TPS

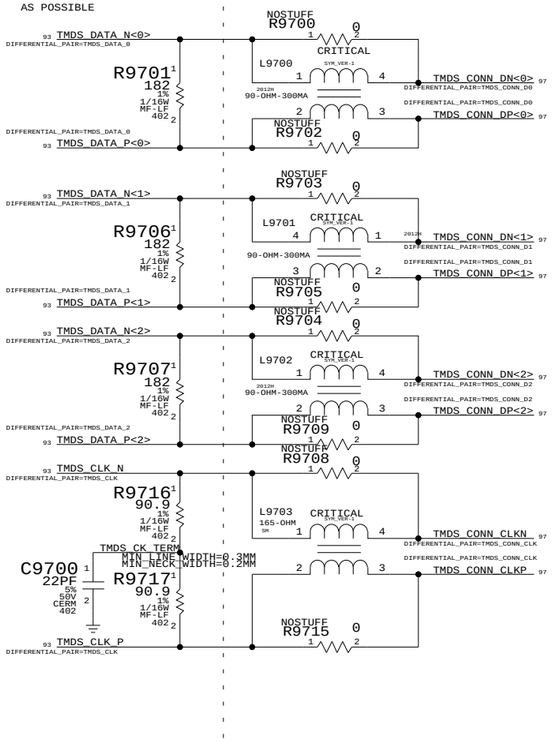
APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09
SCALE: NONE	SHT 95 OF 111	

DVI INTERFACE

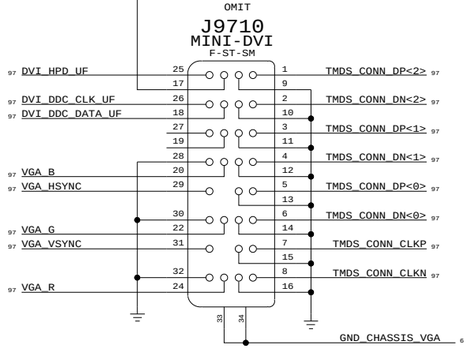
PLACE LEFT SIDE
AS CLOSE TO GPU (U8400)
AS POSSIBLE

PLACE FILTER CLOSE
TO TMDS CONNECTOR



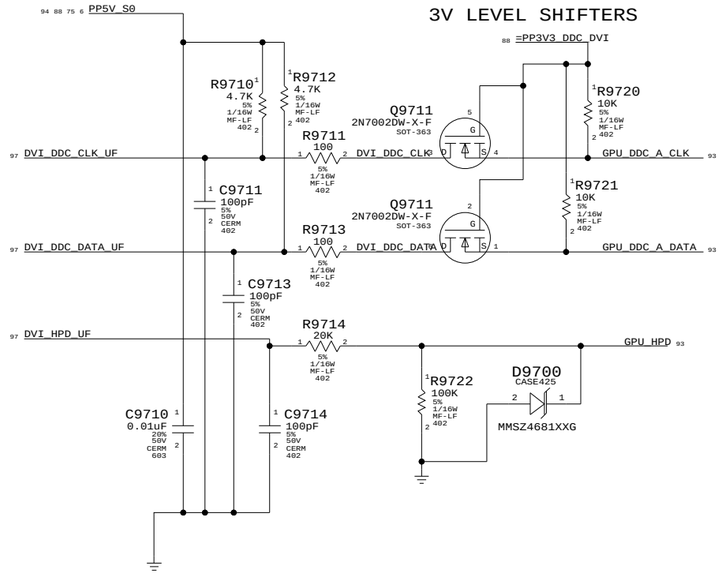
DVI DDC CURRENT LIMIT

(55mA requirement per DVI spec)



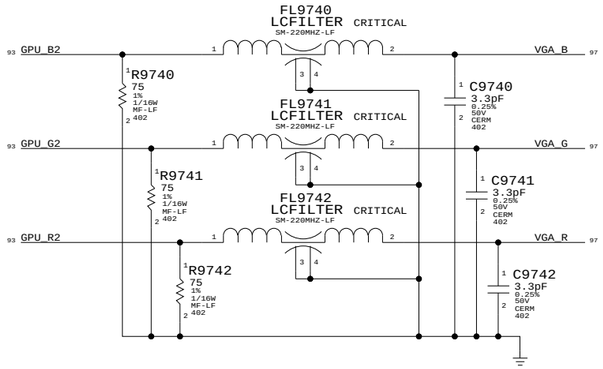
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514S0114	1	CONN,32-P MINI-DVI RCPT MG3,LF	J9710	CRITICAL	17_INCH_LCD
514S0116	1	CONN,32-P MINI-DVI RCPT MG3,LF	J9710	CRITICAL	20_INCH_LCD

3V LEVEL SHIFTERS

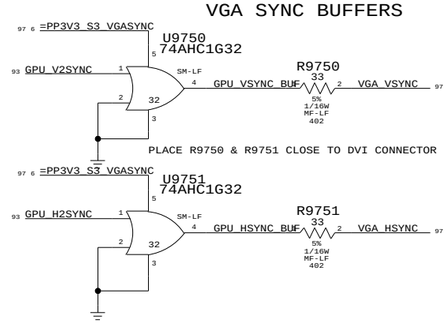


ANALOG FILTERING

PLACE CLOSE TO CONNECTOR



VGA SYNC BUFFERS



External Display Conns

SYNC_MASTER=BOZEMAN SYNC_DATE=04/14/2005

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	97	111

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Title:        Basenet Report
Design:       m38
Date:         Dec 8 15:02:55 2005

Base nets and synonyms for m38_lib.M38(@m38_lib.m38(sch_1))
Base Signal          Synonyms                             Location([Zone][dir])

0V7_REF              0V7_REF - @m38_lib.M38               79A3
1V0_REF              1V0_REF - @m38_lib.M38               79A5 80A5 81A5 81B3
1V2REG_ITH           1V2REG_ITH - @m38_lib.M38            77B5
1V2REG_ITH_RC        1V2REG_ITH_RC - @m38_lib.M38         77B6
1V2REG_MODE          1V2REG_MODE - @m38_lib.M38           77B5
1V2REG_PGOOD         1V2REG_PGOOD - @m38_lib.M38          77B4
1V2REG_RT            1V2REG_RT - @m38_lib.M38             77B5
1V2REG_RUNSS         1V2REG_RUNSS - @m38_lib.M38          77B5
1V2REG_SGND          1V2REG_SGND - @m38_lib.M38           77A7
1V2REG_SW            1V2REG_SW - @m38_lib.M38             77B4
1V2REG_VFB           1V2REG_VFB - @m38_lib.M38            77B5
1V2REG_VFB_DIV       1V2REG_VFB_DIV - @m38_lib.M38        77A5
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1V05REG_NB_BOOT_R    1V05REG_NB_BOOT_R - @m38_lib.M38     81C5
1V05REG_NB_COMP      1V05REG_NB_COMP - @m38_lib.M38       81C6
1V05REG_NB_COMP_R    1V05REG_NB_COMP_R - @m38_lib.M38     81C5
1V05REG_NB_FB        1V05REG_NB_FB - @m38_lib.M38         81C5
1V05REG_NB_FB_R      1V05REG_NB_FB_R - @m38_lib.M38       81C3
1V05REG_NB_FS_DIS    1V05REG_NB_FS_DIS - @m38_lib.M38     81C7
1V05REG_NB_GND       1V05REG_NB_GND - @m38_lib.M38        81B7
1V05REG_NB_LDO_DR    1V05REG_NB_LDO_DR - @m38_lib.M38     81C7
1V05REG_NB_LDO_FB    1V05REG_NB_LDO_FB - @m38_lib.M38     81C7
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1V05REG_NB_PVCC5     1V05REG_NB_PVCC5 - @m38_lib.M38      81D7
1V05REG_NB_SNUB      1V05REG_NB_SNUB - @m38_lib.M38       81C4
1V05REG_NB_SWITCHNOD 1V05REG_NB_SWITCHNODE -               81C5
E                    @m38_lib.M38
1V05REG_NB_UGATE     1V05REG_NB_UGATE - @m38_lib.M38      81D6
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1V5REG_PCIE_LDO_FB   1V5REG_PCIE_LDO_FB - @m38_lib.M38    80C7
1V5REG_PCIE_LGATE    1V5REG_PCIE_LGATE - @m38_lib.M38     80C6
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1V5REG_PCIE_SWITCHNO 1V5REG_PCIE_SWITCHNODE -              80C5
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1V8REG_DDR_FB        1V8REG_DDR_FB - @m38_lib.M38         79C5
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E                    @m38_lib.M38
1V8REG_DDR_UGATE     1V8REG_DDR_UGATE - @m38_lib.M38      79D6
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2V5REG_RT            2V5REG_RT - @m38_lib.M38             77C5
2V5REG_SGND          2V5REG_SGND - @m38_lib.M38           77C4
2V5REG_SW            2V5REG_SW - @m38_lib.M38             77C4
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5V_REG_IN            5V_REG_IN - @m38_lib.M38             68A4
=I2C_HD_TEMP_SCL     =I2C_HD_TEMP_SCL - @m38_lib.M38      59C1 66B6
                     =I2C_ODD_TEMP_SCL - @m38_lib.M38     59C1 66B4
                     =SMB_THRM_CLK - @m38_lib.M38         10C3 59C1
                     SMB_B_S0_CLK - @m38_lib.M38          58B5 59C2 59D1
                     SMB_GPU_NB_THRM_CLK - @m38_lib.M38   59B1 61C3
                     SMB_B_S0_CLK - @m38_lib.M38          58B5 59C2 59D1
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                     SMB_GPU_NB_THRM_DATA - @m38_lib.M38 59B1 61C3
                     SMB_B_S0_DATA - @m38_lib.M38         58B5 59C2 59D1
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                     =SMB_AIRPORT_CLK - @m38_lib.M38      27D6 53B4
                     SMB_CK410_CLK - @m38_lib.M38         27D6 33B6
                     SMB_CLK - @m38_lib.M38               23D5 27B7 27D7
                     SMB_CK410_CLK - @m38_lib.M38         27D6 33B6
                     =SMB_AIRPORT_CLK - @m38_lib.M38      27D6 53B4
=I2C_MEM_SDA         =I2C_MEM_SDA - @m38_lib.M38          27D6 28A6 29A6
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                     SMB_DATA - @m38_lib.M38              23D5 27B7 27D7
                     SMB_CK410_DATA - @m38_lib.M38        27D6 33B6

                     =SMB_AIRPORT_DATA - @m38_lib.M38     27C6 53B4
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                     =PNVOUT_S0_GPUBBN_REG -              85B1 88C6
                     @m38_lib.M38
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                     PP0V9_S0 - @m38_lib.M38              6D6 79A3
                     =PP0V9_S0_MEM_TERM - @m38_lib.M38    6D4 30D4
=PP1V2_S0_GPU_VDDPLL =PP1V2_S0_GPU_VDDPLL - @m38_lib.M38 88C6 91B8
                     =PPVIO_S0_PCIE - @m38_lib.M38        84A2 88C6
                     =PP1V2_S0_REG - @m38_lib.M38         77A1 88C6
                     =PP1V2_S0_PCIE_GPU_PVDD -            84C8 88D6
                     @m38_lib.M38
                     =PP1V2_S0_PCIE_GPU_VDDR -            84C8 88D6
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                     PP1V2_GPU_IO_S0 - @m38_lib.M38       88D8
                     =PPVIO_S0_PCIE - @m38_lib.M38        84A2 88C6
                     =PP1V2_S0_REG - @m38_lib.M38         77A1 88C6
                     =PP1V2_S0_PCIE_GPU_VDDR -            84C8 88D6
                     @m38_lib.M38
                     =PP1V2_S0_PCIE_GPU_PVDD -            84C8 88D6
                     @m38_lib.M38
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                     PP1V2_S3_ENET - @m38_lib.M38         42B5
=PP1V2_S3_LAN        =PP1V2_S3_LAN - @m38_lib.M38         6D3 42B8
                     PP1V2_S3 - @m38_lib.M38              6D4 77B2
=PP1V8_S0_FB_VDD     =PP1V8_S0_FB_VDD - @m38_lib.M38      88B6 89D5 89D8 90D5 90D8
                     =PP1V8_S0_FB_VDDQ - @m38_lib.M38     88B6 89D5 89D8 90D5 90D8
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                                                          88B6
                     PP1V8_S0 - @m38_lib.M38              78B2 88B6
                     =PP1V8R3V3_S0_GPU_VDDR5 -            88B6 91B7
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                     PP1V8_S0 - @m38_lib.M38              78B2 88B6
                     PP1V8R2V0_S0_FB_GPU - @m38_lib.M38   88B8
                     =PP1V8_S0_FB_VDDQ - @m38_lib.M38     88B6 89D5 89D8 90D5 90D8
                     =PP1V8R3V3_S0_GPU_VDDR5 -            88B6 91B7
                     @m38_lib.M38
                     =PP1V8R3V3_S0_GPU_VDDR4 -            88B6 91B7
                     @m38_lib.M38
                     =PP1V8R2V0_S0_FB_GPU - @m38_lib.M38 86B8 87A5 87A8 87B5 87B8
                                                          88B6
=PP1V8_S3_MEM_NB     =PP1V8_S3_MEM_NB - @m38_lib.M38      6D3 6D3 14C2 16B6 19B8
                                                          19D7
                     =PP1V8_S0_MEMVTT - @m38_lib.M38      6D3 31C7
                     PP1V8_S3 - @m38_lib.M38              5D2 6D4 79C2
                     =PP1V8_S3_MEM - @m38_lib.M38         5C4 6D3 28B2 28C8 28D3
                                                          28D6 29B2 29D3 29D6
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                     =PP1V8_S3_MEM - @m38_lib.M38         5C4 6D3 28B2 28C8 28D3
                                                          28D6 29B2 29D3 29D6
                     =PP1V8_S0_MEMVTT - @m38_lib.M38      6D3 31C7
=PP2V5_S0_NB_VCCA_3G =PP2V5_S0_NB_VCCA_3GBG -              6B4 17D6 19A8 19C7
BG                   @m38_lib.M38
                     =PP2V5_S0_GPU - @m38_lib.M38         88B6 93C8
                     PP2V5_S0 - @m38_lib.M38              6B6 77C3 88C8
                     =PP2V5_S0_GPU_VDD25 - @m38_lib.M38   88B6 91C6
                     =PP2V5_S0_GPU_VDDC_CT -              88B6 91C6
                     @m38_lib.M38
                     =PP2V5_S0_GPU_PVDD - @m38_lib.M38    88B6 91A8
                     PP2V5_S0 - @m38_lib.M38              6B6 77C3 88C8
                     =PP2V5_S0_GPU_VDDC_CT -              88B6 91C6
                     @m38_lib.M38
                     =PP2V5_S0_GPU_VDD25 - @m38_lib.M38   88B6 91C6
                     =PP2V5_S0_GPU_PVDD - @m38_lib.M38    88B6 91A8
                     =PP2V5_S0_GPU - @m38_lib.M38         88B6 93C8
=PP2V5_S3_ENET       =PP2V5_S3_ENET - @m38_lib.M38        41D5 41D6 42C4
                     PP2V5_S3_ENET - @m38_lib.M38         42C4 43D8
=PP3V3_S0_NB         =PP3V3_S0_NB - @m38_lib.M38          6A4 14C7 14D6 19C7 20A4
                                                          20B4 20B4
                     =PP3V3_DDC_DVI - @m38_lib.M38        88C6 97D2
                     =PP3V3_DDC_LCD - @m38_lib.M38        88C6 94A7 94C7
                     =PP3V3_GPU - @m38_lib.M38            88C6 94B3
                     PP3V3_S0 - @m38_lib.M38              6A7 6B6 6D8 10D2 26B7
                                                          26C6 41D8 59D3 61C3 76D6
                                                          88C8
                     =PP3V3_S0_GPUBBCTL - @m38_lib.M38    85A7 88C6
                     =PP3V3_S0_GPUBBN - @m38_lib.M38      85B5 88C6
                     =PP3V3_S0_GPU - @m38_lib.M38         85B3 88C6 91D2 93A1
                     =PP3V3_S0_GPU_VDDR3 - @m38_lib.M38   88C6 88D3 91C6
                     =PP3V3_S0_LCD - @m38_lib.M38         88C6 94C8
                     =PP3V3_S0_GPUBBP - @m38_lib.M38      85B8 88C6
                     =PP3V3_S0_2V5REG - @m38_lib.M38      6A4 77D6
                     =PP3V3_S0_AIRPORT - @m38_lib.M38     6A4 53C2
                     =PP3V3_S0_PCI - @m38_lib.M38         6A4 44D5
                     =PP3V3_S0_AUDIO - @m38_lib.M38       6A4 68A6 68D7 72A6 72C8
                                                          72D5 73B8 73C2 74B5 74C5
                                                          74D5
                     =PP3V3_S0_IMVP - @m38_lib.M38        6A4 75D8
                     =PP3V3_S0_CK410 - @m38_lib.M38       6A4 33C8 33D3 33D8 34D4
                     =PPSPD_S0_MEM - @m38_lib.M38         6A4 28A7 29A3 29A7
                     =PP3V3_S0_TPM - @m38_lib.M38         6A4 67C7 67D4
                     =PP3V3_S0_SB_3V3_1V5_VCCHDA -        6A4 24C3 25C4
                     @m38_lib.M38
                     =PP3V3_S0_ODD_TSENS - @m38_lib.M38   6A4 66B4
                     =PP3V3_S0_HD_TSENS - @m38_lib.M38    6B4 66B5
                     =PP3V3_S0_FAN - @m38_lib.M38         6B4 59A8 59B7 65B7 65C7
                                                          66C7
                     =PP3V3_S0_PATA - @m38_lib.M38        6B4 38D3
                     =PP3V3_S0_SB_PM - @m38_lib.M38       6B4 26D4
                     =PP3V3_S0_SB_PCI - @m38_lib.M38      6B4 26D1
                     =PP3V3_S0_SB_VCC3_3_IDE -            6B4 24C3 25B3
                     @m38_lib.M38
                     =PP3V3_S0_SB_VCC3_3_PCI -            6B4 24B3 25A3
                     @m38_lib.M38
                     =PP3V3_S0_SB_VCC3_3 - @m38_lib.M38   6B4 24B5 24B5 25B8 25C6
                     =PP3V3_S0_NB_VCC_HV - @m38_lib.M38   6B4 17C6 19A8 19C7
                     =PP3V3_S0_SB_GPIO - @m38_lib.M38     6B4 21C3 21D3 23B3 23D5
                     =PP3V3_S0_SB_VCCLAN3_3 -             6A4 24D3 25D3
                     @m38_lib.M38
                     =PP3V3_S0_SB - @m38_lib.M38          6B4 22B5 25D8
                     PP3V3_S0 - @m38_lib.M38              6A7 6B6 6D8 10D2 26B7
                                                          26C6 41D8 59D3 61C3 76D6
                                                          88C8
                     =PPSPD_S0_MEM - @m38_lib.M38         6A4 28A7 29A3 29A7
                     =PP3V3_S0_TPM - @m38_lib.M38         6A4 67C7 67D4
                     =PP3V3_S0_SB_VCCLAN3_3 -             6A4 24D3 25D3
                     @m38_lib.M38
                     =PP3V3_S0_SB_VCC3_3_PCI -            6B4 24B3 25A3

                     @m38_lib.M38
                     =PP3V3_S0_SB_VCC3_3_IDE -            6B4 24C3 25B3
                     @m38_lib.M38
                     =PP3V3_S0_SB_VCC3_3 - @m38_lib.M38   6B4 24B5 24B5 25B8 25C6
                     =PP3V3_S0_SB_PM - @m38_lib.M38       6B4 26D4
                     =PP3V3_S0_SB_PCI - @m38_lib.M38      6B4 26D1
                     =PP3V3_S0_SB_GPIO - @m38_lib.M38     6B4 21C3 21D3 23B3 23D5
                     =PP3V3_S0_SB_3V3_1V5_VCCHDA -        6A4 24C3 25C4
                     @m38_lib.M38
                     =PP3V3_S0_SB - @m38_lib.M38          6B4 22B5 25D8
                     =PP3V3_S0_PCI - @m38_lib.M38         6A4 44D5
                     =PP3V3_S0_PATA - @m38_lib.M38        6B4 38D3
                     =PP3V3_S0_ODD_TSENS - @m38_lib.M38   6A4 66B4
                     =PP3V3_S0_NB_VCC_HV - @m38_lib.M38   6B4 17C6 19A8 19C7
                     =PP3V3_S0_NB_TVDAC - @m38_lib.M38    6B4 19C7
                     =PP3V3_S0_NB_PM - @m38_lib.M38       6B4
                     =PP3V3_S0_LCD - @m38_lib.M38         88C6 94C8
                     =PP3V3_S0_IMVP - @m38_lib.M38        6A4 75D8
                     =PP3V3_S0_HD_TSENS - @m38_lib.M38    6B4 66B5
                     =PP3V3_S0_GPU_CLOCKS - @m38_lib.M38 88C6
                     =PP3V3_S0_GPUBBP - @m38_lib.M38      85B8 88C6
                     =PP3V3_S0_GPUBBN - @m38_lib.M38      85B5 88C6
                     =PP3V3_S0_GPUBBCTL - @m38_lib.M38    85A7 88C6
                     =PP3V3_S0_GPU - @m38_lib.M38         85B3 88C6 91D2 93A1
                     =PP3V3_S0_FAN - @m38_lib.M38         6B4 59A8 59B7 65B7 65C7
                                                          66C7
                     =PP3V3_S0_CK410 - @m38_lib.M38       6A4 33C8 33D3 33D8 34D4
                     =PP3V3_S0_AUDIO - @m38_lib.M38       6A4 68A6 68D7 72A6 72C8
                                                          72D5 73B8 73C2 74B5 74C5
                                                          74D5
                     =PP3V3_S0_AIRPORT - @m38_lib.M38     6A4 53C2
                     =PP3V3_S0_2V5REG - @m38_lib.M38      6A4 77D6
                     =PP3V3_GPU - @m38_lib.M38            88C6 94B3
                     =PP3V3_DDC_LCD - @m38_lib.M38        88C6 94A7 94C7
                     =PP3V3_DDC_DVI - @m38_lib.M38        88C6 97D2
=PP3V3_S3_1V2REG     =PP3V3_S3_1V2REG - @m38_lib.M38      6D3 77B7
                     =PP3V3_S3_USB - @m38_lib.M38         6C3 49C5
                     =PP3V3_S3_VGASYNC - @m38_lib.M38     6C3 97A4 97B4
                     PP3V3_S3 - @m38_lib.M38              6A7 6D4 53C4 59C8 59D3
                                                          83B3
                     =PP3V3_S3_BT - @m38_lib.M38          6D3 47B3
                     =PP3V3_S3_TPM - @m38_lib.M38         6D3 67C2
                     =PP3V3_S3_ENET - @m38_lib.M38        6D3 41A5 41B3 41C3 41D6
                                                          41D8 42D3 42D8 43D2
                     PP3V3_S3 - @m38_lib.M38              6A7 6D4 53C4 59C8 59D3
                                                          83B3
                     =PP3V3_S3_VGASYNC - @m38_lib.M38     6C3 97A4 97B4
                     =PP3V3_S3_USB - @m38_lib.M38         6C3 49C5
                     =PP3V3_S3_TPM - @m38_lib.M38         6D3 67C2
                     =PP3V3_S3_ENET - @m38_lib.M38        6D3 41A5 41B3 41C3 41D6
                                                          41D8 42D3 42D8 43D2
                     =PP3V3_S3_BT - @m38_lib.M38          6D3 47B3
=PP3V3_S5_DEBUG      =PP3V3_S5_DEBUG - @m38_lib.M38       6D1 60D6
                     =PP3V3_S5_ROM - @m38_lib.M38         6D1 63D4
                     PP3V3_S5 - @m38_lib.M38              5D2 6C8 6D2 6D8 6D8 26C1
                                                          26C4 26C4 59A8 65B7 65D7
                                                          66D7 76D2 76D4 77B8 77C7
                                                          77C8 77C8 77D8 79A3 79A5
                                                          79B3 80A5 80B3 81A5 81A5
                                                          83C3
                     =PP3V3_S5_SMC - @m38_lib.M38         6D1 58C2 58D3 58D4 59A4
                                                          59A5 59C4 59D3 59D8
                     =PP3V3_S5_FW - @m38_lib.M38          6D1 44A6 44B2 44B7 44D5
                                                          44D7 45D6 46A8
                     =PP3V3_S5_SB_IO - @m38_lib.M38       6D1 22C6 27C6
                     =PP3V3_S5_SB_3V3_1V5_VCCSUSHDA -     6D1 24C3
                     @m38_lib.M38
                     =PP3V3_S5_SB_VCCSUS3_3_USB -         6D1 24B3 25D1
                     @m38_lib.M38
                     =PP3V3_S5_SB_VCCSUS3_3 -             6D1 24A5 24B3 25B6 25D1
                     @m38_lib.M38
                     =PP3V3_S5_SB_PM - @m38_lib.M38       6D1 11B5 23D1
                     =PP3V3_S5_SB_USB - @m38_lib.M38      6D1 22D8
                     =PP3V3_S5_SB - @m38_lib.M38          6D1 23A7 23B3 23B7 23D4
                                                          23D8 25C8 26D8
                     PP3V3_S5 - @m38_lib.M38              5D2 6C8 6D2 6D8 6D8 26C1
                                                          26C4 26C4 59A8 65B7 65D7
                                                          66D7 76D2 76D4 77B8 77C7
                                                          77C8 77C8 77D8 79A3 79A5
                                                          79B3 80A5 80B3 81A5 81A5
                                                          83C3
                     =PP3V3_S5_SMC - @m38_lib.M38         6D1 58C2 58D3 58D4 59A4
                                                          59A5 59C4 59D3 59D8
                     =PP3V3_S5_SB_VCCSUS3_3_USB -         6D1 24B3 25D1
                     @m38_lib.M38
                     =PP3V3_S5_SB_VCCSUS3_3 -             6D1 24A5 24B3 25B6 25D1
                     @m38_lib.M38
                     =PP3V3_S5_SB_USB - @m38_lib.M38      6D1 22D8
                     =PP3V3_S5_SB_PM - @m38_lib.M38       6D1 11B5 23D1
                     =PP3V3_S5_SB_IO - @m38_lib.M38       6D1 22C6 27C6
                     =PP3V3_S5_SB_3V3_1V5_VCCSUSHDA -     6D1 24C3
                     @m38_lib.M38
                     =PP3V3_S5_SB - @m38_lib.M38          6D1 23A7 23B3 23B7 23D4
                                                          23D8 25C8 26D8
                     =PP3V3_S5_ROM - @m38_lib.M38         6D1 63D4
                     =PP3V3_S5_FW - @m38_lib.M38          6D1 44A6 44B2 44B7 44D5
                                                          44D7 45D6 46A8
=PP5V_S0_AUDIO       =PP5V_S0_AUDIO - @m38_lib.M38        6A4 68A6
                     PP5V_S0_AUDIO - @m38_lib.M38         6A5
=PP5V_S0_DEBUG       =PP5V_S0_DEBUG - @m38_lib.M38        6A4 60C6
                     =PP5V_S0_DVI_DDC - @m38_lib.M38      88A6 97D6
                     =PP5V_S0_GPUISENS - @m38_lib.M38     85D2 88A6
                     PP5V_S0 - @m38_lib.M38               6A6 6D8 75D7 88B8 94A4
                                                          97D3
                     =PP5V_S0_GPUBBCTL - @m38_lib.M38     85A6 88B6
                     =PP5V_S0_SB - @m38_lib.M38           6A4 25D8
                     =PP5V_S0_PATA - @m38_lib.M38         6A4 38C4 38D3
                     PP5V_S0 - @m38_lib.M38               6A6 6D8 75D7 88B8 94A4
                                                          97D3
                     =PP5V_S0_SB - @m38_lib.M38           6A4 25D8
                     =PP5V_S0_PATA - @m38_lib.M38         6A4 38C4 38D3
                     =PP5V_S0_GPUISENS - @m38_lib.M38     85D2 88A6
                     =PP5V_S0_GPUBBCTL - @m38_lib.M38     85A6 88B6
                     =PP5V_S0_DVI_DDC - @m38_lib.M38      88A6 97D6
=PP5V_S0_GPUVCORE    =PP5V_S0_GPUVCORE - @m38_lib.M38     85D7 88D6
                     GPUVCORE_VCC - @m38_lib.M38          88D6
=PP5V_S0_MEMVTT      =PP5V_S0_MEMVTT - @m38_lib.M38       6C3 31C6
                     PP5V_S3 - @m38_lib.M38               6C4 59D6 83C3
                     =PP5V_S3_BNDI - @m38_lib.M38         6C3 47D4
                     =PP5V_S3_USB - @m38_lib.M38          6C3 47C8
                     PP5V_S3 - @m38_lib.M38               6C4 59D6 83C3
                     =PP5V_S3_USB - @m38_lib.M38          6C3 47C8
                     =PP5V_S3_BNDI - @m38_lib.M38         6C3 47D4
=PP5V_S5_SB          =PP5V_S5_SB - @m38_lib.M38           6D1 25C8

                     PP5V_S5 - @m38_lib.M38               5D2 6A8 6D2 6D7 59A5 79B3
                                                          79B3 80B3 81B3 83C3
=PP12V_GPU           =PP12V_GPU - @m38_lib.M38            88B6 94C3 94D7
                     PP12V_S0 - @m38_lib.M38              6A6 6D8 76B8 88B8
                     =PP12V_S0_FAN - @m38_lib.M38         6A4 65B6 65D7 66D6
                     PP12V_S0 - @m38_lib.M38              6A6 6D8 76B8 88B8
                     =PP12V_S0_FAN - @m38_lib.M38         6A4 65B6 65D7 66D6
=PP12V_S0_AUDIO_SPKR =PP12V_S0_AUDIO_SPKRAMP -             6A4 72D8
AMP                  @m38_lib.M38
                     PP12V_S0_AUDIO_SPKRAMP -             6A5
                     @m38_lib.M38
=PP12V_S5_CPU        =PP12V_S5_CPU - @m38_lib.M38         6C1 76D8
                     =PPVIN_S0_GPUVCORE - @m38_lib.M38    85D7 88B6
                     PP12V_S5 - @m38_lib.M38              5D2 6C2 6D7 78C7 79D7
                                                          80D7 81D7 83C5 83C5 88B8
                     =PP12V_S5_FW - @m38_lib.M38          6C1 46D7
                     PP12V_S5 - @m38_lib.M38              5D2 6C2 6D7 78C7 79D7
                                                          80D7 81D7 83C5 83C5 88B8
                     =PPVIN_S0_GPUVCORE - @m38_lib.M38    85D7 88B6
                     =PP12V_S5_FW - @m38_lib.M38          6C1 46D7
=PP12V_S5_FW_PHY     =PP12V_S5_FW_PHY - @m38_lib.M38      44C2 46D5
                     PP12V_FW - @m38_lib.M38              46D6
=PPBB_S0_GPU         =PPBB_S0_GPU - @m38_lib.M38          86D6 88C6
                     =PPVOUT_S0_GPUBBP_LDO -              85B5 88C6
                     @m38_lib.M38
                     PPBB_S0_GPU - @m38_lib.M38           88C8
                     =PPVOUT_S0_GPUBBP_LDO -              85B5 88C6
                     @m38_lib.M38
=PPVCORE_S0_CPU      =PPVCORE_S0_CPU - @m38_lib.M38       6D4 8B6 8D7 8D8 9B8 76B5
                     PPVCORE_CPU - @m38_lib.M38           5D2 6D6 75A4 75D1 76B4
=PPVCORE_S0_GPU      =PPVCORE_S0_GPU - @m38_lib.M38       76B4 86D8 88D6 91A7
                     =PPVCORE_S0_GPU_BBP - @m38_lib.M38   85B7 88D6
                     PP1V0R1V2_S0_GPU - @m38_lib.M38      59B4 88D8
                     =PPVCORE_S0_GPU_REG - @m38_lib.M38   85C1 88D6
                     PP1V0R1V2_S0_GPU - @m38_lib.M38      59B4 88D8
                     =PPVCORE_S0_GPU_REG - @m38_lib.M38   85C1 88D6
                     =PPVCORE_S0_GPU_BBP - @m38_lib.M38   85B7 88D6
ACZ_BITCLK           ACZ_BITCLK - @m38_lib.M38            21C7 68D7
ACZ_RST_L            ACZ_RST_L - @m38_lib.M38             21C7 68C7
ACZ_SDATAIN<0>       ACZ_SDATAIN<0> - @m38_lib.M38        21C7 68D7
ACZ_SDATAIN_CHIP     ACZ_SDATAIN_CHIP - @m38_lib.M38      68C6
ACZ_SDATAOUT         ACZ_SDATAOUT - @m38_lib.M38          21C7 68D7
ACZ_SYNC             ACZ_SYNC - @m38_lib.M38              21C7 68D7
AIRPORT_CLK100M_PCIE AIRPORT_CLK100M_PCIE_N -              34B4 34C2 53C6
_N                   @m38_lib.M38
AIRPORT_CLK100M_PCIE AIRPORT_CLK100M_PCIE_P -              34B4 34C2 53C6
_P                   @m38_lib.M38
AIRPORT_CONN_CLK     AIRPORT_CONN_CLK - @m38_lib.M38      53B5
AIRPORT_CONN_DATA    AIRPORT_CONN_DATA - @m38_lib.M38     53B5
AIRPORT_RST_L        AIRPORT_RST_L - @m38_lib.M38         6A7 53C5
AIRPORT_WAKE_L       AIRPORT_WAKE_L - @m38_lib.M38        53C6
ALL_SYS_PWRGD        ALL_SYS_PWRGD - @m38_lib.M38         26D5 58D7 77B6
ALS_GAIN             ALS_GAIN - @m38_lib.M38              58B5 59C6
                     NC_ALS_GAIN - @m38_lib.M38           59C5
ALS_LEFT             ALS_LEFT - @m38_lib.M38              58A7 59D5
                     TP_ALS_LEFT - @m38_lib.M38           59D3
ALS_RIGHT            ALS_RIGHT - @m38_lib.M38             58A7 59D5
                     TP_ALS_RIGHT - @m38_lib.M38          59D3
ATI_DVPCLK           ATI_DVPCLK - @m38_lib.M38            91C3 95A6
                     TP_ATI_DVPCLK - @m38_lib.M38         95A8
ATI_DVPCNTL<0>       ATI_DVPCNTL<0> - @m38_lib.M38        91C3 95A6
ATI_DVPCNTL<1>       ATI_DVPCNTL<1> - @m38_lib.M38        91B3 95A6
ATI_DVPCNTL<2>       ATI_DVPCNTL<2> - @m38_lib.M38        91B3 95A6
ATI_DVPDATA<0>       ATI_DVPDATA<0> - @m38_lib.M38        91B3 95B6
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ATI_DVPDATA<2>       ATI_DVPDATA<2> - @m38_lib.M38        91B3 95B6
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ATI_R2SET            ATI_R2SET - @m38_lib.M38             93A8 93B5
ATI_RSET             ATI_RSET - @m38_lib.M38              93A8 93B5
ATI_TDIODE_N         ATI_TDIODE_N - @m38_lib.M38          61C5 91A3
ATI_TDIODE_P         ATI_TDIODE_P - @m38_lib.M38          61C5 91A3
ATI_TESTEN           ATI_TESTEN - @m38_lib.M38            91A3
ATI_VREFG            ATI_VREFG - @m38_lib.M38             91D3
AUDLINDETH           AUDLINDETH - @m38_lib.M38            74C4
AUDSAMPCPN           AUDSAMPCPN - @m38_lib.M38            72C4
AUDSAMPCPP           AUDSAMPCPP - @m38_lib.M38            72C4
AUDSAMPINLN          AUDSAMPINLN - @m38_lib.M38           72D6
AUDSAMPINLP          AUDSAMPINLP - @m38_lib.M38           72C6
AUDSAMPINRN          AUDSAMPINRN - @m38_lib.M38           72C6
AUDSAMPINRP          AUDSAMPINRP - @m38_lib.M38           72C6
AUDSAMPOURTP         AUDSAMPOURTP - @m38_lib.M38          72C4
AUDSAMPOUTLN         AUDSAMPOUTLN - @m38_lib.M38          72C4
AUDSAMPOUTLP         AUDSAMPOUTLP - @m38_lib.M38          72C4
AUDSAMPOUTRN         AUDSAMPOUTRN - @m38_lib.M38          72C4
AUD_4V5_SHDN_L       AUD_4V5_SHDN_L - @m38_lib.M38        68A4
AUD_ANALOG_FILT_1    AUD_ANALOG_FILT_1 - @m38_lib.M38     68C4
AUD_ANALOG_FILT_2    AUD_ANALOG_FILT_2 - @m38_lib.M38     68C4
AUD_BI_PORT_A_L      AUD_BI_PORT_A_L - @m38_lib.M38       68C1 74B8
AUD_BI_PORT_A_R      AUD_BI_PORT_A_R - @m38_lib.M38       68C1 74B8
AUD_BI_PORT_B_L      AUD_BI_PORT_B_L - @m38_lib.M38       68B2 68C1 74A3
                     AUD_BI_PORT_B_R - @m38_lib.M38       68B1 68C1 74B6
AUD_BI_PORT_C_L      AUD_BI_PORT_C_L - @m38_lib.M38       68C7 72D8
AUD_BI_PORT_C_R      AUD_BI_PORT_C_R - @m38_lib.M38       68C7 72C8
AUD_BI_PORT_D_L      AUD_BI_PORT_D_L - @m38_lib.M38       68C7 74B6
AUD_BI_PORT_D_R      AUD_BI_PORT_D_R - @m38_lib.M38       68C7 74B6
AUD_BI_PORT_E_L      AUD_BI_PORT_E_L - @m38_lib.M38       68C1 74B6
AUD_BI_PORT_E_R      AUD_BI_PORT_E_R - @m38_lib.M38       68C1 74B6
AUD_BI_PORT_F_L      AUD_BI_PORT_F_L - @m38_lib.M38       68C1 74C8
AUD_BI_PORT_F_R      AUD_BI_PORT_F_R - @m38_lib.M38       68C1 74C8
AUD_BYPASS           AUD_BYPASS - @m38_lib.M38            68C4
AUD_DEBOUNCE         AUD_DEBOUNCE - @m38_lib.M38          72B7
AUD_GPIO_0           AUD_GPIO_0 - @m38_lib.M38            68B6 68C7 74A6
AUD_GPIO_0_A         AUD_GPIO_0_A - @m38_lib.M38          68B8 72B8
AUD_GPIO_1           AUD_GPIO_1 - @m38_lib.M38            68A6 68C7 74A6
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AUD_GPIO_1_A	AUD_GPIO_1_A - @m38_lib.M38	68A8 73C2
AUD_GPIO_2	AUD_GPIO_2 - @m38_lib.M38	68C7 74A6
AUD_LI_DET_EMI	AUD_LI_DET_EMI - @m38_lib.M38	73D7
AUD_LI_DET_H	AUD_LI_DET_H - @m38_lib.M38	73D4 74C5
AUD_LI_DET_JACK	AUD_LI_DET_JACK - @m38_lib.M38	73D8
AUD_LI_GND_EMI	AUD_LI_GND_EMI - @m38_lib.M38	73C7
AUD_LI_GND_JACK	AUD_LI_GND_JACK - @m38_lib.M38	73D8
AUD_LI_L_EMI	AUD_LI_L_EMI - @m38_lib.M38	73D7
AUD_LI_L_JACK	AUD_LI_L_JACK - @m38_lib.M38	73D8
AUD_LI_R_EMI	AUD_LI_R_EMI - @m38_lib.M38	73D7
AUD_LI_R_JACK	AUD_LI_R_JACK - @m38_lib.M38	73D8
AUD_LO_DET1	AUD_LO_DET1 - @m38_lib.M38	73B8 74A5
AUD_LO_DET1_1	AUD_LO_DET1_1 - @m38_lib.M38	74A4 74B2
AUD_LO_DET1_EMI	AUD_LO_DET1_EMI - @m38_lib.M38	73B7
AUD_LO_DET1_INV	AUD_LO_DET1_INV - @m38_lib.M38	74B3
AUD_LO_DET1_JACK	AUD_LO_DET1_JACK - @m38_lib.M38	73B4
AUD_LO_DET2	AUD_LO_DET2 - @m38_lib.M38	73B8 74B5
AUD_LO_DET2_1	AUD_LO_DET2_1 - @m38_lib.M38	74B4
AUD_LO_DET2_EMI	AUD_LO_DET2_EMI - @m38_lib.M38	73B7
AUD_LO_DET2_JACK	AUD_LO_DET2_JACK - @m38_lib.M38	73B4
AUD_LO_GND_EMI	AUD_LO_GND_EMI - @m38_lib.M38	73A7
AUD_LO_GND_JACK	AUD_LO_GND_JACK - @m38_lib.M38	73B4
AUD_LO_L_EMI	AUD_LO_L_EMI - @m38_lib.M38	73B7
AUD_LO_L_JACK	AUD_LO_L_JACK - @m38_lib.M38	73B4
AUD_LO_R_EMI	AUD_LO_R_EMI - @m38_lib.M38	73A7
AUD_LO_R_JACK	AUD_LO_R_JACK - @m38_lib.M38	73B4
AUD_MAX9714_CHOLD	AUD_MAX9714_CHOLD - @m38_lib.M38	72C4
AUD_MAX9714_VREG	AUD_MAX9714_VREG - @m38_lib.M38	72C5
AUD_MIC_IN_N	AUD_MIC_IN_N - @m38_lib.M38	73C6 74A6
AUD_MIC_IN_N_CONN	AUD_MIC_IN_N_CONN - @m38_lib.M38	47C2 73C4
AUD_MIC_IN_N_EMI	AUD_MIC_IN_N_EMI - @m38_lib.M38	73C5
AUD_MIC_IN_P	AUD_MIC_IN_P - @m38_lib.M38	73C6 74A6
AUD_MIC_IN_P_CONN	AUD_MIC_IN_P_CONN - @m38_lib.M38	47C2 73C4
AUD_MIC_IN_P_EMI	AUD_MIC_IN_P_EMI - @m38_lib.M38	73C5
AUD_MIC_P1	AUD_MIC_P1 - @m38_lib.M38	74A4
AUD_PORT_A_DET_L	AUD_PORT_A_DET_L - @m38_lib.M38	74B2
AUD_PORT_A_L	AUD_PORT_A_L - @m38_lib.M38	73B8 74B5
AUD_PORT_A_L1	AUD_PORT_A_L1 - @m38_lib.M38	74B7
AUD_PORT_A_R	AUD_PORT_A_R - @m38_lib.M38	73A8 74B5
AUD_PORT_A_R1	AUD_PORT_A_R1 - @m38_lib.M38	74B7
AUD_PORT_E_DET_L	AUD_PORT_E_DET_L - @m38_lib.M38	74B1
AUD_PORT_F_L	AUD_PORT_F_L - @m38_lib.M38	73D4 74C5
AUD_PORT_F_L1	AUD_PORT_F_L1 - @m38_lib.M38	74C7
AUD_PORT_F_R	AUD_PORT_F_R - @m38_lib.M38	73D4 74C5
AUD_PORT_F_R1	AUD_PORT_F_R1 - @m38_lib.M38	74C7
AUD_SAMP_FS1	AUD_SAMP_FS1 - @m38_lib.M38	72A6 72C5
AUD_SAMP_FS2	AUD_SAMP_FS2 - @m38_lib.M38	72A6 72C5
AUD_SAMP_G1	AUD_SAMP_G1 - @m38_lib.M38	72A6 72C5
AUD_SAMP_G2	AUD_SAMP_G2 - @m38_lib.M38	72A6 72C5
AUD_SAMP_INL_N	AUD_SAMP_INL_N - @m38_lib.M38	72C5
AUD_SAMP_INL_P	AUD_SAMP_INL_P - @m38_lib.M38	72C5
AUD_SAMP_INR_N	AUD_SAMP_INR_N - @m38_lib.M38	72C5
AUD_SAMP_INR_P	AUD_SAMP_INR_P - @m38_lib.M38	72C5
AUD_SAMP_SHDN_L	AUD_SAMP_SHDN_L - @m38_lib.M38	72C5
AUD_SENSE_A	AUD_SENSE_A - @m38_lib.M38	68C1 74C5 74D7
AUD_SENSE_B	AUD_SENSE_B - @m38_lib.M38	68C1 74C5 74D5 74D7
AUD_SPDIF_GND	AUD_SPDIF_GND - @m38_lib.M38	73A3
AUD_SPDIF_IN	AUD_SPDIF_IN - @m38_lib.M38	68C1 74B6
AUD_SPDIF_OUT	AUD_SPDIF_OUT - @m38_lib.M38	68D1 73B8
AUD_SPDIF_OUT_CHIP	AUD_SPDIF_OUT_CHIP - @m38_lib.M38	68D4
AUD_SPDIF_OUT_EMI	AUD_SPDIF_OUT_EMI - @m38_lib.M38	73B7
AUD_SPDIF_OUT_JACK	AUD_SPDIF_OUT_JACK - @m38_lib.M38	73B5
AUD_SPKR_OUTL_N	AUD_SPKR_OUTL_N - @m38_lib.M38	72C1 73D3
AUD_SPKR_OUTL_P	AUD_SPKR_OUTL_P - @m38_lib.M38	72C1 73D3
AUD_SPKR_OUTR_N	AUD_SPKR_OUTR_N - @m38_lib.M38	72C1 73D3
AUD_SPKR_OUTR_P	AUD_SPKR_OUTR_P - @m38_lib.M38	72C1 73D3
AUD_TYPE_DET_EN	AUD_TYPE_DET_EN - @m38_lib.M38	74B3
AUD_VREF_FILT	AUD_VREF_FILT - @m38_lib.M38	68C4
AUD_VREF_PORT_B	AUD_VREF_PORT_B - @m38_lib.M38	68C1 74A3
BAL_IN_COM	BAL_IN_COM - @m38_lib.M38	68C7 74A7
BAL_IN_L	BAL_IN_L - @m38_lib.M38	68C7 74A7
BAL_IN_R	BAL_IN_R - @m38_lib.M38	68C7 74A7
BAT_1	BAT_1 - @m38_lib.M38	26C8
BAT_2	BAT_2 - @m38_lib.M38	26C8
BEEP	BEEP - @m38_lib.M38	68C6
BIOS_REC	BIOS_REC - @m38_lib.M38	23A6 23C5
BOOT_LPC_SPI_L	BOOT_LPC_SPI_L - @m38_lib.M38	22B3 58C7 60C6
C8509_P1	C8509_P1 - @m38_lib.M38	85C5
CEN	CEN - @m38_lib.M38	68B5 74B6
CK410_27M_NONSPREAD	CK410_27M_NONSPREAD - @m38_lib.M38	34A4 92C7
CK410_27M_SPREAD	CK410_27M_SPREAD - @m38_lib.M38	34A4 92C5
	GPU_GPIO_16 - @m38_lib.M38	91C3 92C3
CK410_CLK14P3M_TIMER	CK410_CLK14P3M_TIMER - @m38_lib.M38	33A4 34D6
CK410_CPU0_N	CK410_CPU0_N - @m38_lib.M38	33C4 34B6
CK410_CPU0_P	CK410_CPU0_P - @m38_lib.M38	33C4 34B6
CK410_CPU1_N	CK410_CPU1_N - @m38_lib.M38	33C4 34B6
CK410_CPU1_P	CK410_CPU1_P - @m38_lib.M38	33C4 34B6
CK410_CPU2_ITP_SRC10_N	CK410_CPU2_ITP_SRC10_N - @m38_lib.M38	33C4 34B6
CK410_CPU2_ITP_SRC10_P	CK410_CPU2_ITP_SRC10_P - @m38_lib.M38	33C4 34B6
CK410_DOT96_27M_NONSPREAD_P	CK410_DOT96_27M_NONSPREAD_P - @m38_lib.M38	33A4 34A6
CK410_DOT96_27M_SPREAD_N	CK410_DOT96_27M_SPREAD_N - @m38_lib.M38	33A4 34A6
CK410_FSA	CK410_FSA - @m38_lib.M38	34B8 34C4
CK410_FSB_TEST_MODE	CK410_FSB_TEST_MODE - @m38_lib.M38	33C6 34A8
CK410_FSC	CK410_FSC - @m38_lib.M38	34A8 34D4
CK410_IREF	CK410_IREF - @m38_lib.M38	33B6
CK410_LVDS_N	CK410_LVDS_N - @m38_lib.M38	33B4 34A6
	TP_CK410_LVDS_N - @m38_lib.M38	34A4
CK410_LVDS_P	CK410_LVDS_P - @m38_lib.M38	33B4 34A6
	TP_CK410_LVDS_P - @m38_lib.M38	34A4
CK410_PCI1_CLK	CK410_PCI1_CLK - @m38_lib.M38	33B6 34C6
CK410_PCI2_CLK	CK410_PCI2_CLK - @m38_lib.M38	33B6 34C6
CK410_PCI3_CLK	CK410_PCI3_CLK - @m38_lib.M38	33B6 34C6
CK410_PCI4_CLK	CK410_PCI4_CLK - @m38_lib.M38	33B6 34C6
CK410_PCI5_FCTSEL1	CK410_PCI5_FCTSEL1 - @m38_lib.M38	33B6 34D6
CK410_PCIF0_CLK	CK410_PCIF0_CLK - @m38_lib.M38	33B8 34B6
CK410_PCIF1_ITP_EN	CK410_PCIF1_ITP_EN - @m38_lib.M38	33B8 34B6
CK410_PD_VTT_PWRGD_L	CK410_PD_VTT_PWRGD_L - @m38_lib.M38	26A8 33A4
	VR_PWRGD_CK410_L - @m38_lib.M38	26A7 75C6
CK410_REF1_FCTSEL0	CK410_REF1_FCTSEL0 - @m38_lib.M38	33A4 34C6
CK410_SRC1_N	CK410_SRC1_N - @m38_lib.M38	33B4 34A6
CK410_SRC1_P	CK410_SRC1_P - @m38_lib.M38	33B4 34A6
CK410_SRC2_N	CK410_SRC2_N - @m38_lib.M38	33B4 34A6
CK410_SRC2_P	CK410_SRC2_P - @m38_lib.M38	33B4 34A6
CK410_SRC3_N	CK410_SRC3_N - @m38_lib.M38	33B4 34D3
CK410_SRC3_P	CK410_SRC3_P - @m38_lib.M38	33B4 34D3
CK410_SRC4_N	CK410_SRC4_N - @m38_lib.M38	33B4 34B6
CK410_SRC4_P	CK410_SRC4_P - @m38_lib.M38	33B4 34B6
CK410_SRC5_N	CK410_SRC5_N - @m38_lib.M38	33B4 34B6
CK410_SRC5_P	CK410_SRC5_P - @m38_lib.M38	33B4 34B6
CK410_SRC6_N	CK410_SRC6_N - @m38_lib.M38	33B4 34B6
CK410_SRC6_P	CK410_SRC6_P - @m38_lib.M38	33B4 34B6
CK410_SRC7_N	CK410_SRC7_N - @m38_lib.M38	33B4 34D3
CK410_SRC7_P	CK410_SRC7_P - @m38_lib.M38	33B4 34D3
CK410_SRC8_N	CK410_SRC8_N - @m38_lib.M38	33A4 34A6
CK410_SRC8_P	CK410_SRC8_P - @m38_lib.M38	33A4 34A6
CK410_SRC_CLKREQ1_L	CK410_SRC_CLKREQ1_L - @m38_lib.M38	33B4 34D8
CK410_SRC_CLKREQ3_L	CK410_SRC_CLKREQ3_L - @m38_lib.M38	33B4 34D8
CK410_SRC_CLKREQ6_L	CK410_SRC_CLKREQ6_L - @m38_lib.M38	33B4 53C6
CK410_SRC_CLKREQ8_L	CK410_SRC_CLKREQ8_L - @m38_lib.M38	33A4 34D8
CK410_USB48_FSA	CK410_USB48_FSA - @m38_lib.M38	33A4 34C6
CK410_XTAL_IN	CK410_XTAL_IN - @m38_lib.M38	33C6
CK410_XTAL_OUT	CK410_XTAL_OUT - @m38_lib.M38	33C6
CLK_NB_OE_L	CLK_NB_OE_L - @m38_lib.M38	14B6 33B4
CPUVCORE_ISENSE_CAL	CPUVCORE_ISENSE_CAL - @m38_lib.M38	76A5
CPU_A20M_L	CPU_A20M_L - @m38_lib.M38	5C8 7C7 21C4
CPU_BSEL<0>	CPU_BSEL<0> - @m38_lib.M38	7B4 34B8
CPU_BSEL<1>	CPU_BSEL<1> - @m38_lib.M38	7B4 34A8
CPU_BSEL<2>	CPU_BSEL<2> - @m38_lib.M38	7B4 34A8
CPU_COMP<0>	CPU_COMP<0> - @m38_lib.M38	7B2
CPU_COMP<1>	CPU_COMP<1> - @m38_lib.M38	7B2
CPU_COMP<2>	CPU_COMP<2> - @m38_lib.M38	7B2
CPU_COMP<3>	CPU_COMP<3> - @m38_lib.M38	7B2
CPU_DCIN_SENSE	CPU_DCIN_SENSE - @m38_lib.M38	76D7
CPU_DPRSTP_L	CPU_DPRSTP_L - @m38_lib.M38	7B3 21C4 75C6
CPU_DPSLP_L	CPU_DPSLP_L - @m38_lib.M38	7B3 21C4
CPU_FERR_L	CPU_FERR_L - @m38_lib.M38	7C7 21C2
CPU_GTLREF	CPU_GTLREF - @m38_lib.M38	5D4 7B4
CPU_HS_ZH607	CPU_HS_ZH607 - @m38_lib.M38	9D4
CPU_HS_ZH608	CPU_HS_ZH608 - @m38_lib.M38	9D3 66A4 66A6 66B4 66B6
CPU_HS_ZH609	CPU_HS_ZH609 - @m38_lib.M38	9D3
CPU_HS_ZH610	CPU_HS_ZH610 - @m38_lib.M38	9D2
CPU_IGNNE_L	CPU_IGNNE_L - @m38_lib.M38	5C8 7C7 21C4
CPU_INIT_L	CPU_INIT_L - @m38_lib.M38	5C8 7D6 21C4
CPU_INTR	CPU_INTR - @m38_lib.M38	5C8 7C7 21C4
CPU_ISENSE_OUT_R	CPU_ISENSE_OUT_R - @m38_lib.M38	76D3
CPU_ISENSE_R_NEG	CPU_ISENSE_R_NEG - @m38_lib.M38	76D4
CPU_ISENSE_R_POS	CPU_ISENSE_R_POS - @m38_lib.M38	76D4
CPU_NMI	CPU_NMI - @m38_lib.M38	5C8 7C7 21C4
CPU_PROCHOT_L	CPU_PROCHOT_L - @m38_lib.M38	7C6 59A8 59C7
CPU_PSI_L	CPU_PSI_L - @m38_lib.M38	7A3 75C6
CPU_PWRGD	CPU_PWRGD - @m38_lib.M38	7B3 21C4
CPU_RCIN_L	CPU_RCIN_L - @m38_lib.M38	21C4
CPU_SENSE_I_R	CPU_SENSE_I_R - @m38_lib.M38	76D7
CPU_SMI_L	CPU_SMI_L - @m38_lib.M38	5C8 7C7 21C4
CPU_STPCLK_L	CPU_STPCLK_L - @m38_lib.M38	5C8 7C7 21C4
CPU_TEST1	CPU_TEST1 - @m38_lib.M38	7B4
CPU_TEST2	CPU_TEST2 - @m38_lib.M38	7B4
CPU_THERMD_EXT_N	CPU_THERMD_EXT_N - @m38_lib.M38	10B6
CPU_THERMD_EXT_P	CPU_THERMD_EXT_P - @m38_lib.M38	10B6
CPU_THERMD_N	CPU_THERMD_N - @m38_lib.M38	7C6 10C6
CPU_THERMD_P	CPU_THERMD_P - @m38_lib.M38	7C6 10C6
CPU_THERMTRIP_R	CPU_THERMTRIP_R - @m38_lib.M38	21C2
CPU_VCCSENSE_N	CPU_VCCSENSE_N - @m38_lib.M38	8B6 75A4
CPU_VCCSENSE_P	CPU_VCCSENSE_P - @m38_lib.M38	8B6 75A4
CPU_VID<0>	CPU_VID<0> - @m38_lib.M38	8B7 75C7
CPU_VID<1>	CPU_VID<1> - @m38_lib.M38	8B7 75C7
CPU_VID<2>	CPU_VID<2> - @m38_lib.M38	8B7 75C7
CPU_VID<3>	CPU_VID<3> - @m38_lib.M38	8B7 75C7
CPU_VID<4>	CPU_VID<4> - @m38_lib.M38	8B7 75C7
CPU_VID<5>	CPU_VID<5> - @m38_lib.M38	8B7 75C7
CPU_VID<6>	CPU_VID<6> - @m38_lib.M38	8B7 75D7
CPU_XDP_CLK_N	CPU_XDP_CLK_N - @m38_lib.M38	11B3 34B3
	FSB_CLK_XDP_N - @m38_lib.M38	34B4 34C2
CPU_XDP_CLK_P	CPU_XDP_CLK_P - @m38_lib.M38	11B3 34B3
	FSB_CLK_XDP_P - @m38_lib.M38	34B4 34C2
CRB_SV_DET	CRB_SV_DET - @m38_lib.M38	23B6 23C3
CRT_BLUE	CRT_BLUE - @m38_lib.M38	13B5 19D4
	=PPVCORE_S0_NB - @m38_lib.M38	6D4 16C8 16D3 19B6 19D5 19D7
	CRT_BLUE_L - @m38_lib.M38	13B5 19D4
	CRT_IREF - @m38_lib.M38	13B5 19D4
	CRT_GREEN_L - @m38_lib.M38	13B5 19D4
	CRT_GREEN - @m38_lib.M38	13B5 19D4
	PP2V5_S0_NB_VCCA_CRTDAC - @m38_lib.M38	17D6 19D4
	CRT_RED - @m38_lib.M38	13B5 19D4
	CRT_RED_L - @m38_lib.M38	13B5 19D4
	PP1V05_S0 - @m38_lib.M38	6D6 34A8 34B8 34C7 81C2
	=PP1V05_S0_CPU - @m38_lib.M38	5D4 6D4 7B5 7B7 7D5 7D5 8C7 9C8 9C8 11B3 11C5 59A1 59A3
	=PPVCORE_S0_SB - @m38_lib.M38	6D4 24D3 25D3
	=PP1V05_S0_SB_CPU_IO - @m38_lib.M38	6D4 21C1 21C1 24C3 25C3
	=PP1V05_S0_NB_VTT - @m38_lib.M38	6D4 17D3 19B8 19D7
	=PP1V05_S0_FSB_NB - @m38_lib.M38	5D4 6D4 12A7 12B7 12C2 19D7
	PP2V5_S0_NB_VCCA_CRTDAC - @m38_lib.M38	17D6 19D4
	PP1V05_S0 - @m38_lib.M38	6D6 34A8 34B8 34C7 81C2
	CRT_RED_L - @m38_lib.M38	13B5 19D4
	CRT_RED - @m38_lib.M38	13B5 19D4
	CRT_IREF - @m38_lib.M38	13B5 19D4
	CRT_GREEN_L - @m38_lib.M38	13B5 19D4
	CRT_GREEN - @m38_lib.M38	13B5 19D4
	CRT_BLUE_L - @m38_lib.M38	13B5 19D4
	=PPVCORE_S0_SB - @m38_lib.M38	6D4 24D3 25D3
	=PPVCORE_S0_NB - @m38_lib.M38	6D4 16C8 16D3 19B6 19D5 19D7
	=PP1V05_S0_SB_CPU_IO - @m38_lib.M38	6D4 21C1 21C1 24C3 25C3
	=PP1V05_S0_NB_VTT - @m38_lib.M38	6D4 17D3 19B8 19D7
	=PP1V05_S0_NB - @m38_lib.M38	6D4 19D7
	=PP1V05_S0_FSB_NB - @m38_lib.M38	5D4 6D4 12A7 12B7 12C2 19D7
	=PP1V05_S0_CPU - @m38_lib.M38	5D4 6D4 7B5 7B7 7D5 7D5 8C7 9C8 9C8 11B3 11C5 59A1 59A3
CRT_DDC_CLK	CRT_DDC_CLK - @m38_lib.M38	13B5 19C4
	TP_CRT_DDC_CLK - @m38_lib.M38	19C5
CRT_DDC_DATA	CRT_DDC_DATA - @m38_lib.M38	13B5 19C4
	TP_CRT_DDC_DATA - @m38_lib.M38	19C5
DEBUG_RST_L	DEBUG_RST_L - @m38_lib.M38	6A7 60B6
DMI_IRCOMP_R	DMI_IRCOMP_R - @m38_lib.M38	22C2
DMI_N2S_N<0>	DMI_N2S_N<0> - @m38_lib.M38	5B8 14B4 22D2
DMI_N2S_N<1>	DMI_N2S_N<1> - @m38_lib.M38	14B4 22D2
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DVI_DDC_CLK_UF	DVI_DDC_CLK_UF - @m38_lib.M38	97D3 97D5
DVI_DDC_DATA	DVI_DDC_DATA - @m38_lib.M38	97C2
DVI_DDC_DATA_UF	DVI_DDC_DATA_UF - @m38_lib.M38	97C3 97D5
DVI_HPD_UF	DVI_HPD_UF - @m38_lib.M38	97C3 97D5
ENET_C4106_2	ENET_C4106_2 - @m38_lib.M38	41D2
ENET_C4107_2	ENET_C4107_2 - @m38_lib.M38	41D2
ENET_C4117_1	ENET_C4117_1 - @m38_lib.M38	41B2
ENET_C4118_1	ENET_C4118_1 - @m38_lib.M38	41B2
ENET_CLK100M_PCIE_N	ENET_CLK100M_PCIE_N - @m38_lib.M38	5D5 34A4 34B2 41C5
ENET_CLK100M_PCIE_P	ENET_CLK100M_PCIE_P - @m38_lib.M38	5D5 34A4 34B2 41C5
ENET_CTRL12	ENET_CTRL12 - @m38_lib.M38	41C7 42B8
	TP_ENET_CTRL12 - @m38_lib.M38	42B7
ENET_CTRL25	ENET_CTRL25 - @m38_lib.M38	41C7 42C6
ENET_GATED_RST_L	ENET_GATED_RST_L - @m38_lib.M38	41C5 42D2
ENET_LED_ACT_L	ENET_LED_ACT_L - @m38_lib.M38	41C8 43C3
ENET_LED_LINK10_100_L	ENET_LED_LINK10_100_L - @m38_lib.M38	41C8 43C3
ENET_LED_LINK1000_L	ENET_LED_LINK1000_L - @m38_lib.M38	41C8 43C3
ENET_LED_LINK_L	ENET_LED_LINK_L - @m38_lib.M38	41C8 43C3
ENET_LOM_DIS_L	ENET_LOM_DIS_L - @m38_lib.M38	41C7
ENET_MDI_N<0>	ENET_MDI_N<0> - @m38_lib.M38	41C2 43C7
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ENET_PU_VDDO_TTL1	ENET_PU_VDDO_TTL1 - @m38_lib.M38	41C5
ENET_RSET	ENET_RSET - @m38_lib.M38	41C7
ENET_RST_L	ENET_RST_L - @m38_lib.M38	6B7 42D3
ENET_VPD_CLK	ENET_VPD_CLK - @m38_lib.M38	41A2 41C4
ENET_VPD_DATA	ENET_VPD_DATA - @m38_lib.M38	41A2 41C4
ENET_XTALI	ENET_XTALI - @m38_lib.M38	41B5
ENET_XTALO	ENET_XTALO - @m38_lib.M38	41B5
F0_GATESLOWDN	F0_GATESLOWDN - @m38_lib.M38	65D5
F0_RCFEEDBK	F0_RCFEEDBK - @m38_lib.M38	65C5
F0_VOLTAGE8R5	F0_VOLTAGE8R5 - @m38_lib.M38	65D6
F1_GATESLOWDN	F1_GATESLOWDN - @m38_lib.M38	65B5
F1_RCFEEDBK	F1_RCFEEDBK - @m38_lib.M38	65B5
F1_VOLTAGE8R5	F1_VOLTAGE8R5 - @m38_lib.M38	65B6
F2_GATESLOWDN	F2_GATESLOWDN - @m38_lib.M38	66D4
F2_RCFEEDBK	F2_RCFEEDBK - @m38_lib.M38	66C5
F2_VOLTAGE8R5	F2_VOLTAGE8R5 - @m38_lib.M38	66D5
FAN_0_OUT	FAN_0_OUT - @m38_lib.M38	65C4
FAN_0_PWR	FAN_0_PWR - @m38_lib.M38	65C4
FAN_1_CTL	FAN_1_CTL - @m38_lib.M38	65B7
	FAN_RPM1 - @m38_lib.M38	65B7
FAN_1_OUT	FAN_1_OUT - @m38_lib.M38	65B4
FAN_1_PWR	FAN_1_PWR - @m38_lib.M38	65B3
FAN_2_CTL	FAN_2_CTL - @m38_lib.M38	66D7
	FAN_RPM2 - @m38_lib.M38	66C7
FAN_2_OUT	FAN_2_OUT - @m38_lib.M38	66C4
FAN_2_PWR	FAN_2_PWR - @m38_lib.M38	66C3
FAN_TACH0	FAN_TACH0 - @m38_lib.M38	65C7
FAN_TACH1	FAN_TACH1 - @m38_lib.M38	65A7
FAN_TACH2	FAN_TACH2 - @m38_lib.M38	66C7
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FSB_IERR_L           FSB_IERR_L - @m38_lib.M38         7D6
FSB_LOCK_L           FSB_LOCK_L - @m38_lib.M38         5D7 5D8 7D6 12B4
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FSB_REQ_L<4>         FSB_REQ_L<4> - @m38_lib.M38       5C7 7D7 12A4
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FSB_RS_L<2>          FSB_RS_L<2> - @m38_lib.M38        7D6 12A4
FSB_SLPCPU_L         FSB_SLPCPU_L - @m38_lib.M38       7A3 12A4
FSB_TRDY_L           FSB_TRDY_L - @m38_lib.M38         7D6 12A4
FWH_INIT_L           FWH_INIT_L - @m38_lib.M38         21C4 59C5 60C3
                     SMC_CPU_INIT_3_3_L - @m38_lib.M38 58D5 59C6
FWH_MFG_MODE         FWH_MFG_MODE - @m38_lib.M38       23A6 23C5
FW_A_TPA_N           FW_A_TPA_N - @m38_lib.M38         44C3 46C8
                     FW_PORT0_TPA_N - @m38_lib.M38     46C5 46C6
FW_A_TPA_P           FW_A_TPA_P - @m38_lib.M38         44C3 46C8
                     FW_PORT0_TPA_P - @m38_lib.M38     46C5 46C6
FW_A_TPBIAS          FW_A_TPBIAS - @m38_lib.M38        44C4 46C8
FW_A_TPB_N           FW_A_TPB_N - @m38_lib.M38         44C3 46C8
                     FW_PORT0_TPB_N - @m38_lib.M38     46C5 46C6
FW_A_TPB_P           FW_A_TPB_P - @m38_lib.M38         44C3 46C8
                     FW_PORT0_TPB_P - @m38_lib.M38     46C5 46C6
FW_B_TPA_N           FW_B_TPA_N - @m38_lib.M38         44C3 46C8
                     FW_PORT1_TPA_N - @m38_lib.M38     46B5 46C6
FW_B_TPA_P           FW_B_TPA_P - @m38_lib.M38         44C3 46C8
                     FW_PORT1_TPA_P - @m38_lib.M38     46B5 46C6
FW_B_TPBIAS          FW_B_TPBIAS - @m38_lib.M38        44C4 46C8
FW_B_TPB_N           FW_B_TPB_N - @m38_lib.M38         44C3 46C8
                     FW_PORT1_TPB_N - @m38_lib.M38     46B5 46C6
FW_B_TPB_P           FW_B_TPB_P - @m38_lib.M38         44C3 46C8
                     FW_PORT1_TPB_P - @m38_lib.M38     46B5 46C6
FW_CARDBUS_L         FW_CARDBUS_L - @m38_lib.M38       44B5
FW_CONTENDER         FW_CONTENDER - @m38_lib.M38       44B3
FW_CPS               FW_CPS - @m38_lib.M38             44C3
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                     TP_FW_C_TPA_N - @m38_lib.M38      46B7
FW_C_TPA_P           FW_C_TPA_P - @m38_lib.M38         44C3 46B8
                     TP_FW_C_TPA_P - @m38_lib.M38      46B7
FW_C_TPBIAS          FW_C_TPBIAS - @m38_lib.M38        44C4 46B8
                     TP_FW_C_TPBIAS - @m38_lib.M38     46B7
FW_C_TPB_N           FW_C_TPB_N - @m38_lib.M38         44C3 46A8
                     TP_FW_C_TPB_N - @m38_lib.M38      46A7
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                     TP_FW_C_TPB_P - @m38_lib.M38      46A7
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FW_PC1               FW_PC1 - @m38_lib.M38             44B3
FW_PC2               FW_PC2 - @m38_lib.M38             44B3
FW_PORT0_TPA_FL_N    FW_PORT0_TPA_FL_N - @m38_lib.M38  46C2
FW_PORT0_TPA_FL_P    FW_PORT0_TPA_FL_P - @m38_lib.M38  46C2
FW_PORT0_TPB_FL_N    FW_PORT0_TPB_FL_N - @m38_lib.M38  46C2
FW_PORT0_TPB_FL_P    FW_PORT0_TPB_FL_P - @m38_lib.M38  46C2
FW_PORT1_TPA_FL_N    FW_PORT1_TPA_FL_N - @m38_lib.M38  46B2
FW_PORT1_TPA_FL_P    FW_PORT1_TPA_FL_P - @m38_lib.M38  46B2
FW_PORT1_TPB_FL_N    FW_PORT1_TPB_FL_N - @m38_lib.M38  46B2
FW_PORT1_TPB_FL_P    FW_PORT1_TPB_FL_P - @m38_lib.M38  46B2
FW_R0                FW_R0 - @m38_lib.M38              44C4
FW_R1                FW_R1 - @m38_lib.M38              44C4
FW_RESET_L           FW_RESET_L - @m38_lib.M38         44C2 44C3
FW_ROM_CLK           FW_ROM_CLK - @m38_lib.M38         44B4
FW_SE                FW_SE - @m38_lib.M38              44B3
FW_SM                FW_SM - @m38_lib.M38              44B3
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FW_VP                FW_VP - @m38_lib.M38              46D4
FW_VP_R              FW_VP_R - @m38_lib.M38            46D5
FW_XTAL_X0           FW_XTAL_X0 - @m38_lib.M38         44D2 44D3
FW_XTAL_XI           FW_XTAL_XI - @m38_lib.M38         44D2 44D3
FW_XTAL_XR           FW_XTAL_XR - @m38_lib.M38         44D2
GATE_3V3_S3          GATE_3V3_S3 - @m38_lib.M38        83B4
GATE_5V_S3           GATE_5V_S3 - @m38_lib.M38         83C4
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GND_AUDIO_CODEC      GND_AUDIO_CODEC - @m38_lib.M38    68A6 68B7 68D2 72B8 72C8
                                                       73A8 73C2 73D4 74A3 74A5
                                                       74A6 74A7 74B5 74B7 74C1
                                                       74C2 74C8 74D1
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GND_AUDIO_SPKRAMP_PL GND_AUDIO_SPKRAMP_PLANE -         72A6 72B2 72B6 72D2 72D8
ANE                  @m38_lib.M38                      74C2
GND_BNDI             GND_BNDI - @m38_lib.M38           47B2 47D2
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TERNAL               @m38_lib.M38                      74D2
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                     GND_CHASSIS_USB - @m38_lib.M38    6B2 47A4 47B4 47C4
                     GND_CHASSIS_IO_LEFT - @m38_lib.M38 6B2
GND_CHASSIS_AUDIO_IN GND_CHASSIS_AUDIO_INTERNAL -      6A2 73C6
TERNAL               @m38_lib.M38
                     GND_CHASSIS_BNDI - @m38_lib.M38   6A2 47C2 47C2 47D2
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                     GND_CHASSIS_RJ45 - @m38_lib.M38   6B2 43C6
                     GND_CHASSIS_VGA - @m38_lib.M38    6B2 97C4
                     GND_CHASSIS_RJ45 - @m38_lib.M38   6B2 43C6
                     GND_CHASSIS_IO_RIGHT - @m38_lib.M38 6B1
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GND_GPU_A2VSSQ       GND_GPU_A2VSSQ - @m38_lib.M38     93B7
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GND_GPU_AVSSQ        GND_GPU_AVSSQ - @m38_lib.M38      93C7
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GND_GPU_LVSSR        GND_GPU_LVSSR - @m38_lib.M38      93A7
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GND_GPU_PCIE_PVSS    GND_GPU_PCIE_PVSS - @m38_lib.M38  84B8
GND_GPU_PVSS         GND_GPU_PVSS - @m38_lib.M38       91A5
GND_GPU_TPVSS        GND_GPU_TPVSS - @m38_lib.M38      93C7
GND_GPU_TXVSSR       GND_GPU_TXVSSR - @m38_lib.M38     93C7
GND_GPU_VSSRH0       GND_GPU_VSSRH0 - @m38_lib.M38     87A7
GND_GPU_VSSRH1       GND_GPU_VSSRH1 - @m38_lib.M38     87A4
GND_IMVP6_SGND       GND_IMVP6_SGND - @m38_lib.M38     75A4 75B6 75B8 75D7
GND_NB_VSSA_LVDS     GND_NB_VSSA_LVDS - @m38_lib.M38   17C6 19C2
                     TP_GND_NB_VSSA_LVDS - @m38_lib.M38 19C1
GND_NEXT_TO_SMC      GND_NEXT_TO_SMC - @m38_lib.M38    59B2 76C2
GND_SMC_AVSS         GND_SMC_AVSS - @m38_lib.M38       58B2 58C4 59A3 59B3 76B2
                                                       76B6 76C2 76C5 85C1
GND_USB_PORT0        GND_USB_PORT0 - @m38_lib.M38      47D5
GND_USB_PORT1        GND_USB_PORT1 - @m38_lib.M38      47C5
GND_USB_PORT2        GND_USB_PORT2 - @m38_lib.M38      47A5
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GPUBBN_D_RC          GPUBBN_D_RC - @m38_lib.M38        85A3
GPUBBN_FB            GPUBBN_FB - @m38_lib.M38          85A3
GPUBBN_SW            GPUBBN_SW - @m38_lib.M38          85A4
GPUBBP_ADJ           GPUBBP_ADJ - @m38_lib.M38         85B7
GPUBBP_ADJ_LOW       GPUBBP_ADJ_LOW - @m38_lib.M38     85A7
GPUBB_EN             GPUBB_EN - @m38_lib.M38           85A4 85A6 85B8
GPUBB_EN_L           GPUBB_EN_L - @m38_lib.M38         85A1 85A5 85B7
GPUISENS_NEG         GPUISENS_NEG - @m38_lib.M38       85D3
GPUISENS_NTC         GPUISENS_NTC - @m38_lib.M38       85D3
GPUISENS_POS         GPUISENS_POS - @m38_lib.M38       85D3
GPUISENS_RC          GPUISENS_RC - @m38_lib.M38        85D3
GPUVCORE_BOOT        GPUVCORE_BOOT - @m38_lib.M38      85C5
GPUVCORE_COMP        GPUVCORE_COMP - @m38_lib.M38      85C7
GPUVCORE_COMP_R      GPUVCORE_COMP_R - @m38_lib.M38    85C7
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GPUVCORE_FB          GPUVCORE_FB - @m38_lib.M38        85C7
GPUVCORE_FB_LOW      GPUVCORE_FB_LOW - @m38_lib.M38    85C3
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                     SMC_GPU_ISENSE - @m38_lib.M38     58D5 59C6
GPUVCORE_ISEN        GPUVCORE_ISEN - @m38_lib.M38      85C5
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GPUVCORE_PHASE       GPUVCORE_PHASE - @m38_lib.M38     85C5
GPUVCORE_UG          GPUVCORE_UG - @m38_lib.M38        85C5
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                     GPU_XTALIN - @m38_lib.M38         91A5 92C5
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GPU_CLK100M_PCIE_P   GPU_CLK100M_PCIE_P - @m38_lib.M38 5C6 34A4 34B2 84A5
GPU_DDC_A_CLK        GPU_DDC_A_CLK - @m38_lib.M38      93A3 97D1
GPU_DDC_A_DATA       GPU_DDC_A_DATA - @m38_lib.M38     93A3 97C1
GPU_DDC_B_CLK        GPU_DDC_B_CLK - @m38_lib.M38      88B1 93A3
                     TP_GPU_DDC_B_CLK - @m38_lib.M38   88B3
GPU_DDC_B_DATA       GPU_DDC_B_DATA - @m38_lib.M38     88B1 93A3
                     TP_GPU_DDC_B_DATA - @m38_lib.M38  88B3
GPU_DDC_C_CLK        GPU_DDC_C_CLK - @m38_lib.M38      93A1 93A3 94A7 94C7
GPU_DDC_C_DATA       GPU_DDC_C_DATA - @m38_lib.M38     93A1 93A3 94A6 94C7
GPU_DIGON            GPU_DIGON - @m38_lib.M38          91C3 94A4 94C8
GPU_EXT_TDIODE_N     GPU_EXT_TDIODE_N - @m38_lib.M38   61B7
GPU_EXT_TDIODE_P     GPU_EXT_TDIODE_P - @m38_lib.M38   61C7
GPU_G2               GPU_G2 - @m38_lib.M38             93B3 97A8
GPU_GENERICA         GPU_GENERICA - @m38_lib.M38       91C3 95B4
                     TP_GPU_GENERICA - @m38_lib.M38    95B6
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                     TP_GPU_GENERICC - @m38_lib.M38    95B6
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GPU_GPIO_4           GPU_GPIO_4 - @m38_lib.M38         88C5 91D3
GPU_GPIO_5           GPU_GPIO_5 - @m38_lib.M38         88C5 91D3
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GPU_GPIO_8           GPU_GPIO_8 - @m38_lib.M38         88C5 91D3
GPU_GPIO_9           GPU_GPIO_9 - @m38_lib.M38         88C5 91C3
GPU_GPIO_10          GPU_GPIO_10 - @m38_lib.M38        88C3 91C3
                     NC_GPU_GPIO_10 - @m38_lib.M38     88C5
GPU_GPIO_11          GPU_GPIO_11 - @m38_lib.M38        88B5 91C3
GPU_GPIO_12          GPU_GPIO_12 - @m38_lib.M38        88C5 91C3
GPU_GPIO_13          GPU_GPIO_13 - @m38_lib.M38        88C5 91C3
GPU_GPIO_14          GPU_GPIO_14 - @m38_lib.M38        88C1 91C3
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                     GPU_VCORE_LOW - @m38_lib.M38      85B4 88B5
GPU_GPIO_17          GPU_GPIO_17 - @m38_lib.M38        88C1 91C3
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GPU_GPIO_23          GPU_GPIO_23 - @m38_lib.M38        91D5 95B4
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GPU_GPIO_26          GPU_GPIO_26 - @m38_lib.M38        91D5 95C4
GPU_GPIO_27          GPU_GPIO_27 - @m38_lib.M38        88B5 91D5
GPU_GPIO_28          GPU_GPIO_28 - @m38_lib.M38        88B5 91D5
GPU_GPIO_29          GPU_GPIO_29 - @m38_lib.M38        88B5 91C5
GPU_GPIO_30          GPU_GPIO_30 - @m38_lib.M38        91C5 95C4
GPU_GPIO_31          GPU_GPIO_31 - @m38_lib.M38        91C5 95C4
GPU_GPIO_32          GPU_GPIO_32 - @m38_lib.M38        91C5 95C4
GPU_GPIO_33          GPU_GPIO_33 - @m38_lib.M38        91C5 95C4
GPU_GPIO_34          GPU_GPIO_34 - @m38_lib.M38        91C5 95C4
GPU_H2SYNC           GPU_H2SYNC - @m38_lib.M38         93B3 97A4
GPU_HPD              GPU_HPD - @m38_lib.M38            93A5 97C1
GPU_HSYNC_BUF        GPU_HSYNC_BUF - @m38_lib.M38      97A4
GPU_MEMTEST          GPU_MEMTEST - @m38_lib.M38        87A3
GPU_MVREFD0          GPU_MVREFD0 - @m38_lib.M38        87B7
GPU_MVREFD1          GPU_MVREFD1 - @m38_lib.M38        87B3
GPU_MVREFS0          GPU_MVREFS0 - @m38_lib.M38        87B7
GPU_MVREFS1          GPU_MVREFS1 - @m38_lib.M38        87B3
GPU_PCIE_CALI        GPU_PCIE_CALI - @m38_lib.M38      84A3
GPU_PCIE_CALRN       GPU_PCIE_CALRN - @m38_lib.M38     84A3
GPU_PCIE_CALRP       GPU_PCIE_CALRP - @m38_lib.M38     84A3
GPU_PWM_RST_L        GPU_PWM_RST_L - @m38_lib.M38      6C7 94B3
GPU_R2               GPU_R2 - @m38_lib.M38             93B3 97A8
GPU_TEST_MCLK        GPU_TEST_MCLK - @m38_lib.M38      87A3
GPU_TEST_YCLK        GPU_TEST_YCLK - @m38_lib.M38      87A3
GPU_TV_C             GPU_TV_C - @m38_lib.M38           88B1 93B3
                     TP_GPU_TV_C - @m38_lib.M38        88B3
GPU_TV_COMP          GPU_TV_COMP - @m38_lib.M38        88B1 93B3
                     TP_GPU_TV_COMP - @m38_lib.M38     88B3
GPU_TV_Y             GPU_TV_Y - @m38_lib.M38           88B1 93B3
                     TP_GPU_TV_Y - @m38_lib.M38        88B3
GPU_V2SYNC           GPU_V2SYNC - @m38_lib.M38         93B3 97B4
GPU_VARY_BL          GPU_VARY_BL - @m38_lib.M38        91C3 94B4
GPU_VCORE_HIGH       GPU_VCORE_HIGH - @m38_lib.M38     85A8 85B4
GPU_VCORE_HIGH_RC    GPU_VCORE_HIGH_RC - @m38_lib.M38  85B3
GPU_VGA_B            GPU_VGA_B - @m38_lib.M38          88C1 93C3
                     TP_GPU_VGA_B - @m38_lib.M38       88C3
GPU_VGA_G            GPU_VGA_G - @m38_lib.M38          88C1 93C3
                     TP_GPU_VGA_G - @m38_lib.M38       88C3
GPU_VGA_HSYNC        GPU_VGA_HSYNC - @m38_lib.M38      88B1 93B3
                     TP_GPU_VGA_HSYNC - @m38_lib.M38   88B3
GPU_VGA_R            GPU_VGA_R - @m38_lib.M38          88C1 93C3
                     TP_GPU_VGA_R - @m38_lib.M38       88C3
GPU_VGA_VSYNC        GPU_VGA_VSYNC - @m38_lib.M38      88B1 93B3
                     TP_GPU_VGA_VSYNC - @m38_lib.M38   88B3
GPU_VSYNC_BUF        GPU_VSYNC_BUF - @m38_lib.M38      97A4
GPU_XTALOUT          GPU_XTALOUT - @m38_lib.M38        91A5
I2C_ALS_SCL          I2C_ALS_SCL - @m38_lib.M38        59B1 59C8
                     SMB_A_S3_CLK - @m38_lib.M38       58B5 59B2 59D1
I2C_ALS_SDA          I2C_ALS_SDA - @m38_lib.M38        59B1 59C8
                     SMB_A_S3_DATA - @m38_lib.M38      58B5 59B2 59D1
IDE_CSEL_PD          IDE_CSEL_PD - @m38_lib.M38        38C3
IDE_DASP_L           IDE_DASP_L - @m38_lib.M38         38C3
IDE_DASP_L_DS        IDE_DASP_L_DS - @m38_lib.M38      38B3
IDE_IOCS16_PU        IDE_IOCS16_PU - @m38_lib.M38      38C1
IDE_IRQ14            IDE_IRQ14 - @m38_lib.M38          21B6 38C4
IDE_PDA<0>           IDE_PDA<0> - @m38_lib.M38         21B5 38C3
IDE_PDA<1>           IDE_PDA<1> - @m38_lib.M38         21B5 38C3
IDE_PDA<2>           IDE_PDA<2> - @m38_lib.M38         21B5 38C1
IDE_PDCS1_L          IDE_PDCS1_L - @m38_lib.M38        21B5 38C3
IDE_PDCS3_L          IDE_PDCS3_L - @m38_lib.M38        21B5 38C1
IDE_PDD<0>           IDE_PDD<0> - @m38_lib.M38         21C5 38C3
IDE_PDD<1>           IDE_PDD<1> - @m38_lib.M38         21B5 38C3
IDE_PDD<2>           IDE_PDD<2> - @m38_lib.M38         21B5 38D3
IDE_PDD<3>           IDE_PDD<3> - @m38_lib.M38         21B5 38D3
IDE_PDD<4>           IDE_PDD<4> - @m38_lib.M38         21B5 38D3
IDE_PDD<5>           IDE_PDD<5> - @m38_lib.M38         21B5 38D3
IDE_PDD<6>           IDE_PDD<6> - @m38_lib.M38         21B5 38D3
IDE_PDD<7>           IDE_PDD<7> - @m38_lib.M38         21B5 38D3
IDE_PDD<8>           IDE_PDD<8> - @m38_lib.M38         21B5 38D1
IDE_PDD<9>           IDE_PDD<9> - @m38_lib.M38         5C8 21B5 38D1
IDE_PDD<10>          IDE_PDD<10> - @m38_lib.M38        21B5 38D1
IDE_PDD<11>          IDE_PDD<11> - @m38_lib.M38        21B5 38D1
IDE_PDD<12>          IDE_PDD<12> - @m38_lib.M38        21B5 38D1
IDE_PDD<13>          IDE_PDD<13> - @m38_lib.M38        21B5 38D1
IDE_PDD<14>          IDE_PDD<14> - @m38_lib.M38        21B5 38D1
IDE_PDD<15>          IDE_PDD<15> - @m38_lib.M38        21B5 38C1
IDE_PDDACK_L         IDE_PDDACK_L - @m38_lib.M38       21B6 38C1
IDE_PDDREQ           IDE_PDDREQ - @m38_lib.M38         21B6 38C4
IDE_PDIORDY          IDE_PDIORDY - @m38_lib.M38        5C8 21B6 38C4
IDE_PDIOR_L          IDE_PDIOR_L - @m38_lib.M38        5C8 21B6 38C1
IDE_PDIOW_L          IDE_PDIOW_L - @m38_lib.M38        21B6 38C3
IDE_RESET_L          IDE_RESET_L - @m38_lib.M38        23C3 38D3 38D6
IMVP6_BOOT1          IMVP6_BOOT1 - @m38_lib.M38        75A8 75C5
IMVP6_BOOT2          IMVP6_BOOT2 - @m38_lib.M38        75A6 75C5
IMVP6_COMP           IMVP6_COMP - @m38_lib.M38         75A4 75B6
IMVP6_COMP_RC        IMVP6_COMP_RC - @m38_lib.M38      75B7
IMVP6_DFB            IMVP6_DFB - @m38_lib.M38          75A4 75B5
IMVP6_DROOP          IMVP6_DROOP - @m38_lib.M38        75A4 75B4 76D5
IMVP6_DROOP_R        IMVP6_DROOP_R - @m38_lib.M38      76D4
```

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IMVP6_FB             IMVP6_FB - @m38_lib.M38              75A4 75B6
IMVP6_FB2            IMVP6_FB2 - @m38_lib.M38             75A4 75B6
IMVP6_FET_RC1        IMVP6_FET_RC1 - @m38_lib.M38         75A8 75C2
IMVP6_FET_RC2        IMVP6_FET_RC2 - @m38_lib.M38         75A6 75B2
IMVP6_ISEN1          IMVP6_ISEN1 - @m38_lib.M38           75A8 75C5
IMVP6_ISEN2          IMVP6_ISEN2 - @m38_lib.M38           75A6 75C5
IMVP6_LGATE1         IMVP6_LGATE1 - @m38_lib.M38          75A8 75C5
IMVP6_LGATE2         IMVP6_LGATE2 - @m38_lib.M38          75A6 75C5
IMVP6_NTC            IMVP6_NTC - @m38_lib.M38             75C7
IMVP6_NTC_R          IMVP6_NTC_R - @m38_lib.M38           75C7
IMVP6_OCSET          IMVP6_OCSET - @m38_lib.M38           75A4 75B5
IMVP6_PHASE1         IMVP6_PHASE1 - @m38_lib.M38          75A8 75C5
IMVP6_PHASE2         IMVP6_PHASE2 - @m38_lib.M38          75A6 75C5
IMVP6_RBIAS          IMVP6_RBIAS - @m38_lib.M38           75A4 75B6
IMVP6_RTN            IMVP6_RTN - @m38_lib.M38             75A4 75B5
IMVP6_SOFT           IMVP6_SOFT - @m38_lib.M38            75A4 75C6
IMVP6_UGATE1         IMVP6_UGATE1 - @m38_lib.M38          75A8 75C5
IMVP6_UGATE2         IMVP6_UGATE2 - @m38_lib.M38          75A6 75C5
IMVP6_VDIFF          IMVP6_VDIFF - @m38_lib.M38           75A4 75B6
IMVP6_VDIFF_RC       IMVP6_VDIFF_RC - @m38_lib.M38        75B7
IMVP6_VO             IMVP6_VO - @m38_lib.M38              75A4 75B4 76D5
IMVP6_VO_R           IMVP6_VO_R - @m38_lib.M38            75B4
IMVP6_VO_R_OA        IMVP6_VO_R_OA - @m38_lib.M38         76D4
IMVP6_VR_TT          IMVP6_VR_TT - @m38_lib.M38           75C7
IMVP6_VSEN           IMVP6_VSEN - @m38_lib.M38            75A4 75B5
IMVP6_VSUM           IMVP6_VSUM - @m38_lib.M38            75A4 75C5
IMVP6_VSUM_R1        IMVP6_VSUM_R1 - @m38_lib.M38         75A8 75C2
IMVP6_VSUM_R2        IMVP6_VSUM_R2 - @m38_lib.M38         75A6 75B2
IMVP6_VW             IMVP6_VW - @m38_lib.M38              75A4 75B6
IMVP_DPRSLPVR        IMVP_DPRSLPVR - @m38_lib.M38         75C6
IMVP_PGD_IN          IMVP_PGD_IN - @m38_lib.M38           75C6 77C7
IMVP_VID<0>          IMVP_VID<0> - @m38_lib.M38           75C6
IMVP_VID<1>          IMVP_VID<1> - @m38_lib.M38           75C7
IMVP_VID<2>          IMVP_VID<2> - @m38_lib.M38           75C7
IMVP_VID<3>          IMVP_VID<3> - @m38_lib.M38           75C7
IMVP_VID<4>          IMVP_VID<4> - @m38_lib.M38           75C7
IMVP_VID<5>          IMVP_VID<5> - @m38_lib.M38           75C7
IMVP_VID<6>          IMVP_VID<6> - @m38_lib.M38           75C7
IMVP_VR_ON           IMVP_VR_ON - @m38_lib.M38            58D7 75C6
INT_PIRQA_L          INT_PIRQA_L - @m38_lib.M38           22A7 26D2
INT_PIRQB_L          INT_PIRQB_L - @m38_lib.M38           22A7 26D2
INT_PIRQC_L          INT_PIRQC_L - @m38_lib.M38           22A7 26D2
INT_PIRQD_L          INT_PIRQD_L - @m38_lib.M38           22A7 26D2 44B5
INT_SERIRQ           INT_SERIRQ - @m38_lib.M38            23C8 58C7 60C3 67C6
ISENSE_CAL_EN        ISENSE_CAL_EN - @m38_lib.M38         58B7 76A8
ISENSE_CAL_EN_L      ISENSE_CAL_EN_L - @m38_lib.M38       76B7
ISENSE_CAL_EN_LS12V  ISENSE_CAL_EN_LS12V - @m38_lib.M38   76B6
ISENSE_CAL_EN_L_R    ISENSE_CAL_EN_L_R - @m38_lib.M38     76A7
ITPRESET_L           ITPRESET_L - @m38_lib.M38            11B3
ITP_TDO              ITP_TDO - @m38_lib.M38               11B3
ITS_ALIVE            ITS_ALIVE - @m38_lib.M38             6A7
ITS_PLUGGED_IN       ITS_PLUGGED_IN - @m38_lib.M38        6A8
ITS_RUNNING          ITS_RUNNING - @m38_lib.M38           6A6
JDREF                JDREF - @m38_lib.M38                 68C4
KBC_MDE              KBC_MDE - @m38_lib.M38               58C2
LCD_PWM              LCD_PWM - @m38_lib.M38               94B1 94C3
LCD_PWM_R            LCD_PWM_R - @m38_lib.M38             94B2
LCD_PWREN_L          LCD_PWREN_L - @m38_lib.M38           94C8
LCD_PWREN_L_RC       LCD_PWREN_L_RC - @m38_lib.M38        94C7
LED4300_1            LED4300_1 - @m38_lib.M38             43D2
LED4301_1            LED4301_1 - @m38_lib.M38             43D1
LED4302_1            LED4302_1 - @m38_lib.M38             43D1
LED4303_1            LED4303_1 - @m38_lib.M38             43D1
LED_PP1V05_S0_N      LED_PP1V05_S0_N - @m38_lib.M38       81A4
LED_PP1V05_S0_P      LED_PP1V05_S0_P - @m38_lib.M38       81A4
LED_PP1V5_S0_N       LED_PP1V5_S0_N - @m38_lib.M38        80A3
LED_PP1V5_S0_P       LED_PP1V5_S0_P - @m38_lib.M38        80A4
LED_PP1V8_S3_N       LED_PP1V8_S3_N - @m38_lib.M38        79A4
LED_PP1V8_S3_P       LED_PP1V8_S3_P - @m38_lib.M38        79A4
LPC_AD<0>            LPC_AD<0> - @m38_lib.M38             21D4 58D7 60C6 67C6
LPC_AD<1>            LPC_AD<1> - @m38_lib.M38             21D4 58D7 60C6 67C6
LPC_AD<2>            LPC_AD<2> - @m38_lib.M38             21D4 58C7 60C3 67C6
LPC_AD<3>            LPC_AD<3> - @m38_lib.M38             21D4 58C7 60C3 67C6
LPC_FRAME_L          LPC_FRAME_L - @m38_lib.M38           21C5 58C7 60C6 67C6
LVDS_A_CLK_N         LVDS_A_CLK_N - @m38_lib.M38          13D5 19D2
                     TP_LVDS_A_CLK_N - @m38_lib.M38       19D1
LVDS_A_CLK_P         LVDS_A_CLK_P - @m38_lib.M38          13C5 19D2
                     TP_LVDS_A_CLK_P - @m38_lib.M38       19D1
LVDS_A_DATA_N<0>     LVDS_A_DATA_N<0> - @m38_lib.M38      13C5 19D2
LVDS_A_DATA_N<1>     LVDS_A_DATA_N<1> - @m38_lib.M38      13C5 19D2
LVDS_A_DATA_N<2>     LVDS_A_DATA_N<2> - @m38_lib.M38      13C5 19D2
LVDS_A_DATA_P<0>     LVDS_A_DATA_P<0> - @m38_lib.M38      13C5 19D2
LVDS_A_DATA_P<1>     LVDS_A_DATA_P<1> - @m38_lib.M38      13C5 19D2
LVDS_A_DATA_P<2>     LVDS_A_DATA_P<2> - @m38_lib.M38      13C5 19D2
LVDS_BKLTCTL         LVDS_BKLTCTL - @m38_lib.M38          13D5 19C2
                     TP_LVDS_BKLTCTL - @m38_lib.M38       19C1
LVDS_BKLTEN          LVDS_BKLTEN - @m38_lib.M38           13D5 19C2
                     TP_LVDS_BKLTEN - @m38_lib.M38        19C1
LVDS_B_CLK_N         LVDS_B_CLK_N - @m38_lib.M38          13C5 19D2
                     TP_LVDS_B_CLK_N - @m38_lib.M38       19D1
LVDS_B_CLK_P         LVDS_B_CLK_P - @m38_lib.M38          13C5 19D2
                     TP_LVDS_B_CLK_P - @m38_lib.M38       19D1
LVDS_B_DATA_N<0>     LVDS_B_DATA_N<0> - @m38_lib.M38      13C5 19D2
LVDS_B_DATA_N<1>     LVDS_B_DATA_N<1> - @m38_lib.M38      13C5 19D2
LVDS_B_DATA_N<2>     LVDS_B_DATA_N<2> - @m38_lib.M38      13C5 19D2
LVDS_B_DATA_P<0>     LVDS_B_DATA_P<0> - @m38_lib.M38      13C5 19D2
LVDS_B_DATA_P<1>     LVDS_B_DATA_P<1> - @m38_lib.M38      13C5 19D2
LVDS_B_DATA_P<2>     LVDS_B_DATA_P<2> - @m38_lib.M38      13C5 19D2
LVDS_CLKCTLA         LVDS_CLKCTLA - @m38_lib.M38          13D5 19C2
                     TP_LVDS_CLKCTLA - @m38_lib.M38       19C1
LVDS_CLKCTLB         LVDS_CLKCTLB - @m38_lib.M38          13D5 19C2
                     TP_LVDS_CLKCTLB - @m38_lib.M38       19C1
LVDS_DDC_CLK         LVDS_DDC_CLK - @m38_lib.M38          13D5 19C2
                     TP_LVDS_DDC_CLK - @m38_lib.M38       19C1
LVDS_DDC_DATA        LVDS_DDC_DATA - @m38_lib.M38         13D5 19C2
                     TP_LVDS_DDC_DATA - @m38_lib.M38      19C1
LVDS_IBG             LVDS_IBG - @m38_lib.M38              13D5 19C2
                     TP_LVDS_IBG - @m38_lib.M38           19C1
LVDS_L_CLK_N         LVDS_L_CLK_N - @m38_lib.M38          93A3 93D2 94A6
LVDS_L_CLK_P         LVDS_L_CLK_P - @m38_lib.M38          93A3 93D2 94A7
LVDS_L_DATA_N<0>     LVDS_L_DATA_N<0> - @m38_lib.M38      93A3 93C2 94A6
LVDS_L_DATA_N<1>     LVDS_L_DATA_N<1> - @m38_lib.M38      93A3 93C2 94A7
LVDS_L_DATA_N<2>     LVDS_L_DATA_N<2> - @m38_lib.M38      93A3 93C2 94A6
LVDS_L_DATA_N<3>     LVDS_L_DATA_N<3> - @m38_lib.M38      93A3 94A6
LVDS_L_DATA_P<0>     LVDS_L_DATA_P<0> - @m38_lib.M38      93A3 93D2 94A7
LVDS_L_DATA_P<1>     LVDS_L_DATA_P<1> - @m38_lib.M38      93A3 93C2 94A6
LVDS_L_DATA_P<2>     LVDS_L_DATA_P<2> - @m38_lib.M38      93A3 93C2 94A7
LVDS_L_DATA_P<3>     LVDS_L_DATA_P<3> - @m38_lib.M38      93A3 94A7
LVDS_U_CLK_N         LVDS_U_CLK_N - @m38_lib.M38          93B3 94B6
LVDS_U_CLK_P         LVDS_U_CLK_P - @m38_lib.M38          93B3 94A7
LVDS_U_DATA_N<0>     LVDS_U_DATA_N<0> - @m38_lib.M38      93B3 94B7
LVDS_U_DATA_N<1>     LVDS_U_DATA_N<1> - @m38_lib.M38      93B3 94B7
LVDS_U_DATA_N<2>     LVDS_U_DATA_N<2> - @m38_lib.M38      93B3 94B7
LVDS_U_DATA_N<3>     LVDS_U_DATA_N<3> - @m38_lib.M38      93B3 94A6
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LVDS_U_DATA_P<0>     LVDS_U_DATA_P<0> - @m38_lib.M38      93B3 94B6
LVDS_U_DATA_P<1>     LVDS_U_DATA_P<1> - @m38_lib.M38      93B3 94B6
LVDS_U_DATA_P<2>     LVDS_U_DATA_P<2> - @m38_lib.M38      93B3 94B6
LVDS_U_DATA_P<3>     LVDS_U_DATA_P<3> - @m38_lib.M38      93B3 94A7
LVDS_VDDEN           LVDS_VDDEN - @m38_lib.M38            13D5 19C2
                     TP_LVDS_VDDEN - @m38_lib.M38         19C1
LVDS_VREFH           LVDS_VREFH - @m38_lib.M38            13D5 19C2
                     TP_LVDS_VREFH - @m38_lib.M38         19C1
LVDS_VREFL           LVDS_VREFL - @m38_lib.M38            13D5 19C2
                     TP_LVDS_VREFL - @m38_lib.M38         19C1
MEMVTT_VREF          MEMVTT_VREF - @m38_lib.M38           31B4
MEM_A_A<0>           MEM_A_A<0> - @m38_lib.M38            15C5 28B3
MEM_A_A<13..0>       MEM_A_A<13..0> - @m38_lib.M38        30C6
MEM_A_A<1>           MEM_A_A<1> - @m38_lib.M38            15C5 28B6
MEM_A_A<2>           MEM_A_A<2> - @m38_lib.M38            15C5 28B3
MEM_A_A<3>           MEM_A_A<3> - @m38_lib.M38            15B5 28B6
MEM_A_A<4>           MEM_A_A<4> - @m38_lib.M38            15B5 28B3
MEM_A_A<5>           MEM_A_A<5> - @m38_lib.M38            15B5 28B6
MEM_A_A<6>           MEM_A_A<6> - @m38_lib.M38            15B5 28C3
MEM_A_A<7>           MEM_A_A<7> - @m38_lib.M38            15B5 28C3
MEM_A_A<8>           MEM_A_A<8> - @m38_lib.M38            15B5 28C6
MEM_A_A<9>           MEM_A_A<9> - @m38_lib.M38            15B5 28C6
MEM_A_A<10>          MEM_A_A<10> - @m38_lib.M38           15B5 28B6
MEM_A_A<11>          MEM_A_A<11> - @m38_lib.M38           15B5 28C3
MEM_A_A<12>          MEM_A_A<12> - @m38_lib.M38           15B5 28C6
MEM_A_A<13>          MEM_A_A<13> - @m38_lib.M38           15B5 28B3
MEM_A_BS<0>          MEM_A_BS<0> - @m38_lib.M38           15D5 28B6
MEM_A_BS<2..0>       MEM_A_BS<2..0> - @m38_lib.M38        30C6
MEM_A_BS<1>          MEM_A_BS<1> - @m38_lib.M38           15D5 28B3
MEM_A_BS<2>          MEM_A_BS<2> - @m38_lib.M38           15D5 28C6
MEM_A_CAS_L          MEM_A_CAS_L - @m38_lib.M38           15D5 28B6 30B6
MEM_A_DM<0>          MEM_A_DM<0> - @m38_lib.M38           15D5 28D3
MEM_A_DM<1>          MEM_A_DM<1> - @m38_lib.M38           15D5 28D3
MEM_A_DM<2>          MEM_A_DM<2> - @m38_lib.M38           15D5 28C3
MEM_A_DM<3>          MEM_A_DM<3> - @m38_lib.M38           15C5 28C6
MEM_A_DM<4>          MEM_A_DM<4> - @m38_lib.M38           15C5 28B3
MEM_A_DM<5>          MEM_A_DM<5> - @m38_lib.M38           15C5 28A6
MEM_A_DM<6>          MEM_A_DM<6> - @m38_lib.M38           15C5 28A3
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NB_FSB_XSCOMP        NB_FSB_XSCOMP - @m38_lib.M38         12A6
NB_FSB_XSWING        NB_FSB_XSWING - @m38_lib.M38         12A6
NB_FSB_YRCOMP        NB_FSB_YRCOMP - @m38_lib.M38         12A6
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NB_RST_IN_L          NB_RST_IN_L - @m38_lib.M38           6B7 14B7
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NB_SB_SYNC_L         NB_SB_SYNC_L - @m38_lib.M38          14B6 22A6
NB_TV_DCONSEL0       NB_TV_DCONSEL0 - @m38_lib.M38        14D6
NB_TV_DCONSEL1       NB_TV_DCONSEL1 - @m38_lib.M38        14C6
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NB_VCCSM_LF2         NB_VCCSM_LF2 - @m38_lib.M38          16B4
NB_VCCSM_LF4         NB_VCCSM_LF4 - @m38_lib.M38          16B8
NB_VCCSM_LF5         NB_VCCSM_LF5 - @m38_lib.M38          16B8
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NB_VTTLF_CAP2        NB_VTTLF_CAP2 - @m38_lib.M38         17A4
NB_VTTLF_CAP3        NB_VTTLF_CAP3 - @m38_lib.M38         17B4
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NC_AUD_VREF_PORT_C   NC_AUD_VREF_PORT_C - @m38_lib.M38    68C1
NC_AUD_VREF_PORT_D   NC_AUD_VREF_PORT_D - @m38_lib.M38    68C1
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NC_FW_NU2            NC_FW_NU2 - @m38_lib.M38             44B3
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PEG_RESET_L          PEG_RESET_L - @m38_lib.M38          6B7 84A5
PLT_RST_L            PLT_RST_L - @m38_lib.M38            6C8 22A6
PM_BATLOW_L          PM_BATLOW_L - @m38_lib.M38          23C1 58B7
PM_BMBUSY_L          PM_BMBUSY_L - @m38_lib.M38          14B6 23C5
PM_CLKRUN_L          PM_CLKRUN_L - @m38_lib.M38          5B8 23C8 44B5 58C5 60C6
                                                         67C6
PM_DPRSLPVR          PM_DPRSLPVR - @m38_lib.M38          14B7 23C3 75C7
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                     DIMM_OVERTEMP_L - @m38_lib.M38      28C3 29C3 59C6
PM_LAN_ENABLE        PM_LAN_ENABLE - @m38_lib.M38        23C3 58D7
PM_PWRBTN_L          PM_PWRBTN_L - @m38_lib.M38          23C3 58D7
PM_PWROK             PM_PWROK - @m38_lib.M38             77B7
PM_RI_L              PM_RI_L - @m38_lib.M38              23D5
PM_RSMRST_L          PM_RSMRST_L - @m38_lib.M38          23C1 58D7
PM_SB_PWROK          PM_SB_PWROK - @m38_lib.M38          23C3 26D6
PM_SLP_S3            PM_SLP_S3 - @m38_lib.M38            77D7 78B8 80C8 81C8
PM_SLP_S3_L          PM_SLP_S3_L - @m38_lib.M38          6C8 23C3 58C5 77D8 79A7
                                                         88A6
                     MEMVTT_EN - @m38_lib.M38            31B5 79A6
PM_SLP_S4            PM_SLP_S4 - @m38_lib.M38            77A7 77C7 79C8 83C6
PM_SLP_S4_L          PM_SLP_S4_L - @m38_lib.M38          23C3 58C5 77C8
PM_SLP_S5_L          PM_SLP_S5_L - @m38_lib.M38          23C3 58C5
PM_STPCPU_L          PM_STPCPU_L - @m38_lib.M38          23C8 33C4
PM_STPPCI_L          PM_STPPCI_L - @m38_lib.M38          23C8 33C4
PM_SUS_STAT_L        PM_SUS_STAT_L - @m38_lib.M38        23C5 58C5 60C3 67C6
PM_SYSRST_L          PM_SYSRST_L - @m38_lib.M38          5B8 23C5 26C3 58B7
PM_THRMTRIP_L        PM_THRMTRIP_L - @m38_lib.M38        7C6 14B6 21C2 59C7
PM_THRM_L            PM_THRM_L - @m38_lib.M38            10D3 23C8 58B7
POWER_BUTTON_L       POWER_BUTTON_L - @m38_lib.M38       5D1 59C8
PP0V9_S0_PGOOD       PP0V9_S0_PGOOD - @m38_lib.M38       77B8 79A2
PP1V2_S0_GPU_VDDPLL  PP1V2_S0_GPU_VDDPLL - @m38_lib.M38  91B6
PP1V05_S0_PGOOD      PP1V05_S0_PGOOD - @m38_lib.M38      77C8 81B2
PP1V5_S0_NB_3GPLL_F  PP1V5_S0_NB_3GPLL_F - @m38_lib.M38  19A5
PP1V5_S0_NB_VCC3G    PP1V5_S0_NB_VCC3G - @m38_lib.M38    17D6 19A3
PP1V5_S0_NB_VCCA_3GP PP1V5_S0_NB_VCCA_3GPLL -            17D6 19A3
LL                   @m38_lib.M38
PP1V5_S0_NB_VCCA_DPL PP1V5_S0_NB_VCCA_DPLLA -            17C6 19C4
LA                   @m38_lib.M38
                     TP_NB_VCCA_DPLLA - @m38_lib.M38     19C5
PP1V5_S0_NB_VCCA_DPL PP1V5_S0_NB_VCCA_DPLLB -            17C6 19C4
LB                   @m38_lib.M38
                     TP_NB_VCCA_DPLLB - @m38_lib.M38     19C5
PP1V5_S0_NB_VCCA_HPL PP1V5_S0_NB_VCCA_HPLL -             17C6 19C6
L                    @m38_lib.M38
PP1V5_S0_NB_VCCA_MPL PP1V5_S0_NB_VCCA_MPLL -             17C6 19C6
L                    @m38_lib.M38
PP1V5_S0_NB_VCCD_QTV PP1V5_S0_NB_VCCD_QTVDAC -           17B6 19A1
DAC                  @m38_lib.M38
                     PP1V5_S0_NB_VCCD_TVDAC -            17C6 19B1
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PP1V5_S0_PGOOD       PP1V5_S0_PGOOD - @m38_lib.M38       77C8 80B2
PP1V5_S0_SB_R        PP1V5_S0_SB_R - @m38_lib.M38        25A7
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PP1V5_S0_SB_VCCDMIPL PP1V5_S0_SB_VCCDMIPLL -             24B5 25A6
L                    @m38_lib.M38
PP1V8R2V0_S0_GPU_VDD PP1V8R2V0_S0_GPU_VDDRH0 -           87A7
RH0                  @m38_lib.M38
PP1V8R2V0_S0_GPU_VDD PP1V8R2V0_S0_GPU_VDDRH1 -           87B3
RH1                  @m38_lib.M38
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R4_F                 @m38_lib.M38

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R5_F                 @m38_lib.M38
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PP1V8_FB_B0_VDDA0    PP1V8_FB_B0_VDDA0 - @m38_lib.M38    90D7
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PP1V8_FB_B1_VDDA1    PP1V8_FB_B1_VDDA1 - @m38_lib.M38    90D4
PP1V8_S3_PGOOD       PP1V8_S3_PGOOD - @m38_lib.M38       79B2
PP2V5 S0_PGOOD       PP2V5 S0_PGOOD - @m38_lib.M38       77B8 77C5
PP2V5_ENET_CTAP      PP2V5_ENET_CTAP - @m38_lib.M38      43D7
PP2V5_S0_GPU_A2VDD   PP2V5_S0_GPU_A2VDD - @m38_lib.M38   93B7
PP2V5_S0_GPU_AVDD    PP2V5_S0_GPU_AVDD - @m38_lib.M38    93C7
PP2V5_S0_GPU_LPVDD   PP2V5_S0_GPU_LPVDD - @m38_lib.M38   93B7
PP2V5_S0_GPU_LVDDR   PP2V5_S0_GPU_LVDDR - @m38_lib.M38   93B7
PP2V5_S0_GPU_PVDD_F  PP2V5_S0_GPU_PVDD_F - @m38_lib.M38  91A6
PP2V5_S0_GPU_TPVDD   PP2V5_S0_GPU_TPVDD - @m38_lib.M38   93C7
PP2V5_S0_GPU_TXVDDR  PP2V5_S0_GPU_TXVDDR - @m38_lib.M38  93C7
PP2V5_S0_GPU_VDD1DI  PP2V5_S0_GPU_VDD1DI - @m38_lib.M38  93C8
PP2V5_S0_GPU_VDD2DI  PP2V5_S0_GPU_VDD2DI - @m38_lib.M38  93B8
PP3V3R12V_LCD_CONN   PP3V3R12V_LCD_CONN - @m38_lib.M38   94A6 94A6 94A7 94C5
PP3V3_AUDIO_SPDIF_EM PP3V3_AUDIO_SPDIF_EMI -             73B7
I                    @m38_lib.M38
PP3V3_AUDIO_SPDIF_JA PP3V3_AUDIO_SPDIF_JACK -            73B5
CK                   @m38_lib.M38
PP3V3_AVCC_SMC       PP3V3_AVCC_SMC - @m38_lib.M38       58D3
PP3V3_AVREF_SMC      PP3V3_AVREF_SMC - @m38_lib.M38      58D2 59A3
PP3V3_FW_ESD         PP3V3_FW_ESD - @m38_lib.M38         46A5 46A6 46B5 46C5 46D5
PP3V3_FW_ESD_F       PP3V3_FW_ESD_F - @m38_lib.M38       46A7
PP3V3_INTERCON       PP3V3_INTERCON - @m38_lib.M38       72C7
PP3V3_LCD_SW         PP3V3_LCD_SW - @m38_lib.M38         94C6
PP3V3_S0_CK410_VDD48 PP3V3_S0_CK410_VDD48 - @m38_lib.M38 33D5
PP3V3_S0_CK410_VDDA  PP3V3_S0_CK410_VDDA - @m38_lib.M38  33C6
PP3V3_S0_CK410_VDD_C PP3V3_S0_CK410_VDD_CPU_SRC -        33D6
PU_SRC               @m38_lib.M38
PP3V3_S0_CK410_VDD_P PP3V3_S0_CK410_VDD_PCI -            33D5
CI                   @m38_lib.M38
PP3V3_S0_CK410_VDD_R PP3V3_S0_CK410_VDD_REF -            33C5
EF                   @m38_lib.M38
PP3V3_S0_IMVP6_3V3   PP3V3_S0_IMVP6_3V3 - @m38_lib.M38   75D6
PP3V3_S5_FW_VDDA     PP3V3_S5_FW_VDDA - @m38_lib.M38     44D5 45C6
PP3V3_S5_SB_RTC      PP3V3_S5_SB_RTC - @m38_lib.M38      5D2 21D6 24B3 25A3 26D7
PP3V3_SO_2V5REG_R    PP3V3_SO_2V5REG_R - @m38_lib.M38    77D5
PP3V3_TPM_3VSB       PP3V3_TPM_3VSB - @m38_lib.M38       59C5 67C4
PP4V5_AUDIO_ANALOG   PP4V5_AUDIO_ANALOG - @m38_lib.M38   68A2 68D2 74D8
PP5V_BNDI_LE340      PP5V_BNDI_LE340 - @m38_lib.M38      47D3
PP5V_S0_DDC          PP5V_S0_DDC - @m38_lib.M38          97D4
PP5V_S0_DDC_FUSE     PP5V_S0_DDC_FUSE - @m38_lib.M38     97D5
PP5V_S0_GPUVCORE_VCC PP5V_S0_GPUVCORE_VCC - @m38_lib.M38 85D7 88D8
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PP5V_S0_SB_V5REF     PP5V_S0_SB_V5REF - @m38_lib.M38     24D5 25D7
PP5V_S3_BNDI         PP5V_S3_BNDI - @m38_lib.M38         47B2 47D1
PP5V_S5_SB_V5REF_SUS PP5V_S5_SB_V5REF_SUS - @m38_lib.M38 24D5 25C7
PP5V_USB2            PP5V_USB2 - @m38_lib.M38            47D7
PP5V_USB2_PORT0_F    PP5V_USB2_PORT0_F - @m38_lib.M38    47D5
PP5V_USB2_PORT1_F    PP5V_USB2_PORT1_F - @m38_lib.M38    47C5
PP5V_USB2_PORT2_F    PP5V_USB2_PORT2_F - @m38_lib.M38    47B5
PP12V_AUD_SPKRAMP_PL PP12V_AUD_SPKRAMP_PLANE -           72D5
ANE                  @m38_lib.M38
PP12V_L7502          PP12V_L7502 - @m38_lib.M38          76D7
PP12V_S5_CPU_REG     PP12V_S5_CPU_REG - @m38_lib.M38     75C3 75D4 75D7 76C8 76D6
PPFW_PORT0_VP        PPFW_PORT0_VP - @m38_lib.M38        46D2
PPFW_PORT0_VP_FL     PPFW_PORT0_VP_FL - @m38_lib.M38     46C2
PPFW_PORT1_VP        PPFW_PORT1_VP - @m38_lib.M38        46B2 46D1
PPFW_PORT1_VP_FL     PPFW_PORT1_VP_FL - @m38_lib.M38     46B2
PPFW_PORTS_VP        PPFW_PORTS_VP - @m38_lib.M38        46D3
PPVCORE_S0_GPU_MPVDD PPVCORE_S0_GPU_MPVDD - @m38_lib.M38 91A6
PPVCORE_S0_GPU_VDDCI PPVCORE_S0_GPU_VDDCI - @m38_lib.M38 86C7
PPVIN_S5_IMVP6_VIN   PPVIN_S5_IMVP6_VIN - @m38_lib.M38   75D6
PPV_3V3_AUDIO_CODEC  PPV_3V3_AUDIO_CODEC - @m38_lib.M38  68D6
Q4201_3              Q4201_3 - @m38_lib.M38              42D6
R7504_1              R7504_1 - @m38_lib.M38              75A8 75C1
R7507_1              R7507_1 - @m38_lib.M38              75A6 75B1
R8599_2              R8599_2 - @m38_lib.M38              85C4
RSMRST_PWRGD         RSMRST_PWRGD - @m38_lib.M38         58D7 76D1
SATA_A_D2R_N         SATA_A_D2R_N - @m38_lib.M38         21B6 38A6
                     TP_SATA_A_D2R_N - @m38_lib.M38      38A5
SATA_A_D2R_P         SATA_A_D2R_P - @m38_lib.M38         21B6 38A6
                     TP_SATA_A_D2R_P - @m38_lib.M38      38A5
SATA_A_R2D_C_N       SATA_A_R2D_C_N - @m38_lib.M38       21B6 38A6
                     TP_SATA_A_R2D_N - @m38_lib.M38      38A5
SATA_A_R2D_C_P       SATA_A_R2D_C_P - @m38_lib.M38       21B6 38A6
                     TP_SATA_A_R2D_P - @m38_lib.M38      38A5
SATA_C_D2R_C_N       SATA_C_D2R_C_N - @m38_lib.M38       38B8
SATA_C_D2R_C_P       SATA_C_D2R_C_P - @m38_lib.M38       38B8
SATA_C_D2R_N         SATA_C_D2R_N - @m38_lib.M38         21B6 38B6
SATA_C_D2R_P         SATA_C_D2R_P - @m38_lib.M38         21B6 38B6
SATA_C_DET_L         SATA_C_DET_L - @m38_lib.M38         23D2 38B5
SATA_C_PWR_EN_L      SATA_C_PWR_EN_L - @m38_lib.M38      23A3 23B3
SATA_C_R2D_C_N       SATA_C_R2D_C_N - @m38_lib.M38       21B6 38B6
SATA_C_R2D_C_P       SATA_C_R2D_C_P - @m38_lib.M38       21B6 38B6
SATA_C_R2D_N         SATA_C_R2D_N - @m38_lib.M38         38B8
SATA_C_R2D_P         SATA_C_R2D_P - @m38_lib.M38         38B8
SATA_RBIAS_N         SATA_RBIAS_N - @m38_lib.M38         21B6 38C7
                     SATA_RBIAS_P - @m38_lib.M38         21B6 38C7
                     SATA_RBIAS - @m38_lib.M38           38C7
                     SATA_RBIAS_P - @m38_lib.M38         21B6 38C7
                     SATA_RBIAS - @m38_lib.M38           38C7
SB_A20GATE           SB_A20GATE - @m38_lib.M38           21C4
SB_ACZ_BITCLK        SB_ACZ_BITCLK - @m38_lib.M38        21C6
SB_ACZ_RST_L         SB_ACZ_RST_L - @m38_lib.M38         21C6
SB_ACZ_SDATAOUT      SB_ACZ_SDATAOUT - @m38_lib.M38      21C6
SB_ACZ_SYNC          SB_ACZ_SYNC - @m38_lib.M38          21C6
SB_CLK14P3M_TIMER    SB_CLK14P3M_TIMER - @m38_lib.M38    5B8 23D3 34D4
SB_CLK48M_USBCTLR    SB_CLK48M_USBCTLR - @m38_lib.M38    5B8 23D3 34C4
SB_CLK100M_DMI_N     SB_CLK100M_DMI_N - @m38_lib.M38     5B8 22C2 34A4 34C2
SB_CLK100M_DMI_P     SB_CLK100M_DMI_P - @m38_lib.M38     5B8 22C2 34A4 34C2
SB_CLK100M_SATA_N    SB_CLK100M_SATA_N - @m38_lib.M38    5C8 21B6 34B4 34C2
SB_CLK100M_SATA_OE_L SB_CLK100M_SATA_OE_L - @m38_lib.M38 23C3 33B4
SB_CLK100M_SATA_P    SB_CLK100M_SATA_P - @m38_lib.M38    5C8 21B6 34B4 34C2
SB_CRT_TVOUT_MUX     SB_CRT_TVOUT_MUX - @m38_lib.M38     22B5
SB_GPIO2             SB_GPIO2 - @m38_lib.M38             22A6 26C2
SB_GPIO3             SB_GPIO3 - @m38_lib.M38             22A6 26C2
SB_GPIO4             SB_GPIO4 - @m38_lib.M38             22A6 26C2
SB_GPIO19            SB_GPIO19 - @m38_lib.M38            23D3
SB_GPIO21            SB_GPIO21 - @m38_lib.M38            23D3
SB_GPIO26            SB_GPIO26 - @m38_lib.M38            23C7
SB_GPIO29            SB_GPIO29 - @m38_lib.M38            22C4 22D8
SB_GPIO30            SB_GPIO30 - @m38_lib.M38            22C4 22D8
SB_GPIO31            SB_GPIO31 - @m38_lib.M38            22C4 22D8
SB_GPIO37            SB_GPIO37 - @m38_lib.M38            23D3
SB_INTVRMEN          SB_INTVRMEN - @m38_lib.M38          21D6

SB_RTC_RST_L         SB_RTC_RST_L - @m38_lib.M38         21D6 26C7
SB_RTC_X1            SB_RTC_X1 - @m38_lib.M38            21D6 26D7
SB_RTC_X2            SB_RTC_X2 - @m38_lib.M38            21D6 26D7
SB_SM_INTRUDER_L     SB_SM_INTRUDER_L - @m38_lib.M38     21D6 26C7
SB_SPKR              SB_SPKR - @m38_lib.M38              23C5
SC_RX_L              SC_RX_L - @m38_lib.M38              58C5 59B6 59C4
SC_TX_L              SC_TX_L - @m38_lib.M38              58C5 59B4 59B6
SDVO_CTRLCLK         SDVO_CTRLCLK - @m38_lib.M38         14B6 19A2
                     TP_SDVO_CTRLCLK - @m38_lib.M38      19A1
SDVO_CTRLDATA        SDVO_CTRLDATA - @m38_lib.M38        14B6 19A2
                     TP_SDVO_CTRLDATA - @m38_lib.M38     19A1
SMB_ALERT_L          SMB_ALERT_L - @m38_lib.M38          23C5
SMB_BSA_CLK          SMB_BSA_CLK - @m38_lib.M38          58B5 59C1
SMB_BSA_DATA         SMB_BSA_DATA - @m38_lib.M38         58B5 59C1
SMB_BSB_CLK          SMB_BSB_CLK - @m38_lib.M38          58C5 59D1
SMB_BSB_DATA         SMB_BSB_DATA - @m38_lib.M38         58C7 59D1
SMB_LINK_ALERT_L     SMB_LINK_ALERT_L - @m38_lib.M38     23D5
SMC_ADAPTER_EN       SMC_ADAPTER_EN - @m38_lib.M38       58D5 59D5
                     TP_SMC_ADAPTER_EN - @m38_lib.M38    59D3
SMC_ANALOG_ID        SMC_ANALOG_ID - @m38_lib.M38        58A7 59C6
                     NC_SMC_ANALOG_ID - @m38_lib.M38     59C5
SMC_BATT_CHG_EN      SMC_BATT_CHG_EN - @m38_lib.M38      58D7 59D6
                     NC_SMC_BATT_CHG_EN - @m38_lib.M38   59D5
SMC_BATT_ISENSE      SMC_BATT_ISENSE - @m38_lib.M38      58D5 59B6
                     UNUSED_SMC_SENSE - @m38_lib.M38     59B5 59B5 59B6
                     SMC_FWIRE_ISENSE - @m38_lib.M38     58D5 59B6
                     UNUSED_SMC_SENSE - @m38_lib.M38     59B5 59B5 59B6
                     SMC_FWIRE_ISENSE - @m38_lib.M38     58D5 59B6
SMC_BATT_ISET        SMC_BATT_ISET - @m38_lib.M38        58B5 59D6
                     NC_SMC_BATT_ISET - @m38_lib.M38     59D5
SMC_BATT_TRICKLE_EN_ SMC_BATT_TRICKLE_EN_L -             58D7 59D6
L                    @m38_lib.M38
                     NC_SMC_BATT_TRICKLE_EN_L -          59D5
                     @m38_lib.M38
SMC_BATT_VSET        SMC_BATT_VSET - @m38_lib.M38        58B5 59D6
                     NC_SMC_BATT_VSET - @m38_lib.M38     59D5
SMC_BC_ACOK          SMC_BC_ACOK - @m38_lib.M38          58C5 59B4
SMC_BS_ALRT_L        SMC_BS_ALRT_L - @m38_lib.M38        58C5 59B4
SMC_CASE_OPEN        SMC_CASE_OPEN - @m38_lib.M38        58C5 59C1
SMC_CPU_ISENSE       SMC_CPU_ISENSE - @m38_lib.M38       58D5 76D2
SMC_CPU_RESET_3_3_L  SMC_CPU_RESET_3_3_L - @m38_lib.M38  58B5 59A7
SMC_CPU_VSENSE       SMC_CPU_VSENSE - @m38_lib.M38       58D5 76B2
SMC_DCIN_ISENSE      SMC_DCIN_ISENSE - @m38_lib.M38      58D5 76D5
SMC_EXCARD_CP        SMC_EXCARD_CP - @m38_lib.M38        58B7 59C4
SMC_EXCARD_PWR_EN    SMC_EXCARD_PWR_EN - @m38_lib.M38    58B7 59C5
                     TP_SMC_EXCARD_PWR_EN - @m38_lib.M38 59C3
SMC_EXCARD_PWR_OC_L  SMC_EXCARD_PWR_OC_L - @m38_lib.M38  58B7 59C4
SMC_EXTAL            SMC_EXTAL - @m38_lib.M38            58C3 59B8
SMC_EXTSMI_L         SMC_EXTSMI_L - @m38_lib.M38         23B8 58B7
SMC_FAN_0_CTL        SMC_FAN_0_CTL - @m38_lib.M38        58B7 65D8
                     FAN_RPM0 - @m38_lib.M38             65D7
SMC_FAN_0_TACH       SMC_FAN_0_TACH - @m38_lib.M38       58B7 65C8
SMC_FAN_1_CTL        SMC_FAN_1_CTL - @m38_lib.M38        58B7 65B8 66D8
SMC_FAN_1_TACH       SMC_FAN_1_TACH - @m38_lib.M38       58B7 65A8 66C8
SMC_FAN_2_CTL        SMC_FAN_2_CTL - @m38_lib.M38        58B7 65B8 66D8
SMC_FAN_2_TACH       SMC_FAN_2_TACH - @m38_lib.M38       58B7 65A8 66C8
SMC_FAN_3_CTL        SMC_FAN_3_CTL - @m38_lib.M38        58B7 59C5
                     TP_SMC_FAN_3_CTL - @m38_lib.M38     59C3
SMC_FAN_3_TACH       SMC_FAN_3_TACH - @m38_lib.M38       58B7 59C5
                     TP_SMC_FAN_3_TACH - @m38_lib.M38    59C3
SMC_FWE              SMC_FWE - @m38_lib.M38              58B5 59B4
SMC_GPU_VSENSE       SMC_GPU_VSENSE - @m38_lib.M38       58D5 59B3
SMC_LID              SMC_LID - @m38_lib.M38              58B5 59C1
SMC_LRESET_L         SMC_LRESET_L - @m38_lib.M38         6B7 58C7
SMC_MANUAL_RST_L     SMC_MANUAL_RST_L - @m38_lib.M38     5D1 59D8
SMC_MD1              SMC_MD1 - @m38_lib.M38              58C1 60B5
SMC_MEM_ISENSE       SMC_MEM_ISENSE - @m38_lib.M38       58A7 59B6
                     NC_SMC_MEM_ISENSE - @m38_lib.M38    59B5
SMC_NB_ISENSE        SMC_NB_ISENSE - @m38_lib.M38        58A7 59B6
                     NC_SMC_NB_ISENSE - @m38_lib.M38     59B5
SMC_NMI              SMC_NMI - @m38_lib.M38              58C1 60B4
SMC_ODD_DETECT       SMC_ODD_DETECT - @m38_lib.M38       58B7 59C4
SMC_ONOFF_L          SMC_ONOFF_L - @m38_lib.M38          58C5 59B7 59C4
SMC_PB7              SMC_PB7 - @m38_lib.M38              59C5 59C5
                     TP_SMC_PB7 - @m38_lib.M38           59C3 59C3
SMC_PBUS_VSENSE      SMC_PBUS_VSENSE - @m38_lib.M38      58D5 76C6
SMC_PBUS_VSENSE_R    SMC_PBUS_VSENSE_R - @m38_lib.M38    76C8
SMC_PF0              SMC_PF0 - @m38_lib.M38              58B5 59D5
                     TP_SMC_PF0 - @m38_lib.M38           59D3
SMC_PF1              SMC_PF1 - @m38_lib.M38              58B5 59D5
                     TP_SMC_PF1 - @m38_lib.M38           59D3
SMC_PM_G2_EN         SMC_PM_G2_EN - @m38_lib.M38         58D5 59D5
                     TP_PM_G2_EN - @m38_lib.M38          59D3
SMC_PROCHOT          SMC_PROCHOT - @m38_lib.M38          58B5 59C7
SMC_PROCHOT_3_3_L    SMC_PROCHOT_3_3_L - @m38_lib.M38    58D5 59A7
SMC_RCIN_L           SMC_RCIN_L - @m38_lib.M38           21C3 58C7
SMC_REF_GATE1        SMC_REF_GATE1 - @m38_lib.M38        59A5
SMC_REF_GATE2        SMC_REF_GATE2 - @m38_lib.M38        59A4
SMC_REF_IN           SMC_REF_IN - @m38_lib.M38           59A4
SMC_RSTGATE_L        SMC_RSTGATE_L - @m38_lib.M38        42C3 44A8 58D7
SMC_RST_L            SMC_RST_L - @m38_lib.M38            58C3 59D7 60B4
SMC_RUNTIME_SCI_L    SMC_RUNTIME_SCI_L - @m38_lib.M38    23C8 58B7
SMC_RX_L             SMC_RX_L - @m38_lib.M38             5D1 58C7 59B4 59B5 60B4
SMC_SB_NMI           SMC_SB_NMI - @m38_lib.M38           23C3 58D7
SMC_SMB_0_CLK        SMC_SMB_0_CLK - @m38_lib.M38        58C7 59D1
                     TP_SMC_SMB_0_CLK - @m38_lib.M38     59D1
SMC_SMB_0_DATA       SMC_SMB_0_DATA - @m38_lib.M38       58C5 59D1
                     TP_SMC_SMB_0_DATA - @m38_lib.M38    59D1
SMC_SYS_ISET         SMC_SYS_ISET - @m38_lib.M38         58B5 59D6
                     NC_SMC_SYS_ISET - @m38_lib.M38      59D5
SMC_SYS_KBDLED       SMC_SYS_KBDLED - @m38_lib.M38       58C7 59D5
                     TP_SMC_SYS_KBDLED - @m38_lib.M38    59D3
SMC_SYS_LED          SMC_SYS_LED - @m38_lib.M38          58C7 59D7
SMC_SYS_VSET         SMC_SYS_VSET - @m38_lib.M38         58B5 59D6
                     NC_SMC_SYS_VSET - @m38_lib.M38      59D5
SMC_TCK              SMC_TCK - @m38_lib.M38              5D1 58C5 59B4 60B4
SMC_TDI              SMC_TDI - @m38_lib.M38              5D1 58B5 59B4 60B4
SMC_TDO              SMC_TDO - @m38_lib.M38              5D1 58B5 59B4 60B5
SMC_THRMTRIP         SMC_THRMTRIP - @m38_lib.M38         58B5 59C7
SMC_TMS              SMC_TMS - @m38_lib.M38              5D1 58B5 59B4 60B5
SMC_TPM_GPIO         SMC_TPM_GPIO - @m38_lib.M38         58D5 59B6
SMC_TPM_PP           SMC_TPM_PP - @m38_lib.M38           58C7 59A6
SMC_TPM_RESET_L      SMC_TPM_RESET_L - @m38_lib.M38      58B7 59C6 67B7
SMC_TRST_L           SMC_TRST_L - @m38_lib.M38           5D1 58C1 60B5
SMC_TX_L             SMC_TX_L - @m38_lib.M38             5D1 58C7 59B4 59B5 60B5
SMC_VCL              SMC_VCL - @m38_lib.M38              58D3
SMC_WAKE_SCI_L       SMC_WAKE_SCI_L - @m38_lib.M38       23C1 58D5
SMC_XDP_TCK          SMC_XDP_TCK - @m38_lib.M38          58C7 59A2
SMC_XDP_TCK_3_3      SMC_XDP_TCK_3_3 - @m38_lib.M38      58B5 59A5
SMC_XDP_TCK_R        SMC_XDP_TCK_R - @m38_lib.M38        59A1
SMC_XDP_TDI_L        SMC_XDP_TDI_L - @m38_lib.M38        58C7 59B3
SMC_XDP_TDO_3_3_L    SMC_XDP_TDO_3_3_L - @m38_lib.M38    58B7 59A5
SMC_XDP_TMS_L        SMC_XDP_TMS_L - @m38_lib.M38        58C7 59B2
SMC_XDP_TRST_L       SMC_XDP_TRST_L - @m38_lib.M38       58C7 59A3
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SMC_XDP_TRST_L_R	SMC_XDP_TRST_L_R - @m38_lib.M38	59A3
SMC_XTAL	SMC_XTAL - @m38_lib.M38	58C3 59B8
SMLINK<0>	SMLINK<0> - @m38_lib.M38	23D5
SMLINK<1>	SMLINK<1> - @m38_lib.M38	23D5
SMS_INT_L	SMS_INT_L - @m38_lib.M38	23C3 26C2 58B5
SMS_ONOFF_L	SMS_ONOFF_L - @m38_lib.M38	58A5 59B4
SMS_X_AXIS	SMS_X_AXIS - @m38_lib.M38	58B7 59B6
	NC_SMS_X_AXIS - @m38_lib.M38	59B5
SMS_Y_AXIS	SMS_Y_AXIS - @m38_lib.M38	58B7 59B6
	NC_SMS_Y_AXIS - @m38_lib.M38	59B5
SMS_Z_AXIS	SMS_Z_AXIS - @m38_lib.M38	58A7 59B6
	NC_SMS_Z_AXIS - @m38_lib.M38	59B5
SPARE_SRC3_N	SPARE_SRC3_N - @m38_lib.M38	34D2
SPARE_SRC3_P	SPARE_SRC3_P - @m38_lib.M38	34D2
SPARE_SRC7_N	SPARE_SRC7_N - @m38_lib.M38	34D2
SPARE_SRC7_P	SPARE_SRC7_P - @m38_lib.M38	34D2
SPI_ARB	SPI_ARB - @m38_lib.M38	22C6 58D5
SPI_CE_L	SPI_CE_L - @m38_lib.M38	22C6 58B5 63C7
SPI_HOLD_L	SPI_HOLD_L - @m38_lib.M38	63C4
SPI_SCLK	SPI_SCLK - @m38_lib.M38	22C6 58D5 63C7
SPI_SCLK_R	SPI_SCLK_R - @m38_lib.M38	63C4
SPI_SI	SPI_SI - @m38_lib.M38	22C6 58D5 63C1
SPI_SI_R	SPI_SI_R - @m38_lib.M38	63C3
SPI_SO	SPI_SO - @m38_lib.M38	22C6 58D5 63C1
SPI_SO_R	SPI_SO_R - @m38_lib.M38	63C3
SPI_WP_L	SPI_WP_L - @m38_lib.M38	63C4
SPKRAMP_MUTE	SPKRAMP_MUTE - @m38_lib.M38	72B5
SPKRAMP_SS	SPKRAMP_SS - @m38_lib.M38	72B4
SUS_CLK_SB	SUS_CLK_SB - @m38_lib.M38	23C3 59B5
	SMC_SUS_CLK - @m38_lib.M38	58C5 59B6
SV_SET_UP	SV_SET_UP - @m38_lib.M38	23B6 23C3 60B3
SW_RST_BTN_L	SW_RST_BTN_L - @m38_lib.M38	5D1 26C6
SW_RST_DEBNC	SW_RST_DEBNC - @m38_lib.M38	26C4
SYS_LED_DRV_C	SYS_LED_DRV_C - @m38_lib.M38	59D6
SYS_LED_DRV_K	SYS_LED_DRV_K - @m38_lib.M38	59D6
SYS_ONEWIRE	SYS_ONEWIRE - @m38_lib.M38	58B7 59B4
SYS_POWERFAIL_L	SYS_POWERFAIL_L - @m38_lib.M38	6D8 76D2
SYS_PWRUP_L	SYS_PWRUP_L - @m38_lib.M38	6C7
THERM_DX_N	THERM_DX_N - @m38_lib.M38	10B5 10C5
THERM_DX_P	THERM_DX_P - @m38_lib.M38	10B5 10C5
THRM_ALERT_L	THRM_ALERT_L - @m38_lib.M38	10D3
THRM_THM	THRM_THM - @m38_lib.M38	10C4
TMDS_CK_TERM	TMDS_CK_TERM - @m38_lib.M38	97C8
TMDS_CLK_N	TMDS_CLK_N - @m38_lib.M38	93C3 97C8
TMDS_CLK_P	TMDS_CLK_P - @m38_lib.M38	93C3 97C8
TMDS_CONN_CLKN	TMDS_CONN_CLKN - @m38_lib.M38	97C4 97C7
TMDS_CONN_CLKP	TMDS_CONN_CLKP - @m38_lib.M38	97C4 97C7
TMDS_CONN_DN<0>	TMDS_CONN_DN<0> - @m38_lib.M38	97C4 97D7
TMDS_CONN_DN<1>	TMDS_CONN_DN<1> - @m38_lib.M38	97C4 97D7
TMDS_CONN_DN<2>	TMDS_CONN_DN<2> - @m38_lib.M38	97C7 97D4
TMDS_CONN_DP<0>	TMDS_CONN_DP<0> - @m38_lib.M38	97C4 97D7
TMDS_CONN_DP<1>	TMDS_CONN_DP<1> - @m38_lib.M38	97C4 97D7
TMDS_CONN_DP<2>	TMDS_CONN_DP<2> - @m38_lib.M38	97C7 97D4
TMDS_DATA_N<0>	TMDS_DATA_N<0> - @m38_lib.M38	93C3 97D8
TMDS_DATA_N<1>	TMDS_DATA_N<1> - @m38_lib.M38	93C3 97D8
TMDS_DATA_N<2>	TMDS_DATA_N<2> - @m38_lib.M38	93C3 97C8
TMDS_DATA_N<3>	TMDS_DATA_N<3> - @m38_lib.M38	93C3 95D6
TMDS_DATA_N<4>	TMDS_DATA_N<4> - @m38_lib.M38	93C3 95D6
TMDS_DATA_N<5>	TMDS_DATA_N<5> - @m38_lib.M38	93C3 95D6
TMDS_DATA_P<0>	TMDS_DATA_P<0> - @m38_lib.M38	93C3 97D8
TMDS_DATA_P<1>	TMDS_DATA_P<1> - @m38_lib.M38	93C3 97C8
TMDS_DATA_P<2>	TMDS_DATA_P<2> - @m38_lib.M38	93C3 97C8
TMDS_DATA_P<3>	TMDS_DATA_P<3> - @m38_lib.M38	93C3 95D6
TMDS_DATA_P<4>	TMDS_DATA_P<4> - @m38_lib.M38	93C3 95D6
TMDS_DATA_P<5>	TMDS_DATA_P<5> - @m38_lib.M38	93C3 95D6
TPM_BADD	TPM_BADD - @m38_lib.M38	67C4
TPM_GPIO1	TPM_GPIO1 - @m38_lib.M38	59B5 67C6
TPM_GPIO2	TPM_GPIO2 - @m38_lib.M38	59B5 67C6
TPM_LRESET_L	TPM_LRESET_L - @m38_lib.M38	6B7 67B7
TPM_PP	TPM_PP - @m38_lib.M38	59A5 67C6
TPM_RST_L	TPM_RST_L - @m38_lib.M38	67B6
TPM_XTALI	TPM_XTALI - @m38_lib.M38	59B7 67C6
TPM_XTALO	TPM_XTALO - @m38_lib.M38	59B7 67C6
TP_ATI_ROMCS_L	TP_ATI_ROMCS_L - @m38_lib.M38	91A3
TP_AZ_DOCK_EN_L	TP_AZ_DOCK_EN_L - @m38_lib.M38	23C5
TP_AZ_DOCK_RST_L	TP_AZ_DOCK_RST_L - @m38_lib.M38	23C5
TP_CLK14P3M_SPARE	TP_CLK14P3M_SPARE - @m38_lib.M38	34C4
TP_CPU_A32_L	TP_CPU_A32_L - @m38_lib.M38	7C7
TP_CPU_A33_L	TP_CPU_A33_L - @m38_lib.M38	7B7
TP_CPU_A34_L	TP_CPU_A34_L - @m38_lib.M38	7B7
TP_CPU_A35_L	TP_CPU_A35_L - @m38_lib.M38	7B7
TP_CPU_A36_L	TP_CPU_A36_L - @m38_lib.M38	7B7
TP_CPU_A37_L	TP_CPU_A37_L - @m38_lib.M38	7B7
TP_CPU_A38_L	TP_CPU_A38_L - @m38_lib.M38	7B7
TP_CPU_A39_L	TP_CPU_A39_L - @m38_lib.M38	7B7
TP_CPU_APM0_L	TP_CPU_APM0_L - @m38_lib.M38	7B7
TP_CPU_APM1_L	TP_CPU_APM1_L - @m38_lib.M38	7B7
TP_CPU_CPUSLP_L	TP_CPU_CPUSLP_L - @m38_lib.M38	21C4
TP_CPU_EXTBREF	TP_CPU_EXTBREF - @m38_lib.M38	7B6
TP_CPU_HFPLL	TP_CPU_HFPLL - @m38_lib.M38	7B7
TP_CPU_SPARE0	TP_CPU_SPARE0 - @m38_lib.M38	7B6
TP_CPU_SPARE1	TP_CPU_SPARE1 - @m38_lib.M38	7B6
TP_CPU_SPARE2	TP_CPU_SPARE2 - @m38_lib.M38	7B6
TP_CPU_SPARE3	TP_CPU_SPARE3 - @m38_lib.M38	7B6
TP_CPU_SPARE4	TP_CPU_SPARE4 - @m38_lib.M38	7B6
TP_CPU_SPARE5	TP_CPU_SPARE5 - @m38_lib.M38	7B6
TP_CPU_SPARE6	TP_CPU_SPARE6 - @m38_lib.M38	7B6
TP_CPU_SPARE7	TP_CPU_SPARE7 - @m38_lib.M38	7B6
TP_FB_A_MA12	TP_FB_A_MA12 - @m38_lib.M38	87D5
TP_FB_A_ODT<0>	TP_FB_A_ODT<0> - @m38_lib.M38	87B5
TP_FB_A_ODT<1>	TP_FB_A_ODT<1> - @m38_lib.M38	87B5
TP_FB_B_MA12	TP_FB_B_MA12 - @m38_lib.M38	87D1
TP_FB_B_ODT<0>	TP_FB_B_ODT<0> - @m38_lib.M38	87B1
TP_FB_B_ODT<1>	TP_FB_B_ODT<1> - @m38_lib.M38	87B1
TP_FW_CNA	TP_FW_CNA - @m38_lib.M38	44B3
TP_FW_LKON	TP_FW_LKON - @m38_lib.M38	44B3
TP_FW_LPS	TP_FW_LPS - @m38_lib.M38	44B3
TP_FW_MPCIACT_L	TP_FW_MPCIACT_L - @m38_lib.M38	44B3
TP_FW_NANDTREE	TP_FW_NANDTREE - @m38_lib.M38	44B3
TP_FW_ROM_AD	TP_FW_ROM_AD - @m38_lib.M38	44B3
TP_FW_VAUX_PRES	TP_FW_VAUX_PRES - @m38_lib.M38	44B3
TP_LVDS_VBG	TP_LVDS_VBG - @m38_lib.M38	13D5
TP_MEM_A_A<14>	TP_MEM_A_A<14> - @m38_lib.M38	28C3
TP_MEM_A_A<15>	TP_MEM_A_A<15> - @m38_lib.M38	28C3
TP_MEM_B_A<14>	TP_MEM_B_A<14> - @m38_lib.M38	5B4 29C3
TP_MEM_B_A<15>	TP_MEM_B_A<15> - @m38_lib.M38	5B4 29C3
TP_NB_TESTIN_L	TP_NB_TESTIN_L - @m38_lib.M38	14D6
TP_NB_XOR_FSB2_H7	TP_NB_XOR_FSB2_H7 - @m38_lib.M38	14D6
TP_NB_XOR_LVDS_A34	TP_NB_XOR_LVDS_A34 - @m38_lib.M38	14C6
TP_NB_XOR_LVDS_A35	TP_NB_XOR_LVDS_A35 - @m38_lib.M38	14C6
TP_NB_XOR_LVDS_D27	TP_NB_XOR_LVDS_D27 - @m38_lib.M38	14C6
TP_NB_XOR_LVDS_D28	TP_NB_XOR_LVDS_D28 - @m38_lib.M38	14C6
TP_PCI_CLK_SPARE	TP_PCI_CLK_SPARE - @m38_lib.M38	5B4 34C4
TP_PCI_GNT0_L	TP_PCI_GNT0_L - @m38_lib.M38	22B6
TP_PCI_GNT1_L	TP_PCI_GNT1_L - @m38_lib.M38	22B6
TP_PCI_GNT2_L	TP_PCI_GNT2_L - @m38_lib.M38	22B6
TP_PCI_GNT4_L	TP_PCI_GNT4_L - @m38_lib.M38	22B6
TP_PCI_PME_L	TP_PCI_PME_L - @m38_lib.M38	22A6
TP_SB_ACZ_SDIN1	TP_SB_ACZ_SDIN1 - @m38_lib.M38	21C6
TP_SB_ACZ_SDIN2	TP_SB_ACZ_SDIN2 - @m38_lib.M38	21C6
TP_SB_DRQ0_L	TP_SB_DRQ0_L - @m38_lib.M38	21D4
TP_SB_GPIO6	TP_SB_GPIO6 - @m38_lib.M38	23C5
TP_SB_GPIO23	TP_SB_GPIO23 - @m38_lib.M38	21D5
TP_SB_GPIO25_DO_NOT_USE	TP_SB_GPIO25_DO_NOT_USE - @m38_lib.M38	23C3
TP_SB_GPIO38	TP_SB_GPIO38 - @m38_lib.M38	23C3
TP_SB_RSVD9	TP_SB_RSVD9 - @m38_lib.M38	22A6
TP_SB_SATALED_L	TP_SB_SATALED_L - @m38_lib.M38	21C6
TP_SB_XOR_AD5	TP_SB_XOR_AD5 - @m38_lib.M38	22A7
TP_SB_XOR_AD9	TP_SB_XOR_AD9 - @m38_lib.M38	22A7
TP_SB_XOR_AE5	TP_SB_XOR_AE5 - @m38_lib.M38	22A7
TP_SB_XOR_AE9	TP_SB_XOR_AE9 - @m38_lib.M38	22A6
TP_SB_XOR_AG4	TP_SB_XOR_AG4 - @m38_lib.M38	22A7
TP_SB_XOR_AG8	TP_SB_XOR_AG8 - @m38_lib.M38	22A6
TP_SB_XOR_AH4	TP_SB_XOR_AH4 - @m38_lib.M38	22A7
TP_SB_XOR_AH8	TP_SB_XOR_AH8 - @m38_lib.M38	22A6
TP_SB_XOR_T5	TP_SB_XOR_T5 - @m38_lib.M38	21C6
TP_SB_XOR_U3	TP_SB_XOR_U3 - @m38_lib.M38	21C6
TP_SB_XOR_U5	TP_SB_XOR_U5 - @m38_lib.M38	21C6
TP_SB_XOR_U7	TP_SB_XOR_U7 - @m38_lib.M38	21C6
TP_SB_XOR_V3	TP_SB_XOR_V3 - @m38_lib.M38	21C6
TP_SB_XOR_V4	TP_SB_XOR_V4 - @m38_lib.M38	21C6
TP_SB_XOR_V6	TP_SB_XOR_V6 - @m38_lib.M38	21C6
TP_SB_XOR_V7	TP_SB_XOR_V7 - @m38_lib.M38	21C6
TP_SB_XOR_W1	TP_SB_XOR_W1 - @m38_lib.M38	21C6
TP_SB_XOR_W3	TP_SB_XOR_W3 - @m38_lib.M38	21C6
TP_SB_XOR_Y1	TP_SB_XOR_Y1 - @m38_lib.M38	21C6
TP_SB_XOR_Y2	TP_SB_XOR_Y2 - @m38_lib.M38	21C6
TP_U5999_P1	TP_U5999_P1 - @m38_lib.M38	59A7
TP_U5999_P13	TP_U5999_P13 - @m38_lib.M38	59A5
TP_U5999_P14	TP_U5999_P14 - @m38_lib.M38	59A5
TP_UB400_AG14	TP_UB400_AG14 - @m38_lib.M38	91A5
TP_UB900_J2	TP_UB900_J2 - @m38_lib.M38	89A7
TP_UB900_J3	TP_UB900_J3 - @m38_lib.M38	89A7
TP_UB950_J2	TP_UB950_J2 - @m38_lib.M38	89A4
TP_UB950_J3	TP_UB950_J3 - @m38_lib.M38	89A4
TP_U9000_J2	TP_U9000_J2 - @m38_lib.M38	90A7
TP_U9000_J3	TP_U9000_J3 - @m38_lib.M38	90A7
TP_U9050_J2	TP_U9050_J2 - @m38_lib.M38	90A4
TP_U9050_J3	TP_U9050_J3 - @m38_lib.M38	90A4
TSENSE_GPU_DXP	TSENSE_GPU_DXP - @m38_lib.M38	61C5
TSENSE_NB_DXP	TSENSE_NB_DXP - @m38_lib.M38	61B5
TSENSE_NB_GPU_DXN	TSENSE_NB_GPU_DXN - @m38_lib.M38	61B5
TV_DACA_OUT	TV_DACA_OUT - @m38_lib.M38	13C5 19B1
	TV_DACB_OUT - @m38_lib.M38	13C5 19B1
	TV_DACC_OUT - @m38_lib.M38	13C5 19B1
	TV_IRTNA - @m38_lib.M38	13C5 19B1
	TV_IRTNB - @m38_lib.M38	13C5 19B1
	TV_IRTNC - @m38_lib.M38	13C5 19B1
	TV_IREF - @m38_lib.M38	13C5 19B1
	PP3V3_S0_NB_VCCA_TVBG - @m38_lib.M38	17C6 19B1
	PP3V3_S0_NB_VCCA_TVDACC - @m38_lib.M38	17C6 19B1
	PP3V3_S0_NB_VCCA_TVDACB - @m38_lib.M38	17C6 19B1
	PP3V3_S0_NB_VCCA_TVDACA - @m38_lib.M38	17C6 19B1
	=PP1V5_S0_NB_TVDAC - @m38_lib.M38	6C4 19B2 19D7
	=PP1V5_S0_AIRPORT - @m38_lib.M38	6C4 53D3
	PP1V5_S0 - @m38_lib.M38	6C6 80C2
	=PP1V5_S0_SB - @m38_lib.M38	6C4 25A8 25C8
	=PP1V5_S0_SB_VCC1_5_A - @m38_lib.M38	6C4 24A3 25C1
	=PP1V5_S0_SB_VCC1_5_A_USB_CORE - @m38_lib.M38	6C4 24A3 25B1
	=PP1V5_S0_SB_VCCUSBPLL - @m38_lib.M38	6C4 24A5 25B6
	=PP1V5_S0_SB_VCC1_5_A_ATX - @m38_lib.M38	6C4 24A5 25C6
	=PP1V5_S0_SB_VCCSATAPLL - @m38_lib.M38	6C4 24B5 25D6
	=PP1V5_S0_SB_VCC1_5_A_ARX - @m38_lib.M38	6C4 24B5 25D6
	=PP1V5_S0_NB_3GPLL - @m38_lib.M38	6C4 19A6 19A6
	=PP1V5_S0_NB_PLL - @m38_lib.M38	6C4 19C8 19D7
	=PP1V5_S0_NB_VCCAUX - @m38_lib.M38	6C4 6C4 16D1 17B6 19A7 19D7
	=PP1V5_S0_NB_VCCD_HMPLL - @m38_lib.M38	6C4 17C6 19D7
	=PP1V5_S0_NB_PCIE - @m38_lib.M38	6C4 13D2 19D7
	=PP1V5_S0_CPU - @m38_lib.M38	6C4 8B6 8C5
	=PP1V5_S0_NB_TVDAC - @m38_lib.M38	6C4 19B2 19D7
	=PP1V5_S0_AIRPORT - @m38_lib.M38	6C4 53D3
	=PP1V5_S0_CPU - @m38_lib.M38	6C4 8B6 8C5
	=PP1V5_S0_AIRPORT - @m38_lib.M38	6C4 53D3
U600_3	U600_3 - @m38_lib.M38	6C7
U600_6	U600_6 - @m38_lib.M38	6B7
U600_8	U600_8 - @m38_lib.M38	6B7
U600_11	U600_11 - @m38_lib.M38	6A7
U2698_4	U2698_4 - @m38_lib.M38	26C4
U3100_VDDQ	U3100_VDDQ - @m38_lib.M38	31C5
U6100_VCC	U6100_VCC - @m38_lib.M38	61C4
U8595_1	U8595_1 - @m38_lib.M38	85D2
USB_AIRPORT_N	USB_AIRPORT_N - @m38_lib.M38	53B4
USB_AIRPORT_P	USB_AIRPORT_P - @m38_lib.M38	53B4
USB_A_N	USB_A_N - @m38_lib.M38	22C2 47D7
USB_A_OC_L	USB_A_OC_L - @m38_lib.M38	22C4 22D8 47B8 47B8
USB_A_P	USB_A_P - @m38_lib.M38	22C2 47C7
USB_B_N	USB_B_N - @m38_lib.M38	22C2 53B2
USB_B_OC_L	USB_B_OC_L - @m38_lib.M38	22C4 22D8 47B8
USB_B_P	USB_B_P - @m38_lib.M38	22C2 53B2
USB_CAMERA_N	USB_CAMERA_N - @m38_lib.M38	47B2
USB_CAMERA_P	USB_CAMERA_P - @m38_lib.M38	47B2
USB_C_N	USB_C_N - @m38_lib.M38	22C2 47B7
USB_C_OC_L	USB_C_OC_L - @m38_lib.M38	22C4 22D8 47B7 47B8
USB_C_P	USB_C_P - @m38_lib.M38	22C2 47B7
USB_D_N	USB_D_N - @m38_lib.M38	22C2 47B3
USB_D_OC_L	USB_D_OC_L - @m38_lib.M38	22C4 22D8 47B7
USB_D_P	USB_D_P - @m38_lib.M38	22C2 47B3
USB_E_N	USB_E_N - @m38_lib.M38	22C2 47A7
USB_E_OC_L	USB_E_OC_L - @m38_lib.M38	22C4 22D8 47B7
USB_E_P	USB_E_P - @m38_lib.M38	22C2 47A7
USB_F_N	USB_F_N - @m38_lib.M38	22C2 49C6
	USB_FLASH_N - @m38_lib.M38	49C5
USB_F_P	USB_F_P - @m38_lib.M38	22C2 49C6
	USB_FLASH_P - @m38_lib.M38	49C5
USB_G_N	USB_G_N - @m38_lib.M38	22C2 47A3
	USB_BT_N - @m38_lib.M38	47A3
USB_G_P	USB_G_P - @m38_lib.M38	22C2 47A3
	USB_BT_P - @m38_lib.M38	47A3
USB_H_N	USB_H_N - @m38_lib.M38	22C2 47C3
USB_H_P	USB_H_P - @m38_lib.M38	22C2 47C3
USB_IR_N	USB_IR_N - @m38_lib.M38	47C2
USB_IR_P	USB_IR_P - @m38_lib.M38	47C2
USB_PORT0_N	USB_PORT0_N - @m38_lib.M38	47D5
USB_PORT0_P	USB_PORT0_P - @m38_lib.M38	47C5
USB_PORT1_N	USB_PORT1_N - @m38_lib.M38	47B5
USB_PORT1_P	USB_PORT1_P - @m38_lib.M38	47B5
USB_PORT2_N	USB_PORT2_N - @m38_lib.M38	47A5
USB_PORT2_P	USB_PORT2_P - @m38_lib.M38	47A5
USB_RBIAS_PN	USB_RBIAS_PN - @m38_lib.M38	22C2
VGA_B	VGA_B - @m38_lib.M38	97B6 97C5
VGA_G	VGA_G - @m38_lib.M38	97A6 97C5
VGA_HSYNC	VGA_HSYNC - @m38_lib.M38	97A3 97C5
VGA_R	VGA_R - @m38_lib.M38	97A6 97C5
VGA_VSYNC	VGA_VSYNC - @m38_lib.M38	97A3 97C5
VMAIN_AVLBL	VMAIN_AVLBL - @m38_lib.M38	41C7
VOL_DOWN	VOL_DOWN - @m38_lib.M38	68A6 68C7
VOL_UP	VOL_UP - @m38_lib.M38	68A6 68C7
VREG_FB	VREG_FB - @m38_lib.M38	68A3
VR_PWRGD_CK410	VR_PWRGD_CK410 - @m38_lib.M38	23C5 26A8
VR_PWRGOOD_DELAY	VR_PWRGOOD_DELAY - @m38_lib.M38	5C7 14B6 26D5 75C6
XDP_BPM_L<0>	XDP_BPM_L<0> - @m38_lib.M38	7C6 11B3
XDP_BPM_L<1>	XDP_BPM_L<1> - @m38_lib.M38	7C6 11B3
XDP_BPM_L<2>	XDP_BPM_L<2> - @m38_lib.M38	7C6 11B3
XDP_BPM_L<3>	XDP_BPM_L<3> - @m38_lib.M38	7C6 11B3
XDP_BPM_L<4>	XDP_BPM_L<4> - @m38_lib.M38	7C6 11B3
XDP_BPM_L<5>	XDP_BPM_L<5> - @m38_lib.M38	7C6 11B3
XDP_DBRESET_L	XDP_DBRESET_L - @m38_lib.M38	7C6 11B4 26B5
XDP_TCK	XDP_TCK - @m38_lib.M38	5D1 7A8 7C6 11B3 11B3 59A1 59A6
XDP_TDI	XDP_TDI - @m38_lib.M38	5D1 7B8 7C6 11B3 59B2
XDP_TDO	XDP_TDO - @m38_lib.M38	5D1 7C6 11B5 59A6
XDP_TMS	XDP_TMS - @m38_lib.M38	5D1 7B8 7C6 11B3 59B1
XDP_TRST_L	XDP_TRST_L - @m38_lib.M38	5D1 7C6 11B3 59A2
ZH701P1	ZH701P1 - @m38_lib.M38	6A3
ZH702P1	ZH702P1 - @m38_lib.M38	6A3
ZH703P1	ZH703P1 - @m38_lib.M38	6A3
ZH704P1	ZH704P1 - @m38_lib.M38	6B3

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C85A0	CAP_402	m38[85D1]
C600	CAP_402	m38[6C7]
C601	CAP_402	m38[6A3]
C602	CAP_402	m38[6A3]
C603	CAP_402	m38[6A3]
C604	CAP_402	m38[6A4]
C610	CAP_402	m38[6C7]
C699	CAP_P_CASE-C1	m38[6D7]
C0800	CAP_402	m38[8B5]
C0801	CAP_603	m38[8B5]
C900	CAP_805	m38[9B6]
C901	CAP_805	m38[9B6]
C902	CAP_805	m38[9A6]
C903	CAP_805	m38[9A6]
C904	CAP_805	m38[9A6]
C905	CAP_805	m38[9A6]
C906	CAP_805	m38[9A6]
C907	CAP_805	m38[9B5]
C908	CAP_805	m38[9B7]
C909	CAP_805	m38[9B5]
C910	CAP_805	m38[9B7]
C911	CAP_805	m38[9B7]
C912	CAP_805	m38[9A7]
C913	CAP_805	m38[9A7]
C914	CAP_805	m38[9A7]
C915	CAP_805	m38[9A7]
C916	CAP_805	m38[9A7]
C917	CAP_805	m38[9A7]
C918	CAP_805	m38[9A7]
C919	CAP_805	m38[9A7]
C920	CAP_805	m38[9A5]
C921	CAP_805	m38[9A7]
C922	CAP_805	m38[9A7]
C923	CAP_805	m38[9B7]
C924	CAP_805	m38[9A7]
C925	CAP_805	m38[9A7]
C926	CAP_402	m38[9B7]
C928	CAP_805	m38[9B6]
C929	CAP_805	m38[9B5]
C930	CAP_805	m38[9A6]
C931	CAP_805	m38[9A5]
C932	CAP_805	m38[9A6]
C934	CAP_402	m38[9B7]
C935	CAP_402	m38[9B7]
C936	CAP_402	m38[9B7]
C937	CAP_402	m38[9B6]
C938	CAP_402	m38[9B6]
C939	CAP_805	m38[9A5]
C940	CAP_P_CASE-C1	m38[9C7]
C941	CAP_P_3P_D2T	m38[9A7]
C942	CAP_P_3P_D2T	m38[9A7]
C943	CAP_P_3P_D2T	m38[9A7]
C944	CAP_P_3P_D2T	m38[9A7]
C945	CAP_P_3P_D2T	m38[9A6]
C946	CAP_P_3P_D2T	m38[9A6]
C950	CAP_402	m38[9D4]
C951	CAP_402	m38[9D3]
C952	CAP_402	m38[9D3]
C953	CAP_402	m38[9D2]
C1000	CAP_402	m38[10C6]
C1001	CAP_402	m38[10D4]
C1100	CAP_402	m38[11A3]
C1211	CAP_402	m38[12C3]
C1226	CAP_402	m38[12B6]
C1236	CAP_402	m38[12A6]
C1610	CAP_402	m38[16B5]
C1611	CAP_402	m38[16B4]
C1612	CAP_402	m38[16B4]
C1613	CAP_402	m38[16B8]
C1614	CAP_402	m38[16B8]
C1615	CAP_402	m38[16B6]
C1620	CAP_603	m38[16B5]
C1621	CAP_603	m38[16B5]
C1711	CAP_402	m38[17A3]
C1712	CAP_402	m38[17A3]
C1713	CAP_402	m38[17B3]
C1900	CAP_P_CASE-C1	m38[19B5]
C1901	CAP_P_CASE-C1	m38[19B5]
C1902	CAP_603	m38[19B5]
C1903	CAP_603	m38[19B4]
C1904	CAP_402	m38[19B4]
C1905	CAP_402	m38[19B4]
C1906	CAP_402	m38[19B3]
C1907	CAP_402	m38[19B3]
C1914	CAP_603	m38[19A8]
C1915	CAP_402	m38[19A7]
C1916	CAP_402	m38[19A8]
C1918	CAP_402	m38[19A7]
C1920	CAP_402	m38[19A2]
C1921	FILTER_3P_A_NFM18	m38[19B2]
C1934	CAP_805	m38[19C7]
C1935	CAP_402	m38[19C7]
C1936	CAP_805	m38[19C7]
C1937	CAP_402	m38[19C7]
C1965	CAP_603	m38[19B8]
C1966	CAP_603	m38[19B7]
C1967	CAP_402	m38[19B7]
C1968	CAP_P_CASE-C1	m38[19B7]
C1970	CAP_P_SMB2	m38[19A5]
C1971	CAP_603	m38[19A4]
C1972	CAP_603	m38[19A4]
C1975	CAP_603	m38[19A4]
C1976	CAP_402	m38[19A4]
C1981	CAP_603	m38[19B6]
C1982	CAP_603	m38[19B8]
C2500	CAP_P_SMB2	m38[25B8]
C2501	CAP_402	m38[25A6]
C2502	CAP_402	m38[25D4]
C2503	CAP_402	m38[25D8]
C2504	CAP_402	m38[25C8]
C2505	CAP_402	m38[25B7]
C2506	CAP_402	m38[25B7]
C2507	CAP_402	m38[25B7]
C2508	CAP_603	m38[25A6]
C2509	CAP_402	m38[25B8]
C2510	CAP_402	m38[25C1]
C2511	CAP_402	m38[25D6]
C2512	CAP_402	m38[25B1]
C2513	CAP_402	m38[25C6]
C2514	CAP_402	m38[25C6]
C2515	CAP_402	m38[25B6]
C2516	CAP_P_CASE-C2	m38[25D3]
C2517	CAP_402	m38[25D6]
C2518	CAP_402	m38[25D4]
C2519	CAP_402	m38[25D3]
C2520	CAP_402	m38[25B6]
C2521	CAP_402	m38[25C3]
C2522	CAP_402	m38[25B3]
C2523	CAP_402	m38[25B4]
C2524	CAP_603	m38[25B3]
C2525	CAP_402	m38[25B3]
C2526	CAP_402	m38[25A4]
C2527	CAP_402	m38[25A3]
C2528	CAP_402	m38[25A3]
C2529	CAP_402	m38[25A3]
C2530	CAP_402	m38[25A3]
C2531	CAP_402	m38[25D1]
C2532	CAP_402	m38[25C1]
C2533	CAP_402	m38[25C1]
C2534	CAP_402	m38[25D1]
C2605	CAP_402	m38[26C7]
C2607	CAP_402	m38[26D5]
C2608	CAP_402	m38[26D8]
C2609	CAP_402	m38[26D8]
C2610	CAP_402	m38[26C7]
C2611	CAP_402	m38[26B7]
C2698	CAP_402	m38[26C4]
C2699	CAP_402	m38[26C5]
C2800	CAP_402	m38[28D6]
C2801	CAP_603	m38[28B2]
C2802	CAP_603	m38[28B2]
C2803	CAP_603	m38[28B1]
C2804	CAP_603	m38[28B1]
C2810	CAP_402	m38[28B2]
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C2814	CAP_402	m38[28B2]
C2815	CAP_402	m38[28B2]
C2816	CAP_402	m38[28B1]
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C2818	CAP_402	m38[28B2]
C2819	CAP_402	m38[28B2]
C2820	CAP_402	m38[28B1]
C2821	CAP_402	m38[28B1]
C2850	CAP_603	m38[28D6]
C2851	CAP_603	m38[28A6]
C2852	CAP_402	m38[28A6]
C2900	CAP_402	m38[29D6]
C2908	CAP_402	m38[29B2]
C2909	CAP_402	m38[29B2]
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C2921	CAP_402	m38[29B2]
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C2923	CAP_402	m38[29B1]
C2950	CAP_603	m38[29D6]
C2951	CAP_603	m38[29A7]
C2952	CAP_402	m38[29A6]
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C3005	CAP_402	m38[30D4]
C3006	CAP_402	m38[30B3]
C3007	CAP_402	m38[30D3]
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C3009	CAP_402	m38[30A4]
C3010	CAP_402	m38[30D4]
C3011	CAP_402	m38[30D3]
C3013	CAP_402	m38[30A4]
C3014	CAP_402	m38[30A4]
C3015	CAP_402	m38[30A3]
C3030	CAP_402	m38[30C4]
C3033	CAP_402	m38[30C3]
C3035	CAP_402	m38[30C3]
C3100	CAP_402	m38[31C4]
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C3102	CAP_603	m38[31B4]
C3105	CAP_P_SMC-LF	m38[31B4]
C3109	CAP_603	m38[31C5]
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C3307	CAP_402	m38[33C4]
C3308	CAP_402	m38[33D4]
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C3311	CAP_402	m38[33C6]
C3312	CAP_603	m38[33C6]
C3314	CAP_402	m38[33D8]
C3315	CAP_402	m38[33D7]
C3316	CAP_603	m38[33D7]
C3317	CAP_603	m38[33D4]
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C3390	CAP_402	m38[33C7]
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C3801	CAP_402	m38[38B7]
C3802	CAP_402	m38[38B7]
C3803	CAP_402	m38[38B7]
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C3805	CAP_402	m38[38C2]
C3806	CAP_805-2	m38[38C1]
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C4103	CAP_402	m38[41D6]
C4104	CAP_402	m38[41D6]
C4105	CAP_402	m38[41D5]
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C4140	CAP_402	m38[41B3]
C4150	CAP_402	m38[41D5]
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C4201	CAP_402	m38[42D7]
C4202	CAP_1210	m38[42D7]
C4203	CAP_1206-1	m38[42D6]
C4204	CAP_402	m38[42D6]
C4205	CAP_1210	m38[42C5]
C4206	CAP_402	m38[42C5]
C4209	CAP_603	m38[42B7]
C4210	CAP_402	m38[42B6]
C4300	CAP_402	m38[43D7]
C4301	CAP_402	m38[43D6]
C4304	CAP_402	m38[43C6]
C4305	CAP_402	m38[43B6]
C4401	CAP_402	m38[44D1]
C4402	CAP_402	m38[44C1]
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C4503	CAP_603	m38[45C6]
C4504	CAP_402	m38[45C4]
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C4507	CAP_402	m38[45C5]
C4508	CAP_402	m38[45D5]
C4509	CAP_402	m38[45D5]
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C4522	CAP_402	m38[45D3]
C4523	CAP_402	m38[45D3]
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C4611	CAP_402	m38[46D4]
C4612	CAP_402	m38[46C4]
C4613	CAP_402	m38[46C4]
C4615	CAP_603-1	m38[46C2]
C4616	CAP_402	m38[46B2]
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C4621	CAP_402	m38[46B4]
C4622	CAP_402	m38[46A4]
C4623	CAP_402	m38[46A4]
C4625	CAP_603-1	m38[46A2]
C4626	CAP_402	m38[46A2]
C4650	CAP_402	m38[46C7]
C4654	CAP_402	m38[46B8]
C4660	CAP_402	m38[46C7]
C4664	CAP_402	m38[46B7]
C4710	CAP_P_SMD2	m38[47D6]
C4712	CAP_402	m38[47D5]
C4713	CAP_402	m38[47D5]
C4720	CAP_P_SMD	m38[47C6]
C4722	CAP_402	m38[47C5]
C4723	CAP_402	m38[47C5]
C4732	CAP_402	m38[47A5]
C4733	CAP_402	m38[47A5]
C4742	CAP_402	m38[47D2]
C4743	CAP_402	m38[47D1]
C4797	CAP_805-2	m38[47D3]
C4798	CAP_402	m38[47A2]
C4799	CAP_805-2	m38[47A2]
C4950	CAP_805-2	m38[49C4]
C4951	CAP_402	m38[49C4]
C5300	CAP_402	m38[53B7]
C5301	CAP_402	m38[53B7]
C5304	CAP_402	m38[53D5]
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C5306	CAP_402	m38[53D4]
C5307	CAP_402	m38[53C4]
C5308	CAP_402	m38[53C5]
C5309	CAP_402	m38[53C4]
C5310	CAP_402	m38[53C4]
C5311	CAP_603	m38[53C3]
C5312	CAP_603	m38[53D4]
C5313	CAP_402	m38[53C5]
C5314	CAP_603	m38[53C4]
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C5801	CAP_402	m38[59B8]
C5802	CAP_805	m38[58D3]
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C5806	CAP_402	m38[58D1]
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C6003	CAP_402	m38[60C6]
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C6301	CAP_402	m38[63C2]
C6308	CAP_402	m38[63C5]
C6309	CAP_402	m38[63C6]
C6311	CAP_402	m38[63C2]
C6312	CAP_402	m38[63D3]
C6500	CAP_603	m38[65D5]
C6501	CAP_805	m38[65D5]
C6502	CAP_603	m38[65B4]
C6503	CAP_805	m38[65B5]
C6504	CAP_P_6.3X11-TH-LF	m38[65C4]
C6505	CAP_P_6.3X11-TH-LF	m38[65B3]
C6600	CAP_603	m38[66D4]
C6601	CAP_805	m38[66C5]
C6602	CAP_P_SM-LF	m38[66C3]
C6650	CAP_402	m38[66B5]
C6651	CAP_402	m38[66A5]
C6652	CAP_402	m38[66B3]
C6653	CAP_402	m38[66A3]
C6654	CAP_402	m38[66B4]
C6655	CAP_402	m38[66B2]
C6700	CAP_402	m38[67C4]
C6701	CAP_402	m38[67C4]
C6702	CAP_402	m38[67C3]
C6703	CAP_402	m38[67C3]
C6704	CAP_402	m38[59B7]
C6705	CAP_402	m38[59B7]
C6800	CAP_603	m38[68D6]
C6801	CAP_402	m38[68D6]
C6802	CAP_P_B2	m38[68D4]
C6803	CAP_P_B2	m38[68D3]
C6804	CAP_P_SMA-LF	m38[68B4]
C6805	CAP_805	m38[68B3]
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C6807	CAP_P_SMA-LF	m38[68B3]
C6808	CAP_402	m38[68B3]
C6809	CAP_402	m38[68B2]
C6810	CAP_P_SMA-LF	m38[68B2]
C6811	CAP_402	m38[68B2]
C6812	CAP_402	m38[68B4]
C6813	CAP_402	m38[68B3]
C6821	CAP_402	m38[68C6]
C6822	CAP_603	m38[68A5]
C6823	CAP_402	m38[68A4]
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C6826	CAP_603	m38[68A3]
C6829	CAP_402	m38[68B3]
C6830	CAP_402	m38[68D4]
C6832	CAP_402	m38[68B2]
C6833	CAP_402	m38[68B2]
C6834	CAP_402	m38[68B2]
C6835	CAP_402	m38[68D6]
C6836	CAP_402	m38[68D3]
C7200	CAP_P_6.3X8-SM	m38[72D5]
C7201	CAP_1210	m38[72D5]
C7202	CAP_805	m38[72D4]
C7203	CAP_1210	m38[72D3]
C7204	CAP_805	m38[72D6]
C7205	CAP_805	m38[72C6]
C7206	CAP_805	m38[72C6]
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C7208	CAP_603-1	m38[72C4]
C7209	CAP_805	m38[72B4]
C7210	CAP_402	m38[72B3]
C7211	CAP_402	m38[72B2]
C7212	CAP_402	m38[72B2]
C7213	CAP_402	m38[72B2]
C7214	CAP_603	m38[72B5]
C7215	CAP_402	m38[72C6]
C7216	CAP_402	m38[72C6]
C7217	CAP_P_6.3X8-SM	m38[72D6]
C7218	CAP_603	m38[72D5]
C7219	CAP_603	m38[72D4]
C7220	CAP_402	m38[72B7]
C7221	CAP_402	m38[72B7]
C7223	CAP_1210	m38[72D3]
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C7302	CAP_402	m38[73D6]
C7303	CAP_402	m38[73D6]
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C7312	CAP_402	m38[73A6]
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C7314	CAP_402	m38[73A7]
C7315	CAP_402	m38[73A6]
C7317	CAP_402	m38[73B4]
C7318	CAP_805	m38[73B4]
C7321	CAP_402	m38[73C5]
C7322	CAP_402	m38[73C5]
C7323	CAP_402	m38[73A6]
C7324	CAP_402	m38[73A5]
C7400	CAP_402	m38[74B4]
C7401	CAP_402	m38[74C4]
C7402	CAP_402	m38[74A4]
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C7404	CAP_P_CASE-B-SM	m38[74B6]
C7405	CAP_P_CASE-B-SM	m38[74C7]
C7406	CAP_P_CASE-B-SM	m38[74C6]
C7407	CAP_402	m38[74D8]
C7408	CAP_402	m38[74D7]
C7409	CAP_402	m38[74B8]
C7410	CAP_402	m38[74A8]
C7411	CAP_402	m38[74B8]
C7412	CAP_402	m38[74A8]
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C7414	CAP_402	m38[74A7]
C7415	CAP_402	m38[74A8]
C7416	CAP_402	m38[74A8]
C7417	CAP_402	m38[74A8]
C7418	CAP_805	m38[74A5]
C7419	CAP_603-1	m38[74A4]
C7420	CAP_402	m38[74A7]
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C7422	CAP_402	m38[74A7]
C7423	CAP_402	m38[74A7]
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C7501	CAP_P_TH-MCZ	m38[75C2]
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C7504	CAP_402	m38[75B1]
C7505	CAP_402	m38[75C8]
C7506	CAP_402	m38[75B7]
C7507	CAP_402	m38[75B7]
C7508	CAP_1210	m38[75C2]
C7509	CAP_1210	m38[75D1]
C7510	CAP_402	m38[75C8]

C7511	CAP_603	m38[75B2]
C7512	CAP_603	m38[75C2]
C7513	CAP_402	m38[75B7]
C7514	CAP_402	m38[75B8]
C7515	CAP_603	m38[75C4]
C7516	CAP_402	m38[75B4]
C7517	CAP_P_SM-3	m38[75D2]
C7518	CAP_P_SM-3	m38[75D2]
C7521	CAP_402	m38[75A6]
C7526	CAP_603	m38[75D6]
C7527	CAP_603	m38[75C5]
C7528	CAP_402	m38[75B5]
C7529	CAP_402	m38[75B5]
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C7534	CAP_402	m38[75B5]
C7535	CAP_603	m38[75D5]
C7550	CAP_603	m38[75D1]
C7551	CAP_603	m38[75D1]
C7590	CAP_402	m38[75C3]
C7592	CAP_402	m38[75B3]
C7596	CAP_402	m38[75D6]
C7597	CAP_1210	m38[75D1]
C7598	CAP_1210	m38[75D1]
C7599	CAP_402	m38[76D6]
C7600	CAP_402	m38[76D3]
C7601	CAP_402	m38[76D3]
C7602	CAP_402	m38[76D2]
C7603	CAP_402	m38[76C4]
C7612	CAP_402	m38[76B2]
C7633	CAP_402	m38[76C7]
C7659	CAP_402	m38[76D4]
C7669	CAP_402	m38[76D4]
C7700	CAP_603	m38[77D4]
C7703	CAP_402	m38[77C4]
C7704	CAP_402	m38[77C4]
C7706	CAP_402	m38[77C4]
C7709	CAP_805	m38[77C3]
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C7711	CAP_402	m38[77B7]
C7712	CAP_402	m38[77C7]
C7750	CAP_402	m38[77A5]
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C7752	CAP_805	m38[77B4]
C7753	CAP_402	m38[77A7]
C7754	CAP_402	m38[77B6]
C7755	CAP_805	m38[77B3]
C7756	CAP_805	m38[77B3]
C7757	CAP_402	m38[77A6]
C7799	CAP_402	m38[77A3]
C7800	CAP_1210	m38[78C3]
C7801	CAP_P_SM-LF	m38[78C4]
C7802	CAP_603	m38[78C6]
C7803	CAP_603	m38[78B6]
C7804	CAP_402	m38[78C6]
C7805	CAP_603	m38[78C4]
C7806	CAP_805-1	m38[78B2]
C7807	CAP_P_CASE-D2E-LF	m38[78B3]
C7809	CAP_402	m38[78B3]
C7810	CAP_402	m38[78B4]
C7811	CAP_402	m38[78B5]
C7813	CAP_1206	m38[78B4]
C7814	CAP_402	m38[78B5]
C7817	CAP_P_CASE-D2E-LF	m38[78B2]
C7900	CAP_402	m38[79D6]
C7901	CAP_603	m38[79D5]
C7902	CAP_402	m38[79C5]
C7903	CAP_603	m38[79C7]
C7906	CAP_402	m38[79C5]
C7907	CAP_402	m38[79C3]
C7908	CAP_402	m38[79C5]
C7909	CAP_1206	m38[79C4]
C7910	CAP_P_SM-3	m38[79D4]
C7911	CAP_1210	m38[79D3]
C7912	CAP_P_CASE-D2E-LF	m38[79C3]
C7913	CAP_1206	m38[79C2]
C7980	CAP_402	m38[79B3]
C7992	CAP_603	m38[79D6]
C7998	CAP_P_CASE-D2E-LF	m38[79C3]
C8000	CAP_1210	m38[80D3]
C8001	CAP_P_CASE-D2E-LF	m38[80C3]
C8002	CAP_603	m38[80D6]
C8003	CAP_402	m38[80C3]
C8004	CAP_1206	m38[80C4]
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C8009	CAP_603	m38[80C6]
C8010	CAP_603	m38[80C4]
C8011	CAP_402	m38[80C5]
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C8014	CAP_P_TH-MCZ	m38[80D4]
C8015	CAP_1210	m38[80D3]
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C8099	CAP_P_CASE-D2E-LF	m38[80C2]
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C8102	CAP_402	m38[81C5]
C8103	CAP_603	m38[81C7]
C8106	CAP_402	m38[81C5]
C8107	CAP_402	m38[81C3]
C8108	CAP_402	m38[81C5]
C8109	CAP_1206	m38[81C4]
C8110	CAP_1210	m38[81D4]
C8111	CAP_1210	m38[81D3]
C8112	CAP_1210	m38[81D3]
C8114	CAP_P_CASE-D2E-LF	m38[81C3]
C8115	CAP_805-1	m38[81C2]
C8190	CAP_P_CASE-D2E-LF	m38[81C3]
C8192	CAP_603	m38[81D6]
C8198	CAP_1210	m38[81D3]
C8199	CAP_402	m38[81A5]
C8398	CAP_603	m38[83B4]
C8399	CAP_603	m38[83C4]
C8400	CAP_805	m38[84C7]
C8401	CAP_402	m38[84C7]
C8402	CAP_402	m38[84C7]
C8405	CAP_805	m38[84B7]
C8406	CAP_402	m38[84B7]
C8407	CAP_402	m38[84B7]
C8410	CAP_805	m38[84B6]
C8411	CAP_402	m38[84B7]
C8412	CAP_402	m38[84B7]
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C8502	CAP_603	m38[85D6]
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C8541	CAP_805	m38[85C2]
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C8543	CAP_P_CASE-D2E-LF	m38[85C2]
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C8555	CAP_402	m38[85B7]
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C8557	CAP_805	m38[85B6]
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C8580	CAP_603	m38[85A4]
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C9400	CAP_603-1	m38[94C7]
C9401	CAP_402	m38[94C6]
C9410	CAP_402	m38[94C6]
C9420	CAP_1210	m38[94C5]
C9450	CAP_805	m38[94C2]
C9470	CAP_402	m38[94B2]
C9700	CAP_402	m38[97C8]
C9710	CAP_603	m38[97C3]
C9711	CAP_402	m38[97D3]
C9713	CAP_402	m38[97C2]
C9714	CAP_402	m38[97C2]
C9740	CAP_402	m38[97A7]
C9741	CAP_402	m38[97A6]
C9742	CAP_402	m38[97A6]
D2500	DIODE_SCHOT_SOT23	m38[25C8]
D2501	DIODE_SCHOT_SOT23	m38[25D8]
D2600	DIODE_SCHOT_SOT23	m38[26D8]
D2601	DIODE_SCHOT_SOT23	m38[26C8]
D4600	DIODE_SMC	m38[46D5]
D4690	ZENER_SOT23	m38[46A6]
D4700	DIODE_SCHOT_3P_A_SC-75	m38[47C5]
D4701	DIODE_SCHOT_3P_A_SC-75	m38[47B5]
D4702	DIODE_SCHOT_3P_A_SC-75	m38[47A5]
D4705	DIODE_SCHOT_3P_A_SC-75	m38[47C6]
D4706	DIODE_SCHOT_3P_A_SC-75	m38[47B6]
D4707	DIODE_SCHOT_3P_A_SC-75	m38[47A6]
D4900	DIODE_SCHOT_3P_A_SC-75	m38[49B4]
D6500	DIODE_SOT23	m38[65C4]
D6501	DIODE_SOT23	m38[65B4]
D6502	DIODE_SCHOT_SMB	m38[65C4]
D6503	DIODE_SCHOT_SMB	m38[65B4]
D6600	DIODE_SOT23	m38[66C4]
D6601	DIODE_SCHOT_SMB	m38[66C3]
D7500	DIODE_SCHOT_SMB	m38[75C3]
D7501	DIODE_SCHOT_SMB	m38[75B2]
D7599	DIODE_SOT23	m38[76D6]
D8520	DIODE_SCHOT_SMB	m38[85C3]
D9700	ZENER_CASE425	m38[97C1]
DP4610	DIODE_DUAL_6P_SOT-363	m38[46D4 46D3]
DP4611	DIODE_DUAL_6P_SOT-363	m38[46C4 46C3]
DP4620	DIODE_DUAL_6P_SOT-363	m38[46B4 46B3]
DP4621	DIODE_DUAL_6P_SOT-363	m38[46A4 46A3]
DZ7300	SUPPR_TRANSIENT_4P1_0405	m38[73C6]
DZ7301	SUPPR_TRANSIENT_4P1_0405	m38[73A5]
DZ7302	SUPPR_TRANSIENT_4P1_0405	m38[73A4]
DZ7303	SUPPR_TRANSIENT_4P1_0405	m38[73C5]
DZ7304	SUPPR_TRANSIENT_4P1_0405	m38[73C4]
F4600	FUSE_SM-LF	m38[46D2]
F4601	FUSE_SM-LF	m38[46D2]
F4602	FUSE_MINISMD-LF	m38[46D3]
F4701	FUSE_MINISMD-LF	m38[47D3]
F9710	FUSE_SM-LF	m38[97D5]
FL4610	FILTER_4P_2012	m38[46C3]
FL4620	FILTER_4P_2012	m38[46B3]
FL9740	FILTER_LC_SM-220MHZ-LF	m38[97B7]
FL9741	FILTER_LC_SM-220MHZ-LF	m38[97A7]
FL9742	FILTER_LC_SM-220MHZ-LF	m38[97A7]
FLE011	FILTER_4P_2012	m38[46C3]
FLE021	FILTER_4P_2012	m38[46B3]
GV3801	HOLE_VIA	m38[38A8]
GV3802	HOLE_VIA	m38[38A7]
GV3803	HOLE_VIA	m38[38A8]
GV3804	HOLE_VIA	m38[38A7]
GV3805	HOLE_VIA	m38[38A8]
GV3806	HOLE_VIA	m38[38A7]
GV3807	HOLE_VIA	m38[38A8]
GV3808	HOLE_VIA	m38[38A7]
J2	CON_2RTSM_125_SM-2MT-BLK-LF	m38[61B7]
J3	CON_2RTSM_125_SM-2MT-BLK-LF	m38[61B6]

J600	CON_M12RT_D_THA_M-RT-TH	m38[6D7]
J0700	CPU_YONAH_SKT_BGA	m38[7C3 7D7]
J0700	CPU_YONAH_SKT_BGA	m38[8D4 8D8]
J1000	CON_2RTSM_125_SM-2MT-BLK-LF	m38[10B7]
J1101	CON_F28RT_S2MT_SM_F-RT-SM	m38[11C2]
J2600	BATTERY_2P_TH	m38[26C8]
J2800	CON_F200RT_DDR2DIMM_5MT_SM_F-RT-SM1	m38[28D5]
J2900	CON_F200RT_DDR2DIMM_5MT_SM_F-RT-SM1	m38[29D5]
J2901	CON_F4ST_S2MT_SM_F-T-SM	m38[59C7]
J2903	CON_M2ST_S2MT_SM_M-S-T-SM	m38[59C8]
J4700	CON_F10ST_D_SMA_F-ST-SM	m38[47A2]
J4950	CON_M4RT_S2MT_SM_M-R-T-SM	m38[49C4]
J5300	CON_F52RT_D2MT_SM_F-RT-SM	m38[53C5]
J6000	CON_F30STSM_5047_SM1	m38[60B5]
J6500	CON_M4RT_S2MT_SM_M-R-T-SM	m38[65D3]
J6501	CON_M5RT_S2MT_SMA_M-RT-SM	m38[65B2]
J6600	CON_F4ST_S2MT_SM_F-S-T-SM	m38[66C2]
J6601	CON_M4RT_S2MT_SM_M-R-T-SM	m38[66B5]
J6602	CON_M4RT_S2MT_SM_M-R-T-SM	m38[66B3]
J7300	CON_F4ST_S4MT_TH1_F-ST-TH	m38[73D8]
J7301	CON_M7RT_S2MT_SM_M-R-T-SM	m38[73D1]
J7303	CON_F9ANG_S4MT_TH1_F-ANG-TH	m38[73B3]
J9401	CON_M4ST_S_SM_M-ST-SM	m38[94C2]
J9402	CON_F30ST_D_SM_F-ST-SM	m38[94B6]
J9410	CON_M4ST_S_SM_M-ST-SM	m38[94A3]
J9710	CON_DVI_F32ST_Q2MT_S-M_F-ST-SM	m38[97D5]
JC900	CON_M7ST_SATA_SM_M-S-T-SM	m38[38B8]
JC901	CON_F50ST_D2MT_SM_F-ST-SM	m38[38D2]
JD600	CON_RJ45_10ANG_S3MT_TH1_F-ANG-TH	m38[43C6]
JE000	CON_F6ST_S4MT_TH1_F-ST-TH	m38[46C2]
JE001	CON_F6ST_S4MT_TH1_F-ST-TH	m38[46B2]
JE310	CON_F4ST_USB_S3MT_TH_F-ST-TH	m38[47D4]
JE320	CON_F4ST_USB_S3MT_TH_F-ST-TH	m38[47B4]
JE330	CON_F4ST_USB_S3MT_TH_F-ST-TH	m38[47A4]
JE350	CON_M14RT_S2MT_SM_M-RT-SM	m38[47C1]
L1934	IND_0603	m38[19C7]
L1936	IND_0603	m38[19C7]
L1970	IND_1210	m38[19A5]
L1975	IND_0805	m38[19A5]
L2500	IND_SM-3	m38[25B8]
L2507	IND_1206	m38[25A7]
L3301	IND_0402	m38[33D7]
L3302	IND_0402	m38[33D3]
L4200	IND_SM	m38[42D7]
L4201	IND_SM	m38[42B7]
L4300	IND_SM	m38[43D7]
L4409	IND_0402	m38[44D6]
L4610	IND_1206-LF	m38[46D2]
L4620	IND_1206-LF	m38[46B2]
L4690	IND_SM-1	m38[46A6]
L4710	IND_SM	m38[47D6]
L4712	FILTER_4P_2012	m38[47C6]
L4720	IND_SM	m38[47C6]
L4722	FILTER_4P_2012	m38[47B6]
L4730	IND_SM	m38[47B6]
L4732	FILTER_4P_2012	m38[47A6]
L4740	IND_SM	m38[47D2]
L4742	FILTER_4P_2012	m38[47C2]
L4752	FILTER_4P_2012	m38[47B2]
L5300	FILTER_4P_2012	m38[53B3]
L6800	IND_0402	m38[68A5]
L6801	IND_0402	m38[68D6]
L7200	IND_SM-1	m38[72D6]
L7201	IND_0603	m38[72C2]
L7202	IND_0603	m38[72C2]
L7203	IND_0603	m38[72C3]
L7204	IND_0603	m38[72C3]
L7205	IND_0603	m38[72D6]
L7206	IND_0603	m38[72C6]
L7207	IND_0603	m38[72C6]
L7208	IND_0603	m38[72C6]
L7300	IND_SM	m38[73D7]
L7301	IND_SM	m38[73D7]
L7302	IND_SM	m38[73D7]
L7303	IND_SM	m38[73D7]
L7304	IND_SM	m38[73D5]
L7305	IND_SM	m38[73D5]
L7306	IND_SM	m38[73D5]
L7307	IND_SM	m38[73D5]
L7309	IND_SM	m38[73C6]
L7310	IND_SM	m38[73C6]
L7312	IND_SM	m38[73C4]
L7313	IND_SM	m38[73C4]
L7314	IND_SM	m38[73B7]
L7315	IND_SM	m38[73B7]
L7316	IND_SM	m38[73B7]
L7317	IND_SM	m38[73A7]
L7318	IND_SM	m38[73B7]
L7319	IND_SM	m38[73B7]
L7320	IND_SM	m38[73A7]
L7322	IND_SM	m38[73B5]
L7323	IND_SM	m38[73B5]
L7324	IND_SM	m38[73B5]
L7325	IND_SM	m38[73A5]
L7326	IND_SM	m38[73B5]
L7327	IND_SM	m38[73B5]
L7328	IND_SM	m38[73A5]
L7500	IND_SM	m38[75D1]
L7501	IND_SM	m38[75B2]
L7502	IND_TH-VERT-LF	m38[76D8]
L7700	IND_SM1-LF	m38[77C4]
L7750	IND_SM-LF	m38[77B4]
L7800	IND_3P_SM	m38[78B3]
L7900	IND_3P_SM	m38[79C3]
L8000	IND_3P_SM	m38[80C3]
L8100	IND_IHLP	m38[81C3]
L8400	IND_0402	m38[84B7]
L8520	IND_IHLP	m38[85C3]
L8585	IND_4P_2COIL_SDQ1215-0-SM	m38[85A3]
L8715	IND_0402	m38[87A7]
L8725	IND_0402	m38[87A4]
L8910	IND_0402	m38[89D7]
L8915	IND_0402	m38[89D7]
L8960	IND_0402	m38[89D4]
L8965	IND_0402	m38[89D4]
L9010	IND_0402	m38[90D7]
L9015	IND_0402	m38[90D7]
L9060	IND_0402	m38[90D4]
L9065	IND_0402	m38[90D4]
L9120	IND_0402	m38[91B6]
L9125	IND_0402	m38[91B6]
L9130	IND_0402	m38[91B7]
L9135	IND_0402	m38[91A7]
L9140	IND_0402	m38[91A7]
L9300	IND_0402	m38[93C7]
L9305	IND_0402	m38[93C7]
L9310	IND_0402	m38[93C7]
L9315	IND_0402	m38[93C7]
L9320	IND_0402	m38[93B7]
L9325	IND_0402	m38[93B7]
L9330	IND_0402	m38[93B7]
L9345	IND_0402	m38[93B7]
L9400	IND_SM	m38[94C6]
L9700	FILTER_4P_2012H	m38[97D7]
L9701	FILTER_4P_2012H	m38[97D7]
L9702	FILTER_4P_2012H	m38[97C7]
L9703	FILTER_4P_SM	m38[97C7]
L9710	IND_SM-1	m38[97D5]
LED600	LED_2.0X1.25MM-SM	m38[6A7]
LED601	LED_2.0X1.25MM-SM	m38[6A8]
LED602	LED_2.0X1.25MM-SM	m38[6A7]
LED2901	LED_3X2MM-SM	m38[59D6]
LED3800	LED_2.0X1.25MM-SM	m38[38B3]
LED4300	LED_2.0X1.25MM-SM	m38[43D2]
LED4301	LED_2.0X1.25MM-SM	m38[43D2]
LED4302	LED_2.0X1.25MM-SM	m38[43D1]
LED4303	LED_2.0X1.25MM-SM	m38[43D1]
LED7900	LED_2.0X1.25MM-SM	m38[79A4]
LED8000	LED_2.0X1.25MM-SM	m38[80A4]
LED8100	LED_2.0X1.25MM-SM	m38[81A4]
PP5E1	PROBEPOINT_SM	m38[5B8]
PP5E2	PROBEPOINT_SM	m38[5B8]
PP6A0	PROBEPOINT_SM	m38[5A6]
PP6A1	PROBEPOINT_SM	m38[5A6]
PP6A2	PROBEPOINT_SM	m38[5A6]
PP6A3	PROBEPOINT_SM	m38[5A6]
PP6A4	PROBEPOINT_SM	m38[5A6]
PP6A5	PROBEPOINT_SM	m38[5A6]
PP6A6	PROBEPOINT_SM	m38[5A6]
PP6A7	PROBEPOINT_SM	m38[5A6]
PP6A8	PROBEPOINT_SM	m38[5A6]
PP6A9	PROBEPOINT_SM	m38[5A6]
PP6B0	PROBEPOINT_SM	m38[5A6]
PP6B1	PROBEPOINT_SM	m38[5A6]
PP6B2	PROBEPOINT_SM	m38[5A6]
PP6B3	PROBEPOINT_SM	m38[5A6]
PP6B4	PROBEPOINT_SM	m38[5A6]
PP6B5	PROBEPOINT_SM	m38[5A6]
PP6B6	PROBEPOINT_SM	m38[5A6]
PP6B7	PROBEPOINT_SM	m38[5A6]
PP6B8	PROBEPOINT_SM	m38[5A6]
PP6B9	PROBEPOINT_SM	m38[5A6]
PP6C0	PROBEPOINT_SM	m38[5A6]
PP6C1	PROBEPOINT_SM	m38[5A6]
PP6C2	PROBEPOINT_SM	m38[5A6]
PP6C3	PROBEPOINT_SM	m38[5A6]
PP6C4	PROBEPOINT_SM	m38[5C8]
PP6C5	PROBEPOINT_SM	m38[5C8]
PP6C6	PROBEPOINT_SM	m38[5C8]
PP6C7	PROBEPOINT_SM	m38[5C8]
PP6C8	PROBEPOINT_SM	m38[5C8]
PP6D0	PROBEPOINT_SM	m38[5C8]
PP6D1	PROBEPOINT_SM	m38[5C8]
PP6D2	PROBEPOINT_SM	m38[5B8]
PP6D3	PROBEPOINT_SM	m38[5B8]
PP6D4	PROBEPOINT_SM	m38[5B8]
PP6D5	PROBEPOINT_SM	m38[5B8]
PP6D6	PROBEPOINT_SM	m38[5B8]
PP6D7	PROBEPOINT_SM	m38[5B8]
PP6D8	PROBEPOINT_SM	m38[5B8]
PP6D9	PROBEPOINT_SM	m38[5B8]
PP6E0	PROBEPOINT_SM	m38[5B8]
PP6E1	PROBEPOINT_SM	m38[5B6]
PP600	PROBEPOINT_SM	m38[5D8]
PP601	PROBEPOINT_SM	m38[5D8]
PP602	PROBEPOINT_SM	m38[5D8]
PP603	PROBEPOINT_SM	m38[5D8]
PP604	PROBEPOINT_SM	m38[5D8]
PP605	PROBEPOINT_SM	m38[5D8]
PP606	PROBEPOINT_SM	m38[5D8]
PP607	PROBEPOINT_SM	m38[5D8]
PP608	PROBEPOINT_SM	m38[5D8]
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PP617	PROBEPOINT_SM	m38[5D8]
PP618	PROBEPOINT_SM	m38[5D8]
PP619	PROBEPOINT_SM	m38[5D8]
PP620	PROBEPOINT_SM	m38[5D8]
PP621	PROBEPOINT_SM	m38[5C8]
PP622	PROBEPOINT_SM	m38[5C8]
PP623	PROBEPOINT_SM	m38[5C8]
PP624	PROBEPOINT_SM	m38[5C8]
PP625	PROBEPOINT_SM	m38[5C8]
PP626	PROBEPOINT_SM	m38[5C8]
PP627	PROBEPOINT_SM	m38[5C8]
PP628	PROBEPOINT_SM	m38[5C8]
PP629	PROBEPOINT_SM	m38[5C8]
PP630	PROBEPOINT_SM	m38[5C8]
PP631	PROBEPOINT_SM	m38[5D6]
PP632	PROBEPOINT_SM	m38[5D6]
PP633	PROBEPOINT_SM	m38[5D6]
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PP652	PROBEPOINT_SM	m38[5C6]
PP653	PROBEPOINT_SM	m38[5C6]
PP654	PROBEPOINT_SM	m38[5C6]
PP655	PROBEPOINT_SM	m38[5C6]
PP656	PROBEPOINT_SM	m38[5C6]
PP657	PROBEPOINT_SM	m38[5C6]
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PP659	PROBEPOINT_SM	m38[5C6]
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PP662	PROBEPOINT_SM	m38[5C6]
PP663	PROBEPOINT_SM	m38[5C6]
PP664	PROBEPOINT_SM	m38[5C6]
PP665	PROBEPOINT_SM	m38[5C6]
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PP668	PROBEPOINT_SM	m38[5C6]
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PP674	PROBEPOINT_SM	m38[5C6]
PP675	PROBEPOINT_SM	m38[5B6]
PP676	PROBEPOINT_SM	m38[5B6]
PP677	PROBEPOINT_SM	m38[5B6]
PP678	PROBEPOINT_SM	m38[5B6]
PP679	PROBEPOINT_SM	m38[5B6]
PP680	PROBEPOINT_SM	m38[5B6]
PP681	PROBEPOINT_SM	m38[5B6]
PP682	PROBEPOINT_SM	m38[5B6]
PP683	PROBEPOINT_SM	m38[5B6]
PP684	PROBEPOINT_SM	m38[5B6]
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PP691	PROBEPOINT_SM	m38[5B6]
PP692	PROBEPOINT_SM	m38[5B6]
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PP695	PROBEPOINT_SM	m38[5B6]
PP696	PROBEPOINT_SM	m38[5B6]
PP697	PROBEPOINT_SM	m38[5B6]
PP698	PROBEPOINT_SM	m38[5B6]
PP699	PROBEPOINT_SM	m38[5B6]
PP700	TP_SM-TP50-TOP	m38[5D3]
PP701	TP_SM-TP50-TOP	m38[5D3]
PP702	TP_SM-TP50-TOP	m38[5D3]
PP1200	TP_SM-TP50-TOP	m38[5D3]
PP1201	TP_SM-TP50-TOP	m38[5D3]
PP1202	TP_SM-TP50-TOP	m38[5D3]
PP2800	TP_SM-TP50-TOP	m38[5C3]
PP2801	TP_SM-TP50-TOP	m38[5C3]
PP2802	TP_SM-TP50-TOP	m38[5C3]
PP4100	PROBEPOINT_SM	m38[5D4]
PP4101	PROBEPOINT_SM	m38[5D4]
PP8400	PROBEPOINT_SM	m38[5C5]
PP8401	PROBEPOINT_SM	m38[5C5]
PP8700	PROBEPOINT_SM	m38[5D5]
PP8701	PROBEPOINT_SM	m38[5D5]
PP8702	PROBEPOINT_SM	m38[5D5]
PP8703	PROBEPOINT_SM	m38[5D5]
PP8704	PROBEPOINT_SM	m38[5D5]
PP8705	PROBEPOINT_SM	m38[5D5]
PP8706	PROBEPOINT_SM	m38[5D5]
PP8707	PROBEPOINT_SM	m38[5D5]
PP8708	PROBEPOINT_SM	m38[5D5]
PP8709	PROBEPOINT_SM	m38[5D5]
PP8710	PROBEPOINT_SM	m38[5D5]
PP8711	PROBEPOINT_SM	m38[5D5]
PP8712	PROBEPOINT_SM	m38[5D5]
PP8713	PROBEPOINT_SM	m38[5D5]
PP8714	PROBEPOINT_SM	m38[5D5]
PP8715	PROBEPOINT_SM	m38[5D5]
PP8716	PROBEPOINT_SM	m38[5D5]
PP8720	PROBEPOINT_SM	m38[5D5]
PP8721	PROBEPOINT_SM	m38[5D5]
PP8722	PROBEPOINT_SM	m38[5D5]
PP8723	PROBEPOINT_SM	m38[5C5]
PP8724	PROBEPOINT_SM	m38[5C5]
PP8725	PROBEPOINT_SM	m38[5C5]
PP8726	PROBEPOINT_SM	m38[5C5]
PP8727	PROBEPOINT_SM	m38[5C5]
PP8728	PROBEPOINT_SM	m38[5C5]
PP8729	PROBEPOINT_SM	m38[5C5]
PP8730	PROBEPOINT_SM	m38[5C5]
PP8731	PROBEPOINT_SM	m38[5C5]
PP8732	PROBEPOINT_SM	m38[5C5]
PP8733	PROBEPOINT_SM	m38[5C5]
PP8734	PROBEPOINT_SM	m38[5C5]
PP8735	PROBEPOINT_SM	m38[5C5]
PP8736	PROBEPOINT_SM	m38[5C5]
PP8900	PROBEPOINT_SM	m38[5B5]
PP8901	PROBEPOINT_SM	m38[5B5]
PP8902	PROBEPOINT_SM	m38[5B5]
PP8903	PROBEPOINT_SM	m38[5B5]
PP8904	PROBEPOINT_SM	m38[5B5]
PP8905	PROBEPOINT_SM	m38[5B5]
PP8906	PROBEPOINT_SM	m38[5B5]
PP8907	PROBEPOINT_SM	m38[5B5]
PP8908	PROBEPOINT_SM	m38[5B5]
PP8909	PROBEPOINT_SM	m38[5B5]
PP8910	PROBEPOINT_SM	m38[5B5]
PP8911	PROBEPOINT_SM	m38[5B5]
PP8912	PROBEPOINT_SM	m38[5B5]
PP8913	PROBEPOINT_SM	m38[5B5]
PP8914	PROBEPOINT_SM	m38[5A5]
PP8915	PROBEPOINT_SM	m38[5A5]
PP8916	PROBEPOINT_SM	m38[5A5]
PP8920	PROBEPOINT_SM	m38[5A5]
PP8921	PROBEPOINT_SM	m38[5A5]
PP8922	PROBEPOINT_SM	m38[5A5]
PP8923	PROBEPOINT_SM	m38[5A5]
PP8924	PROBEPOINT_SM	m38[5A5]
PP8925	PROBEPOINT_SM	m38[5A5]
PP8926	PROBEPOINT_SM	m38[5A5]
PP8927	PROBEPOINT_SM	m38[5A5]
PP8928	PROBEPOINT_SM	m38[5A5]
PP8929	PROBEPOINT_SM	m38[5A5]
PP8930	PROBEPOINT_SM	m38[5A5]
PP8931	PROBEPOINT_SM	m38[5A5]
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PP8934	PROBEPOINT_SM	m38[5A5]
PP8935	PROBEPOINT_SM	m38[5A5]
PP8936	PROBEPOINT_SM	m38[5A5]
PP9000	PROBEPOINT_SM	m38[5B4]
PP9001	PROBEPOINT_SM	m38[5B4]
PP9002	PROBEPOINT_SM	m38[5B4]
PP9003	PROBEPOINT_SM	m38[5B4]
PP9004	PROBEPOINT_SM	m38[5B4]
PP9005	PROBEPOINT_SM	m38[5B4]
PP9006	PROBEPOINT_SM	m38[5B4]
PP9007	PROBEPOINT_SM	m38[5B4]
PP9008	PROBEPOINT_SM	m38[5B4]
PP9009	PROBEPOINT_SM	m38[5B4]
PP9010	PROBEPOINT_SM	m38[5B4]
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PP9012	PROBEPOINT_SM	m38[5B4]
PP9013	PROBEPOINT_SM	m38[5B4]
PP9014	PROBEPOINT_SM	m38[5A4]
PP9015	PROBEPOINT_SM	m38[5A4]
PP9016	PROBEPOINT_SM	m38[5A4]
PP9020	PROBEPOINT_SM	m38[5A4]
PP9021	PROBEPOINT_SM	m38[5A4]
PP9022	PROBEPOINT_SM	m38[5A4]
PP9023	PROBEPOINT_SM	m38[5A4]
PP9024	PROBEPOINT_SM	m38[5A4]
PP9025	PROBEPOINT_SM	m38[5A4]
PP9026	PROBEPOINT_SM	m38[5A4]
PP9027	PROBEPOINT_SM	m38[5A4]
PP9028	PROBEPOINT_SM	m38[5A4]
PP9029	PROBEPOINT_SM	m38[5A4]
PP9030	PROBEPOINT_SM	m38[5A4]
PP9031	PROBEPOINT_SM	m38[5A4]
PP9032	PROBEPOINT_SM	m38[5A4]
PP9033	PROBEPOINT_SM	m38[5A4]
PP9034	PROBEPOINT_SM	m38[5A4]
PP9035	PROBEPOINT_SM	m38[5A4]
PP9036	PROBEPOINT_SM	m38[5A4]
Q4200	TRA_2N7002_SOT23-LF	m38[42D2]
Q4201	TRA_PBSS5540Z_SOT223	m38[42C6]
Q4400	TRA_SINGLE_MOSFET_NC_HN_SOT23	m38[44A7]
Q5900	TRA_FDV301N_SOT23-LF	m38[59D7]
Q5901	TRA_2N7002DW_SOT-363	m38[59C7 59C7]
Q5902	TRA_2N7002DW_SOT-363	m38[59B1 59B2]
Q5903	TRA_DUAL_MMDT3904_SOT-363-LF	m38[59A2 59A1]
Q5910	TRA_SINGLE_MOSFET_PC_HN_SOT-23	m38[59A4]
Q5911	TRA_2N7002_SOT23-LF	m38[59A4]
Q6500	TRA_NTHS5443T1_1206A-03-LF	m38[65D4]
Q6502	TRA_2N7002DW_SOT-363	m38[65D8 65D6]
Q6503	TRA_NTHS5443T1_1206A-03-LF	m38[65B4]
Q6505	TRA_2N7002DW_SOT-363	m38[65C8 65B6]
Q6600	TRA_NTHS5443T1_1206A-03-LF	m38[66D4]
Q6602	TRA_2N7002DW_SOT-363	m38[66D8 66C5]
Q7200	TRA_2N7002DW_SOT-363	m38[72B6 72B7]
Q7400	TRA_2N7002DW_SOT-363	m38[74B3 74B3]
Q7401	TRA_2N7002_SOT23-LF	m38[74C3]
Q7402	TRA_2N7002DW_SOT-363	m38[74B2 74B2]
Q7500	TRA_HAT2168H_LFPAK	m38[75D3]
Q7501	TRA_HAT2165H_LFPAK	m38[75D3]
Q7502	TRA_HAT2168H_LFPAK	m38[75C3]
Q7503	TRA_HAT2165H_LFPAK	m38[75B3]
Q7504	TRA_HAT2165H_LFPAK	m38[75D3]
Q7505	TRA_HAT2165H_LFPAK	m38[75B3]
Q7570	TRA_HAT2168H_LFPAK	m38[75D2]
Q7572	TRA_HAT2168H_LFPAK	m38[75C3]
Q7639	TRA_2N7002_SOT23-LF	m38[76A7]
Q7640	TRA_SINGLE_MOSFET_PC_HN_SOT-23	m38[76A6]
Q7641	TRA_FDC796N_SUPERSOT-6	m38[76A5]
Q7642	TRA_FDC796N_SUPERSOT-6	m38[76A4]
Q7701	TRA_SI3446DV_TSOP-LF	m38[77A3]
Q7703	TRA_2N7002DW_SOT-363	m38[77C7 77D7]
Q7799	TRA_2N7002_SOT23-LF	m38[77A6]
Q7800	TRA_NTD60N02R_CASE369-LF	m38[78C4]
Q7801	TRA_NTD60N02R_CASE369-LF	m38[78B4]
Q7802	TRA_2N7002_SOT23-LF	m38[78B7]
Q7900	TRA_NTD60N02R_CASE369-LF	m38[79D4]
Q7901	TRA_NTD60N02R_CASE369-LF	m38[79C4]
Q7902	TRA_2N7002_SOT23-LF	m38[79C7]
Q8000	TRA_NTD60N02R_CASE369-LF	m38[80D4]
Q8001	TRA_NTD60N02R_CASE369-LF	m38[80C4]
Q8003	TRA_2N7002_SOT23-LF	m38[80C7]
Q8102	TRA_NTD60N02R_CASE369-LF	m38[81D4]

Q8103	TRA_NTD60N02R_CASE369-LF	m38[81C4]
Q8104	TRA_2N7002_SOT23-LF	m38[81C7]
Q8300	TRA_IRF7413_SO-8	m38[83C4]
Q8301	TRA_IRF7413_SO-8	m38[83B4]
Q8302	TRA_2N7002DW_SOT-363	m38[83B5]
Q8303	TRA_2N7002DW_SOT-363	m38[83C5]
Q8520	TRA_HAT2168H_LFPAK	m38[85D4]
Q8521	TRA_HAT2165H_LFPAK	m38[85C4]
Q8522	TRA_HAT2165H_LFPAK	m38[85C5]
Q8523	TRA_2N7002DW_SOT-363	m38[85B3 85B2]
Q8554	TRA_2N7002_SOT23-LF	m38[85A8]
Q8570	TRA_2N7002_SOT23-LF	m38[85A5]
Q8575	TRA_FDC796N_SUPERSOT-6	m38[85B6]
Q8576	TRA_FDC796N_SUPERSOT-6	m38[85A2]
Q9400	TRA_SI3443DV_TSOP-LF	m38[94C7]
Q9401	TRA_2N7002_SOT23-LF	m38[94C7]
Q9711	TRA_2N7002DW_SOT-363	m38[97D2 97C2]
R75A0	RES_402	m38[75C7]
R85A0	RES_402	m38[85D1]
R600	RES_603	m38[6A7]
R601	RES_402	m38[6D8]
R602	RES_603	m38[6A8]
R603	RES_402	m38[6B1]
R605	RES_603	m38[6A7]
R611	RES_402	m38[6B7]
R612	RES_402	m38[6B7]
R614	RES_402	m38[6B7]
R615	RES_402	m38[6B7]
R616	RES_402	m38[6A7]
R617	RES_402	m38[6A7]
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R0703	RES_402	m38[7C6]
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R0706	RES_402	m38[7B5]
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R1000	RES_402	m38[10D3]
R1001	RES_402	m38[10D3]
R1002	RES_402	m38[10C6]
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R1018	RES_402	m38[10B6]
R1019	RES_402	m38[10B6]
R1100	RES_402	m38[11B5]
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R1230	RES_402	m38[12A7]
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R1236	RES_402	m38[12A7]
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R1980	RES_402	m38[19B7]
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R1983	RES_402	m38[19B8]
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R2060	RES_402	m38[20A4]
R2075	RES_402	m38[20C7]
R2077	RES_402	m38[20B7]
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R2207	RES_402	m38[22C5]
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R2222	RES_402	m38[22D6]
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R2254	RES_402	m38[47B8]
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R2398	RES_402	m38[23D8]
R2399	RES_402	m38[23C1]
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R2502	RES_402	m38[25D8]
R2600	RES_402	m38[26C7]
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R4302	RES_603	m38[43D2]
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R7409	RES_402	m38[74B4]
R7410	RES_805	m38[74D2]
R7411	RES_805	m38[74C2]
R7412	RES_805	m38[74D2]
R7413	RES_402	m38[74B4]
R7414	RES_805	m38[74B7]
R7415	RES_805	m38[74B8]
R7416	RES_805	m38[74C7]
R7417	RES_805	m38[74C8]
R7418	RES_402	m38[74B6]
R7419	RES_402	m38[74B6]
R7420	RES_402	m38[74D4]
R7421	RES_402	m38[74D8]
R7422	RES_402	m38[74D7]
R7423	RES_402	m38[74B6]
R7424	RES_402	m38[74B6]
R7425	RES_402	m38[74A5]
R7426	RES_402	m38[74A4]
R7427	RES_402	m38[74A4]
R7429	RES_805	m38[74C2]
R7430	RES_402	m38[74C1]
R7431	RES_402	m38[74C2]
R7432	RES_402	m38[74B1]
R7500	RES_402	m38[75C2]
R7501	RES_603	m38[75C2]
R7502	RES_1206	m38[75B2]
R7503	RES_1206	m38[75D2]
R7504	RES_402	m38[75C1]
R7505	RES_402	m38[75B2]
R7506	RES_603	m38[75B2]
R7507	RES_402	m38[75B1]
R7508	RES_402	m38[75B8]
R7509	RES_402	m38[75B8]
R7510	RES_402	m38[75B6]
R7511	RES_402	m38[75B7]
R7512	RES_402	m38[75D7]
R7513	RES_402	m38[75B7]
R7514	RES_402	m38[75B8]
R7515	RES_402	m38[75B4]
R7516	RES_402	m38[75B4]
R7517	RES_402	m38[75B5]
R7518	RES_402	m38[75B5]
R7519	RES_402	m38[75C7]
R7520	RES_402	m38[75D7]
R7521	RES_402	m38[75D7]
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R7523	RES_402	m38[75A5]
R7526	THERMISTER_402	m38[75C8]
R7527	RES_402	m38[75C8]
R7528	RES_402	m38[75A5]
R7529	RES_402	m38[75A5]
R7530	RES_402	m38[75B4]
R7531	THERMISTER_0603-LF	m38[75B4]
R7590	RES_402	m38[75C7]
R7591	RES_402	m38[75C7]
R7592	RES_402	m38[75C7]
R7593	RES_402	m38[75C7]
R7594	RES_402	m38[75C7]
R7595	RES_402	m38[75C7]
R7596	RES_402	m38[75D7]
R7597	RES_402	m38[76D6]
R7598	RES_402	m38[76C7]
R7599	RES_2512-1	m38[76D7]
R7600	RES_402	m38[76D3]
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R7603	RES_402	m38[76C3]
R7604	RES_402	m38[76C3]
R7605	RES_402	m38[76D4]
R7606	RES_402	m38[76D4]
R7607	RES_402	m38[76C3]
R7612	RES_402	m38[76B2]
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R7623	RES_402	m38[76D1]
R7630	RES_402	m38[76C8]
R7631	RES_402	m38[76C8]
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R7641	RES_402	m38[76A7]
R7642	RES_402	m38[76A6]
R7643	RES_1206	m38[76B5]
R7644	RES_1206	m38[76B4]
R7659	RES_402	m38[76D5]
R7669	RES_402	m38[76D4]
R7700	RES_402	m38[77D5]
R7701	RES_402	m38[77C5]
R7704	RES_402	m38[77C5]
R7705	RES_402	m38[77C5]
R7706	RES_402	m38[77C4]
R7707	RES_402	m38[77C3]
R7708	RES_402	m38[77C3]
R7710	RES_402	m38[77D5]
R7750	RES_402	m38[77A5]
R7751	RES_402	m38[77A5]
R7752	RES_402	m38[77A5]
R7753	RES_402	m38[77B7]
R7754	RES_402	m38[77B6]
R7755	RES_402	m38[77B5]
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R7757	RES_402	m38[77B6]
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R7794	RES_402	m38[77C7]
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R7803	RES_402	m38[78B3]
R7804	RES_1206	m38[78B4]
R7805	RES_402	m38[78B5]
R7812	RES_402	m38[78B3]

R7840	RES_402	m38[78C5]
R7892	RES_402	m38[78B7]
R7901	RES_402	m38[79C3]
R7902	RES_1206	m38[79C4]
R7903	RES_402	m38[79C3]
R7904	RES_402	m38[79C5]
R7905	RES_402	m38[79D7]
R7906	RES_402	m38[79A4]
R7910	RES_402	m38[79B2]
R7911	RES_402	m38[79B3]
R7912	RES_402	m38[79B3]
R7913	RES_402	m38[79A2]
R7914	RES_402	m38[79A3]
R7915	RES_402	m38[79A3]
R7940	RES_402	m38[79D5]
R7991	RES_402	m38[79C7]
R7992	RES_402	m38[79C7]
R7999	RES_402	m38[79C3]
R8000	RES_402	m38[80C3]
R8001	RES_402	m38[80C7]
R8002	RES_1206	m38[80C4]
R8003	RES_402	m38[80C3]
R8004	RES_402	m38[80C5]
R8005	RES_402	m38[80D7]
R8007	RES_402	m38[80A4]
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R8011	RES_402	m38[80B3]
R8012	RES_402	m38[80B3]
R8040	RES_402	m38[80C5]
R8092	RES_402	m38[80C7]
R8099	RES_402	m38[80C3]
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R8102	RES_1206	m38[81C4]
R8103	RES_402	m38[81C3]
R8104	RES_402	m38[81C5]
R8105	RES_402	m38[81D7]
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R8191	RES_402	m38[81C7]
R8192	RES_402	m38[81C7]
R8198	RES_402	m38[81A5]
R8199	RES_402	m38[81A5]
R8300	RES_402	m38[83B4]
R8301	RES_402	m38[83C5]
R8302	RES_402	m38[83B5]
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R8555	RES_402	m38[85B6]
R8556	RES_402	m38[85B6]
R8560	RES_402	m38[85A6]
R8561	RES_402	m38[85A7]
R8570	RES_402	m38[85A5]
R8585	RES_603	m38[85A3]
R8586	RES_402	m38[85A3]
R8588	RES_402	m38[85C5]
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R8593	RES_402	m38[85D3]
R8594	RES_402	m38[85D3]
R8596	RES_402	m38[85D3]
R8597	THERMISTER_0603-LF	m38[85D3]
R8598	RES_402	m38[85D2]
R8599	RES_1206	m38[85C4]
R8630	RES_603	m38[86C7]
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R8940	RES_402	m38[89B8]
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R9033	RES_402	m38[90C7]
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R9047	RES_402	m38[90B7]
R9048	RES_402	m38[90A7]
R9049	RES_402	m38[90A7]
R9080	RES_402	m38[90C4]
R9081	RES_402	m38[90C4]
R9082	RES_402	m38[90C4]
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R9191	RES_402	m38[91D2]
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R9371	RES_402	m38[93D1]
R9372	RES_402	m38[93C1]
R9373	RES_402	m38[93C1]
R9390	RES_402	m38[93A1]
R9391	RES_402	m38[93A1]
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R9410	RES_402	m38[94C6]
R9411	RES_402	m38[94C6]
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R9470	RES_402	m38[94C7]
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R9474	RES_402	m38[94B2]
R9475	RES_402	m38[94B1]
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R9491	RES_805	m38[94D6]
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R9708	RES_402	m38[97C7]
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R9714	RES_402	m38[97C2]
R9715	RES_402	m38[97C7]
R9716	RES_402	m38[97C8]
R9717	RES_402	m38[97C8]
R9720	RES_402	m38[97D1]
R9721	RES_402	m38[97D1]
R9722	RES_402	m38[97C2]
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R9741	RES_402	m38[97A8]
R9742	RES_402	m38[97A7]
R9750	RES_402	m38[97A3]
R9751	RES_402	m38[97A3]
RP2300	RPAK4P_SM-LF	m38[23D5]
RP3000	RPAK4P_SM-LF	m38[30B4 30C4 30D4 30D4]
RP3001	RPAK4P_SM-LF	m38[30C4 30A4 30A4 30D4]
RP3002	RPAK4P_SM-LF	m38[30A4 30A4 30A4 30D4]
RP3003	RPAK4P_SM-LF	m38[30C4 30C4 30C4 30D4]
RP3004	RPAK4P_SM-LF	m38[30C4 30C4 30D4]
RP3005	RPAK4P_SM-LF	m38[30B4 30A4 30A4 30D4]
RP3006	RPAK4P_SM-LF	m38[30B4 30B4 30A4 30D4]
RP3007	RPAK4P_SM-LF	m38[30C4 30C4 30C4 30C4]
RP3008	RPAK4P_SM-LF	m38[30C4 30C4 30C4 30C4]
RP3009	RPAK4P_SM-LF	m38[30B4 30B4 30C4 30C4]
RP3010	RPAK4P_SM-LF	m38[30B4 30B4 30B4 30B4]
RP3011	RPAK4P_SM-LF	m38[30B4 30A4 30B4 30B4]
RP7200	RPAK4P_SM-LF	m38[72A4]
SDF4700	PCB_STANDOFF	m38[47A2]
SDF4701	PCB_STANDOFF	m38[47A2]
SDF5300	PCB_STANDOFF	m38[53A5]
SDF5301	PCB_STANDOFF	m38[53A5]
SDF9400	PCB_STANDOFF	m38[94B6]
SDF9401	PCB_STANDOFF	m38[94A6]
SDF9402	PCB_STANDOFF	m38[94A6]
SW2600	SWI_TACT_4SM_EVQPH_S M-LF	m38[26C6]
SW5900	SWI_TACT_4SM_EVQPH_S M-LF	m38[59D8]

SW5901	SWI_TACT_4SM_EVQPH_S M-LF	m38[59B8]
U600	74LC125_TSSOP	m38[6A7 6B7 6B7 6C7]
U601	SN74LVC1G04_SOT23-5	m38[6C7]
U1000	ADT7461_MSOP	m38[10D5]
U1200	NB_945GM_BGA	m38[12D5]
U1200	NB_945GM_BGA	m38[13D4]
U1200	NB_945GM_BGA	m38[14D5]
U1200	NB_945GM_BGA	m38[15D3 15D7]
U1200	NB_945GM_BGA	m38[16D2 16C8]
U1200	NB_945GM_BGA	m38[17D5]
U1200	NB_945GM_BGA	m38[18D4 18D7]
U2100	SB_ICH7M_BGA	m38[21D6]
U2100	SB_ICH7M_BGA	m38[22B7 22D3]
U2100	SB_ICH7M_BGA	m38[23D4]
U2100	SB_ICH7M_BGA	m38[24D4 24D7]
U2601	MC74VHC1G08_SOT23-5-LF	m38[26D5]
U2603	SN74LVC1G04_SOT23-5	m38[26A7]
U2698	MC74VHC1G08_SOT23-5-LF	m38[26C4]
U2699	MAX6816_SOT143	m38[26C5]
U3100	LREG_BD3533FVM_MSOP-8	m38[31C5]
U3301	CLK_GEN_CY284455_QFN	m38[33C5]
U4101	88E8053_QFN	m38[41D5]
U4102	EEPROM_M24C08_SO8	m38[41A3]
U4400	FW32306_TQFP	m38[44D5]
U4700	SWI_TPS2024_SOI	m38[47C8]
U5000	SMC_H8S2116_BGA	m38[58A8 58C3 58C6 58D6]
U5900	VDET_RN5VD_SOT23-5	m38[59D8]
U5940	VREF_REF3133_SOT23-3	m38[59A4]
U5999	COMPARATOR_LMV339_TS SOP	m38[59A6 59A6 59A8 59A8]
U6100	MAX6695_UMAX	m38[61C4]
U6301	FLASH_SST25VF016B_SOI	m38[63D3]
U6700	TPM_TSSOP	m38[67C5]
U6800	AUDIO_STAC9220_LQFP	m38[68D5]
U7200	MAX9714_QFN-LF	m38[72C5]
U7500	ISL6262_QFN	m38[75C6]
U7501	INA138_SOT23-5-LF	m38[76D7]
U7600	OPAMP_LMV2011_SOT23-5	m38[76D3]
U7700	LTC3411_MSOP-LF	m38[77D5]
U7710	MC74VHC1G08_SOT23-5-LF	m38[77C7]
U7711	MC74VHC1G08_SOT23-5-LF	m38[77B7]
U7712	MC74VHC1G08_SOT23-5-LF	m38[77B7]
U7750	LTC3412_TSSOP-LF	m38[77B5]
U7800	ISL6549_QFN	m38[78C6]
U7900	ISL6549_QFN	m38[79D6]
U7901	COMPARATOR_LM339A_SO I-LF	m38[79A5]
U7901	COMPARATOR_LM339A_SO I-LF	m38[80A4]
U7901	COMPARATOR_LM339A_SO I-LF	m38[81A5]
U7910	COMPARATOR_LM339A_SO I-LF	m38[79A3 79B3]
U7910	COMPARATOR_LM339A_SO I-LF	m38[80B2]
U7910	COMPARATOR_LM339A_SO I-LF	m38[81B3]
U8000	ISL6549_QFN	m38[80D6]
U8100	ISL6549_QFN	m38[81D6]
U8400	ATI_M56P_BGA	m38[84C8 84D4]
U8400	ATI_M56P_BGA	m38[86D4]
U8400	ATI_M56P_BGA	m38[87D2 87D6]
U8400	ATI_M56P_BGA	m38[91D4]
U8400	ATI_M56P_BGA	m38[93C4]
U8500	ISL6269_QFN	m38[85D6]
U8550	FAN2558_SOT23-6-LF	m38[85B7]
U8560	74LVC1G125LF_SOT23-5	m38[85A6]
U8580	LT3483_TSOT23-6	m38[85A4]
U8595	OPAMP_LMV2011_SOT23-5	m38[85D2]
U8900	SGRAM_16MX32_GDDR3_1 36H_FBGA	m38[89D6 89B6]
U8950	SGRAM_16MX32_GDDR3_1 36H_FBGA	m38[89D3 89B3]
U9000	SGRAM_16MX32_GDDR3_1 36H_FBGA	m38[90D6 90B6]
U9050	SGRAM_16MX32_GDDR3_1 36H_FBGA	m38[90D3 90B3]
U9470	MC74VHC1G08_SOT23-5-LF	m38[94B2]
U9750	74AHC1G32_SM-LF	m38[97A4]
U9751	74AHC1G32_SM-LF	m38[97A4]
VR6800	LREG_TPS79501_SOT223-6	m38[68A4]
XC7200	MTGHOLE	m38[72B3]
XW601	SHORT_SM	m38[6C2]
XW602	SHORT_SM	m38[6C2]
XW604	SHORT_SM	m38[6A5]
XW605	SHORT_SM	m38[6A5]
XW5800	SHORT_SM	m38[58B3]
XW5900	SHORT_SM	m38[59B1]
XW6800	SHORT_SM	m38[74A4]
XW7201	SHORT_SM	m38[72B2]
XW7300	SHORT_SM	m38[73C5]
XW7400	SHORT_SM	m38[74D2]
XW7500	SHORT_SM	m38[75A6]
XW7501	SHORT_SM	m38[75B2]
XW7502	SHORT_SM	m38[75B1]
XW7503	SHORT_SM	m38[75D2]
XW7504	SHORT_SM	m38[75D1]
XW7598	SHORT_SM	m38[76D7]
XW7700	SHORT_SM	m38[77C4]
XW7750	SHORT_SM	m38[77A5]
XW7800	SHORT_SM	m38[78B6]
XW7900	SHORT_SM	m38[79C6]
XW8000	SHORT_SM	m38[80C6]
XW8100	SHORT_SM	m38[81C6]
XW8500	SHORT_SM	m38[85C6]
XW8715	SHORT_SM	m38[87A7]
XW8725	SHORT_SM	m38[87A4]
XW9135	SHORT_SM	m38[91A4]
XW9140	SHORT_SM	m38[91A4]
XW9300	SHORT_SM	m38[93C7]
XW9305	SHORT_SM	m38[93C7]
XW9310	SHORT_SM	m38[93C7]

XW9314	SHORT_SM	m38[93C7]
XW9320	SHORT_SM	m38[93B7]
XW9324	SHORT_SM	m38[93B7]
XW9330	SHORT_SM	m38[93B7]
XW9345	SHORT_SM	m38[93A7]
Y2600	CRYSTAL_4PIN_SM-LF	m38[26D8]
Y3301	CRYSTAL_5X3.2-SM	m38[33C7]
Y4101	CRYSTAL_4PIN_SM-3	m38[41B5]
Y4400	CRYSTAL_HC49-USMD	m38[44D2]
Y5800	CRYSTAL_SM-3	m38[59B8]
Y6700	CRYSTAL_4PIN_SM-LF	m38[59B7]
ZH500	HOLE_VIA	m38[5C1]
ZH501	HOLE_VIA	m38[5C1]
ZH502	HOLE_VIA	m38[5C1]
ZH503	HOLE_VIA	m38[5C1]
ZH504	HOLE_VIA	m38[5B1]
ZH505	HOLE_VIA	m38[5B1]
ZH506	HOLE_VIA	m38[5B1]
ZH507	HOLE_VIA	m38[5B1]
ZH508	HOLE_VIA	m38[5B1]
ZH509	HOLE_VIA	m38[5B1]
ZH510	HOLE_VIA	m38[5C1]
ZH511	HOLE_VIA	m38[5C1]
ZH512	HOLE_VIA	m38[5C1]
ZH513	HOLE_VIA	m38[5C1]
ZH514	HOLE_VIA	m38[5B1]
ZH515	HOLE_VIA	m38[5B1]
ZH516	HOLE_VIA	m38[5B1]
ZH517	HOLE_VIA	m38[5B1]
ZH518	HOLE_VIA	m38[5B1]
ZH519	HOLE_VIA	m38[5B1]
ZH520	HOLE_VIA	m38[5C1]
ZH521	HOLE_VIA	m38[5C1]
ZH522	HOLE_VIA	m38[5C1]
ZH523	HOLE_VIA	m38[5C1]
ZH524	HOLE_VIA	m38[5B1]
ZH525	HOLE_VIA	m38[5B1]
ZH526	HOLE_VIA	m38[5B1]
ZH527	HOLE_VIA	m38[5B1]
ZH528	HOLE_VIA	m38[5B1]
ZH529	HOLE_VIA	m38[5B1]
ZH601	MTGHOLE	m38[6A3]
ZH602	MTGHOLE	m38[6A3]
ZH603	MTGHOLE	m38[6A3]
ZH604	MTGHOLE	m38[6B3]
ZH606	MTGHOLE	m38[6A1]
ZH607	MTGHOLE	m38[9D4]
ZH608	MTGHOLE	m38[9D3]
ZH609	MTGHOLE	m38[9D2]
ZH610	MTGHOLE	m38[9D2]