

MS-6397 VER:0A

CPU: AMD Socket-462 Processor

Chipset: SiS 733

LPC I/O: W83697HF

AC'97 CODEC:Realtek ALC100P

Expansion:

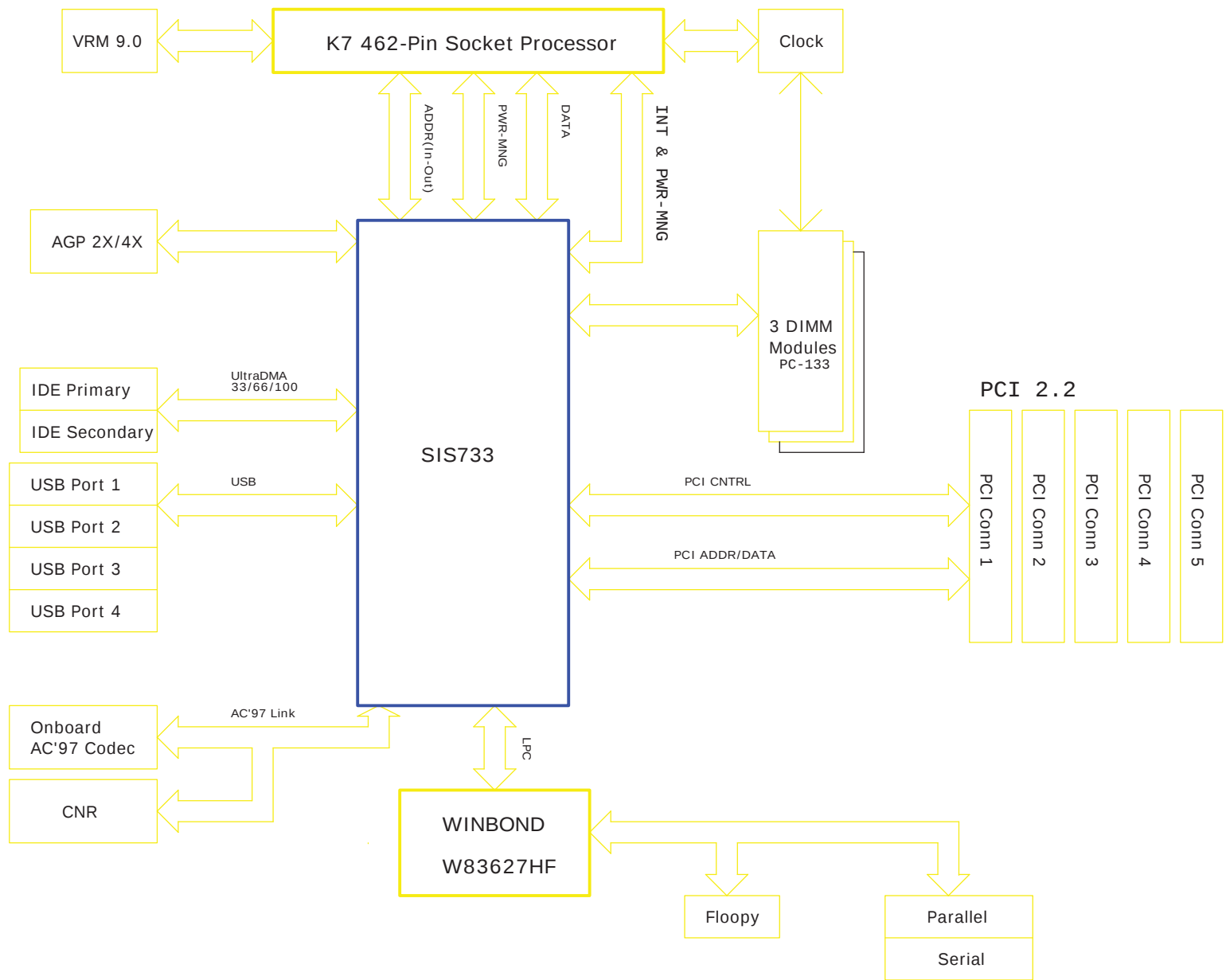
- 1.AGP Slot * 1
- 2.PCI Slot * 5
- 3.CNR Slot * 1

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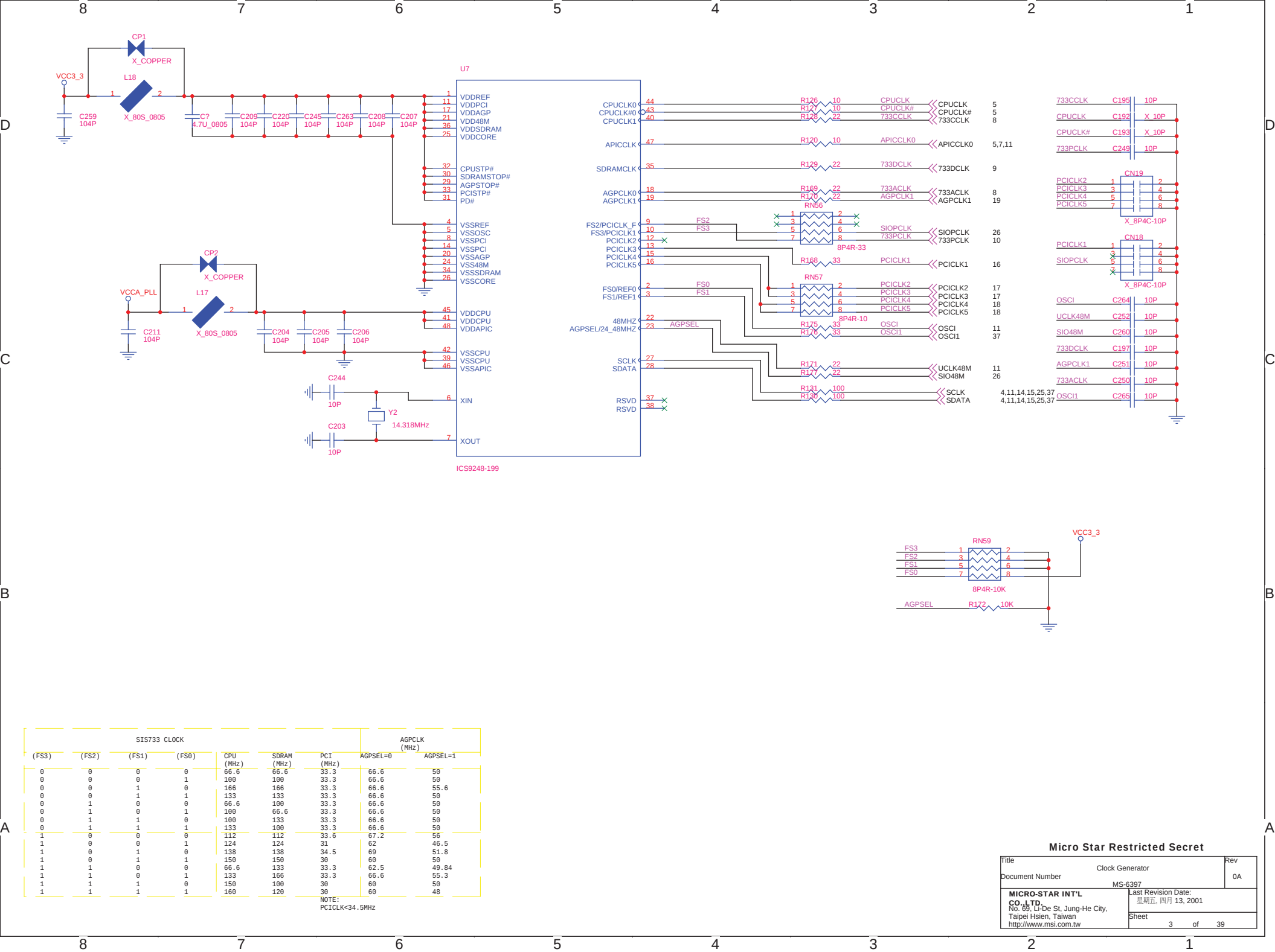
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Document Number	MS-6397	0A
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MS-6397 Block Diagram

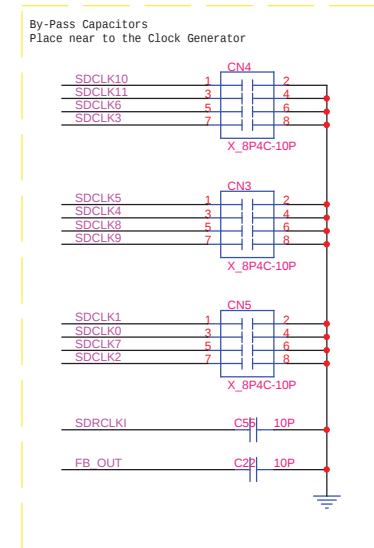
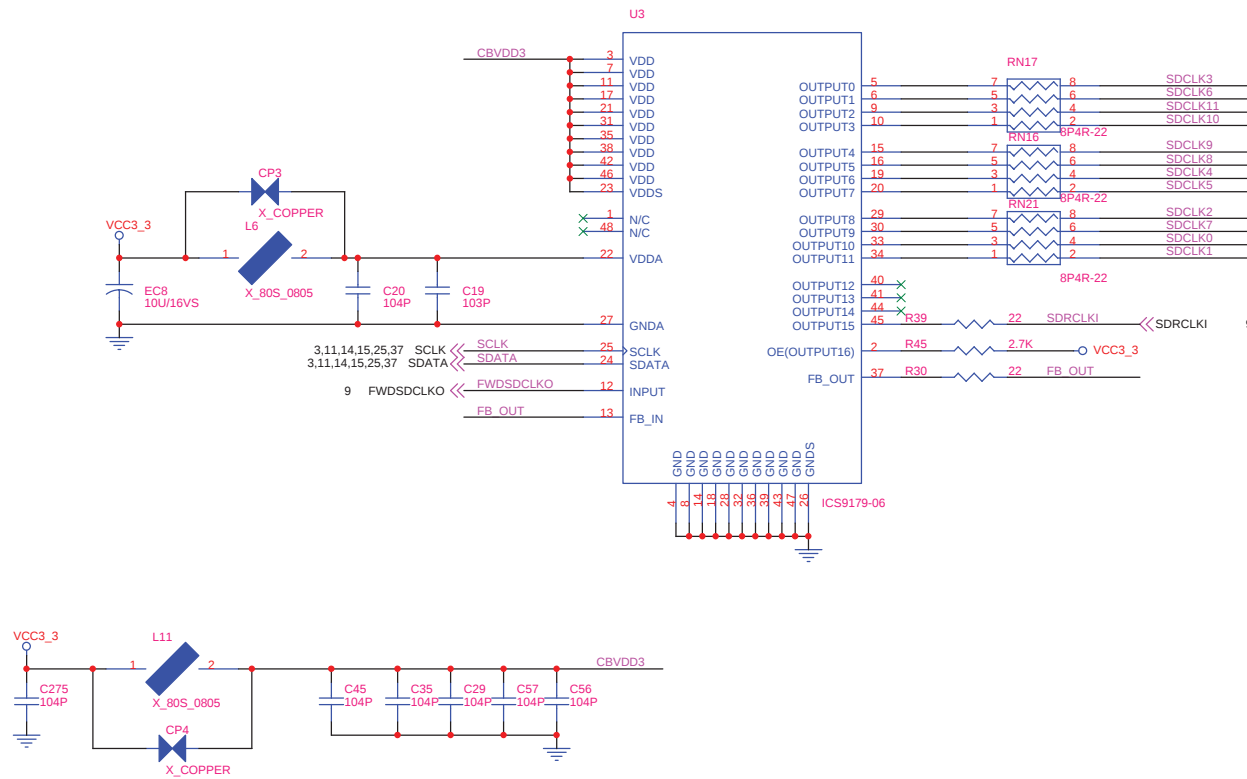


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Title	Block Diagram	Rev
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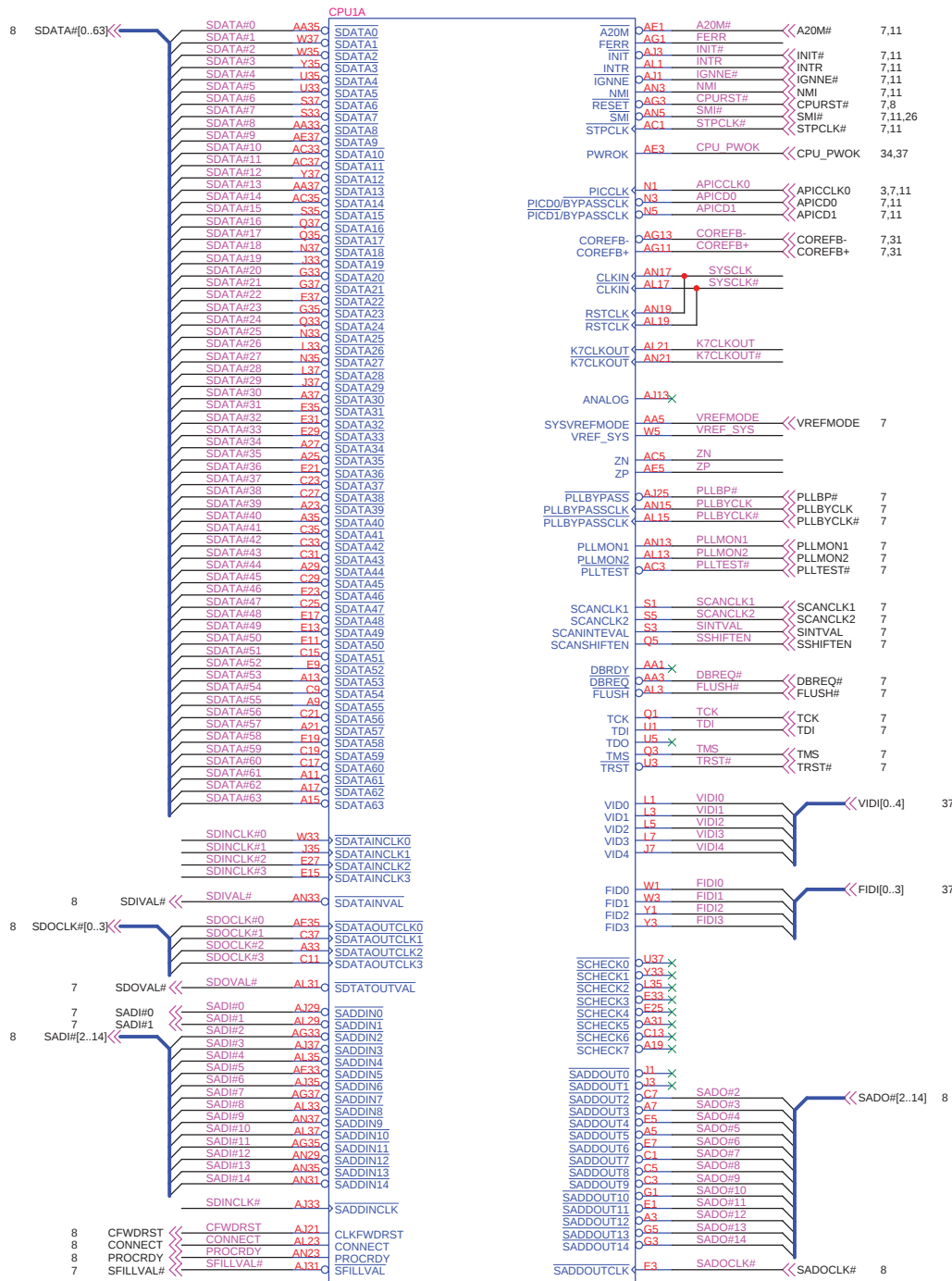
Clock Buffer (3*SDR)



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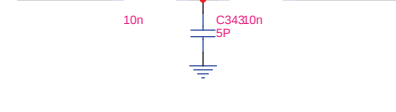
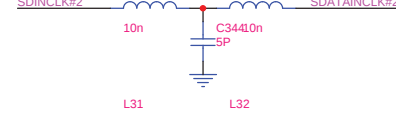
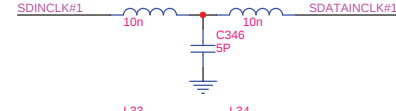
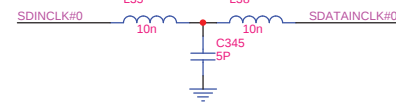
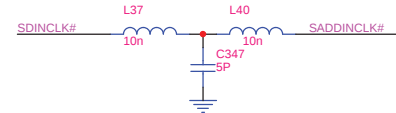
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Document Number	MS-6397	0A
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AMD 462PGA Socket - Signals

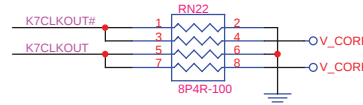


SADDINCLK# SADDINCLK# 8

SDATAINCLK#0 SDATAINCLK#0[0..3] 8
SDATAINCLK#1
SDATAINCLK#2
SDATAINCLK#3

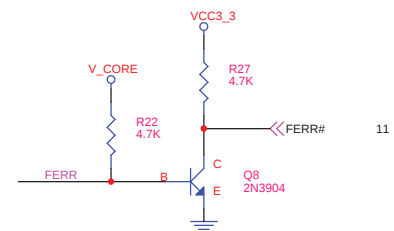


CPU K7CLKOUT BLOCK

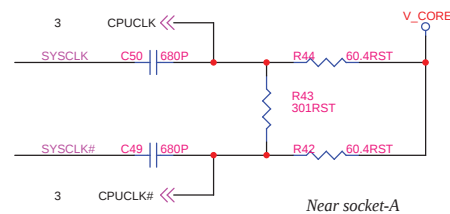


* Trace lengths of CLKOUT and -CLKOUT are between 2" and 3"

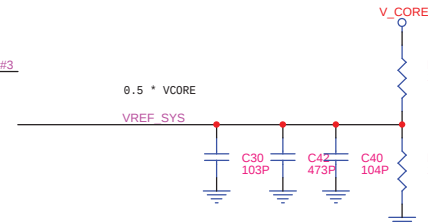
CPU FERR BLOCK



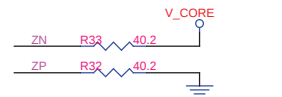
CPU SYSCLK BLOCK



CPU SYSCLK REFERENCE BLOCK



CPU ZN / ZP BLOCK

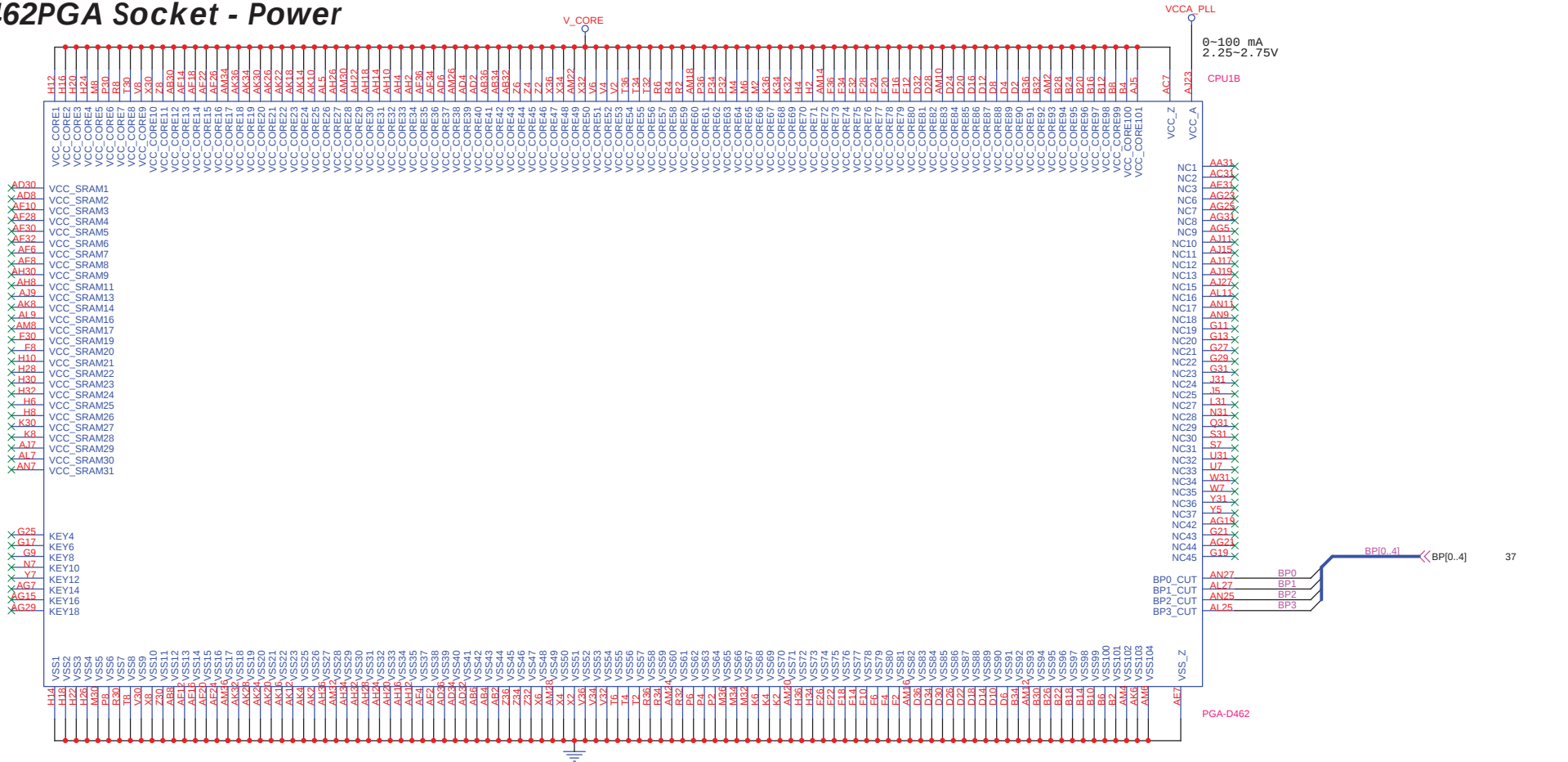


match the transmission line
Push-pull compensation circuit

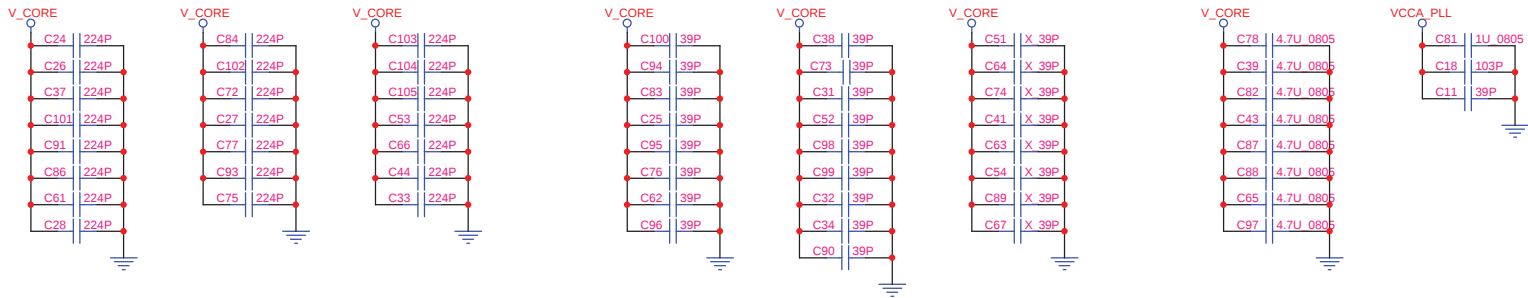
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Title	Socket A_Signal	Rev
Document Number	MS-6397	0A
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AMD 462PGA Socket - Power



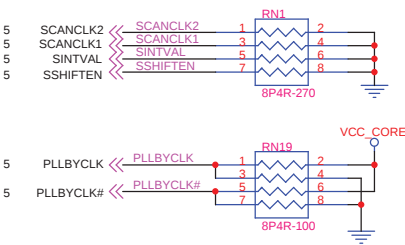
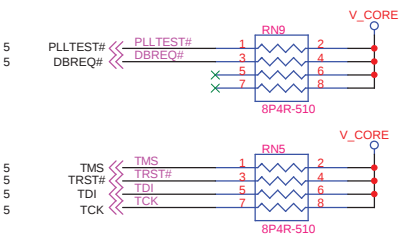
CPU DECOUPLING CAPACITORS



DECOUPLING CAPACITOR INSIDE SOCKET

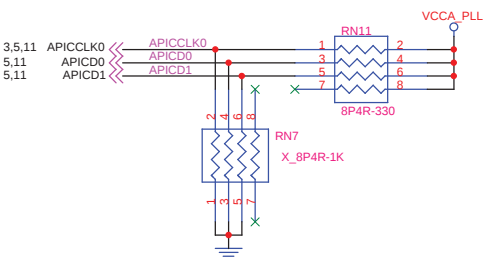
Micro Star Restricted Secret		
Title	Socket A_Power	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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AMD 462PGA Socket - Pull up / down Block



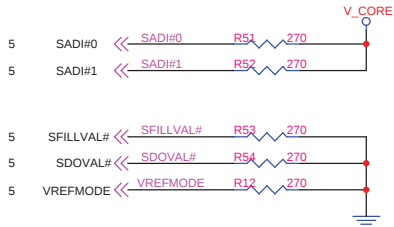
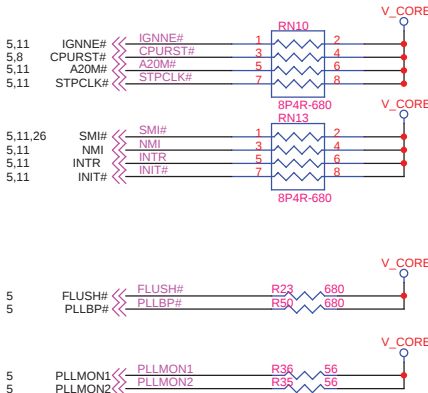
All CPU interface are 2.5V tolerant

CPU APIC BLOCK



for test only
Pull to VCCA_PLL

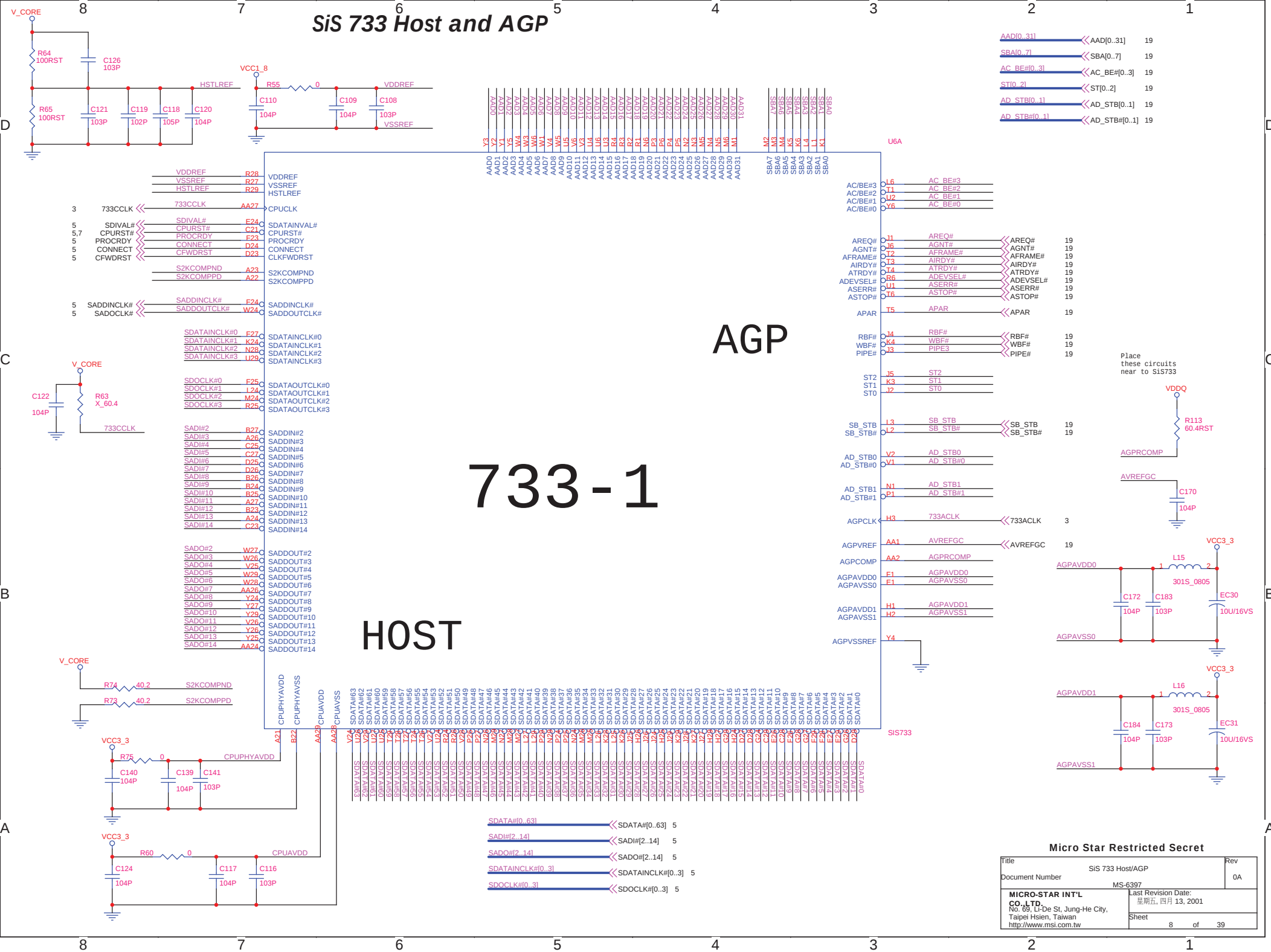
CPU PULL-UP / DOWN BLOCK



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SiS 733⁶ Host and AGP

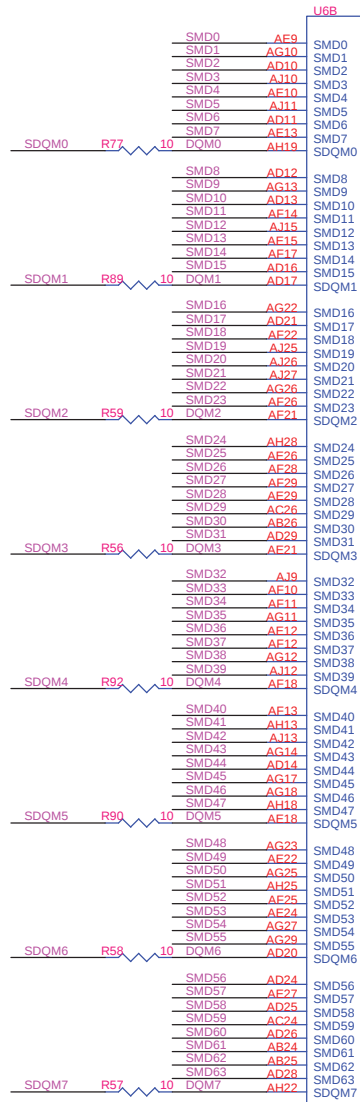


Micro Star Restricted Secret

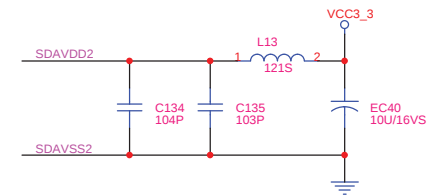
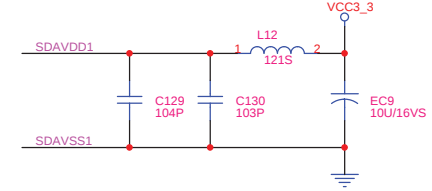
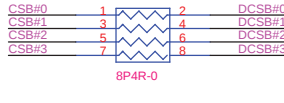
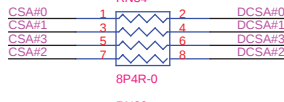
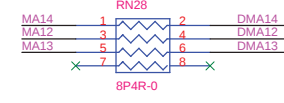
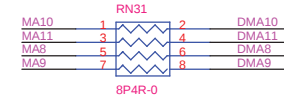
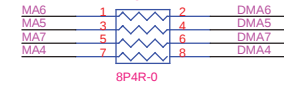
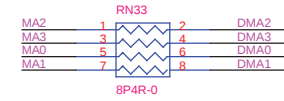
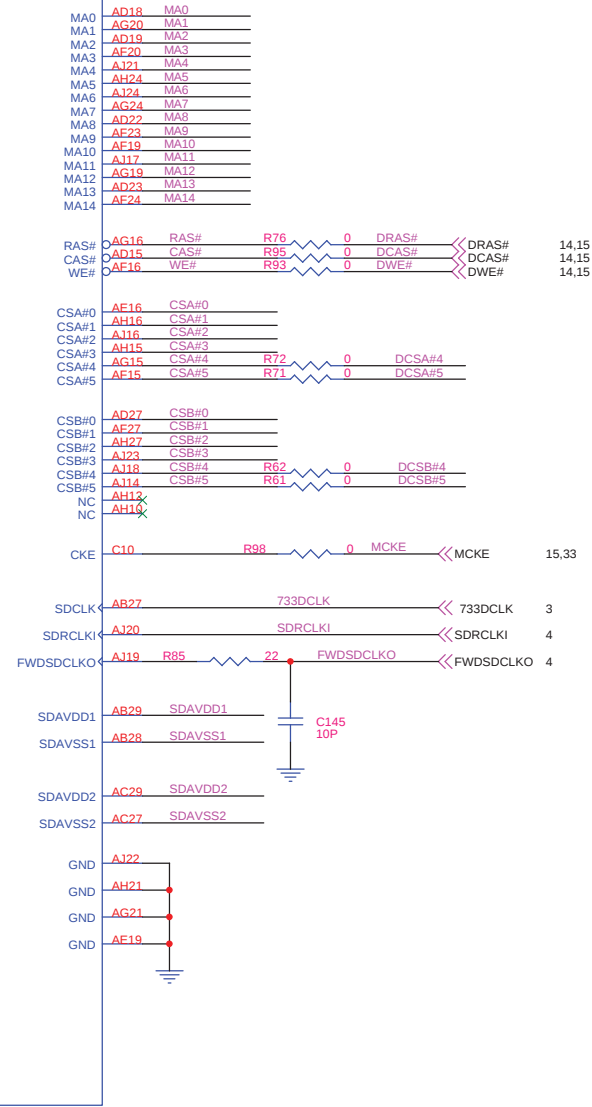
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SiS 733 Memory

SMD[0..63] << SMD[0..63] 14,15
SDQM[0..7] << SDQM[0..7] 14,15
DMA[0..14] << DMA[0..14] 14,15
DCSA#[0..5] << DCSA#[0..5] 14,15
DCSB#[0..5] << DCSB#[0..5] 14,15



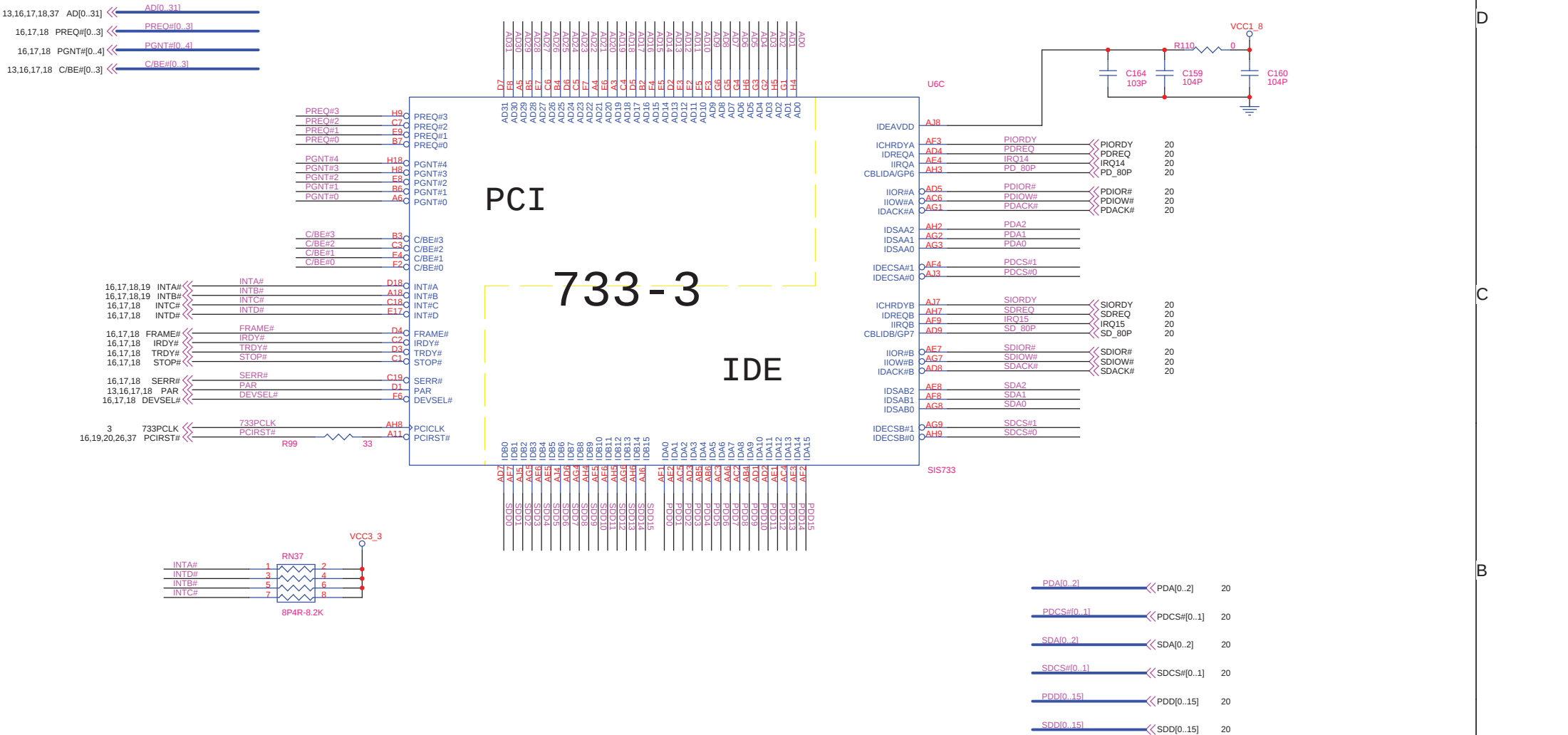
733-2



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SiS 733 PCI and IDE



Sis 733 Misc. Signals

U6D
SIS733



ACPI

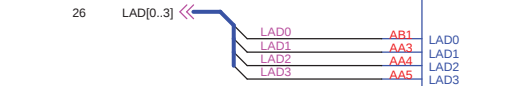


KBC

GPIO



AC97

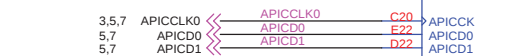


LPC

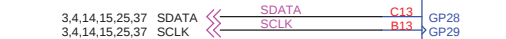


733-4

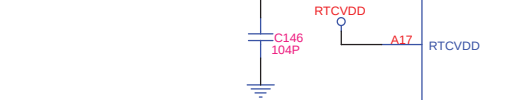
CPU_S



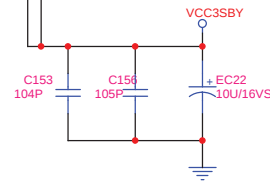
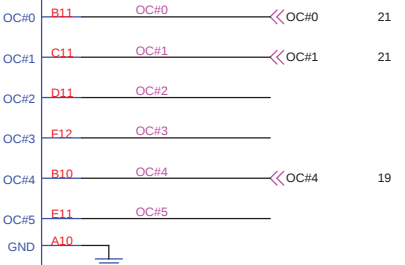
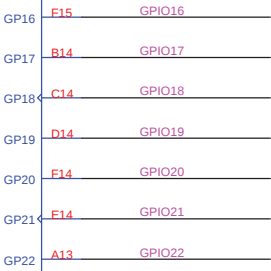
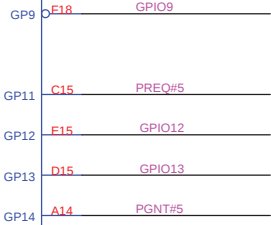
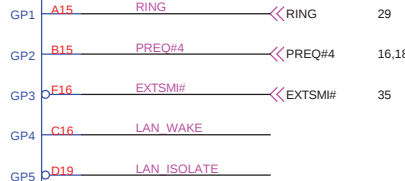
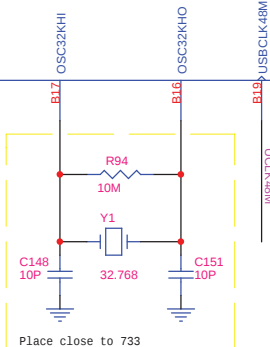
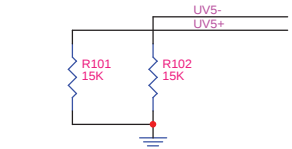
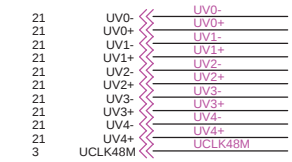
APIC



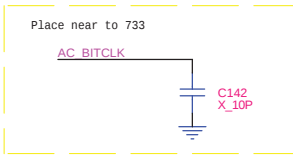
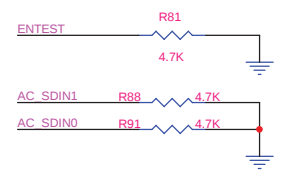
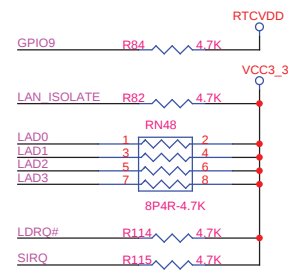
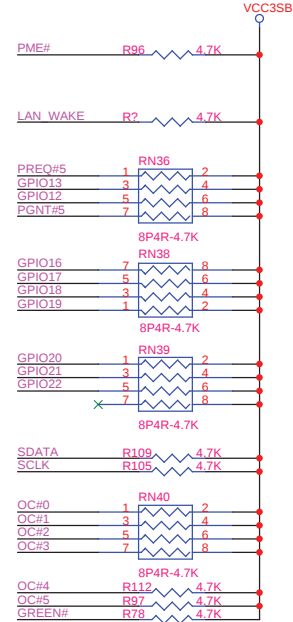
RTC



USB



DON'T need to place
close to 733

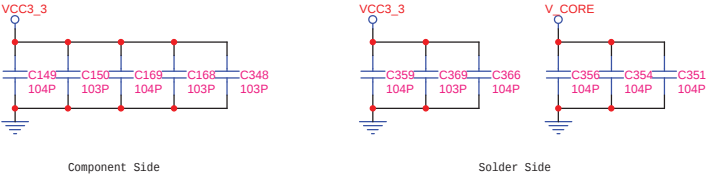


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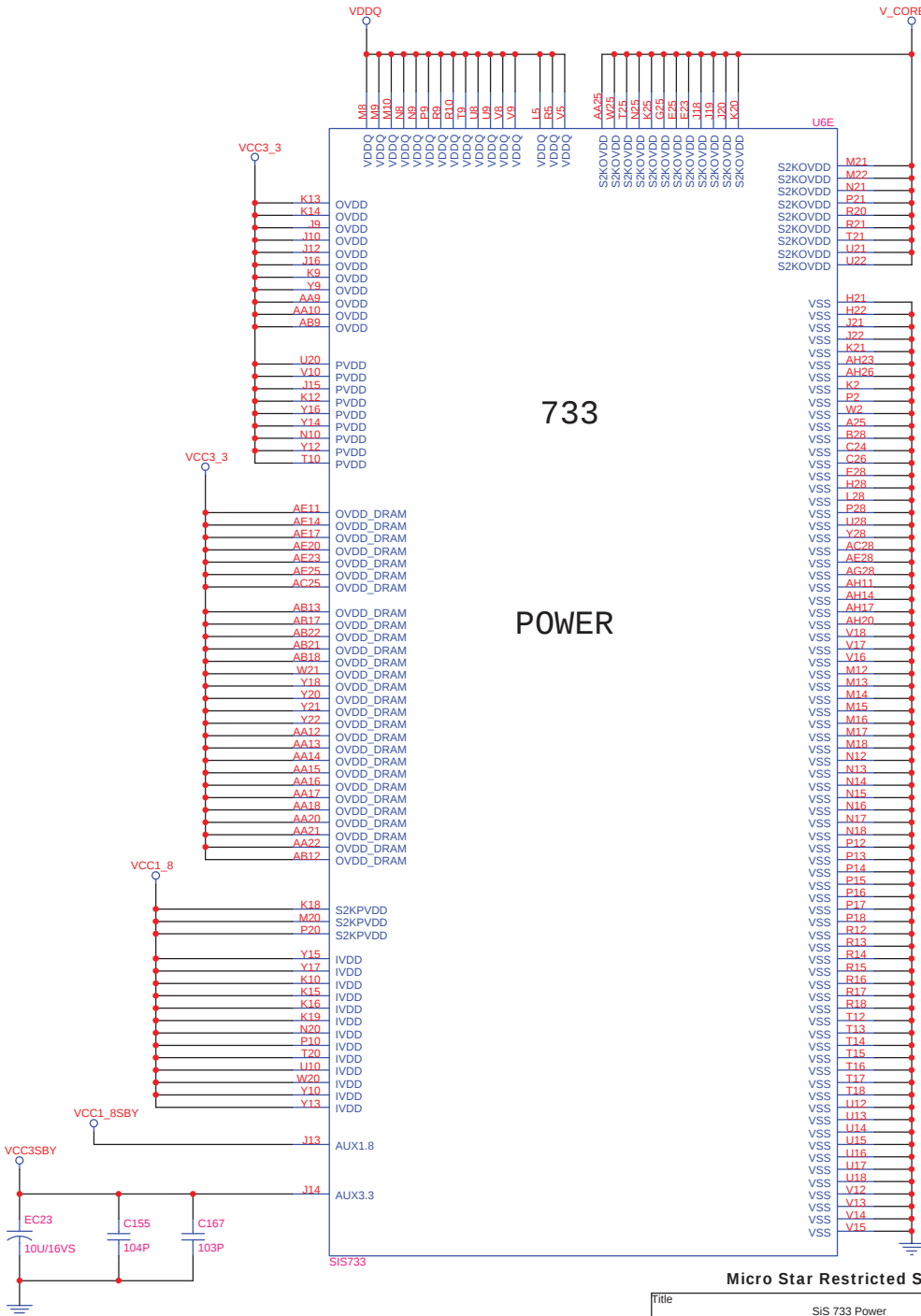
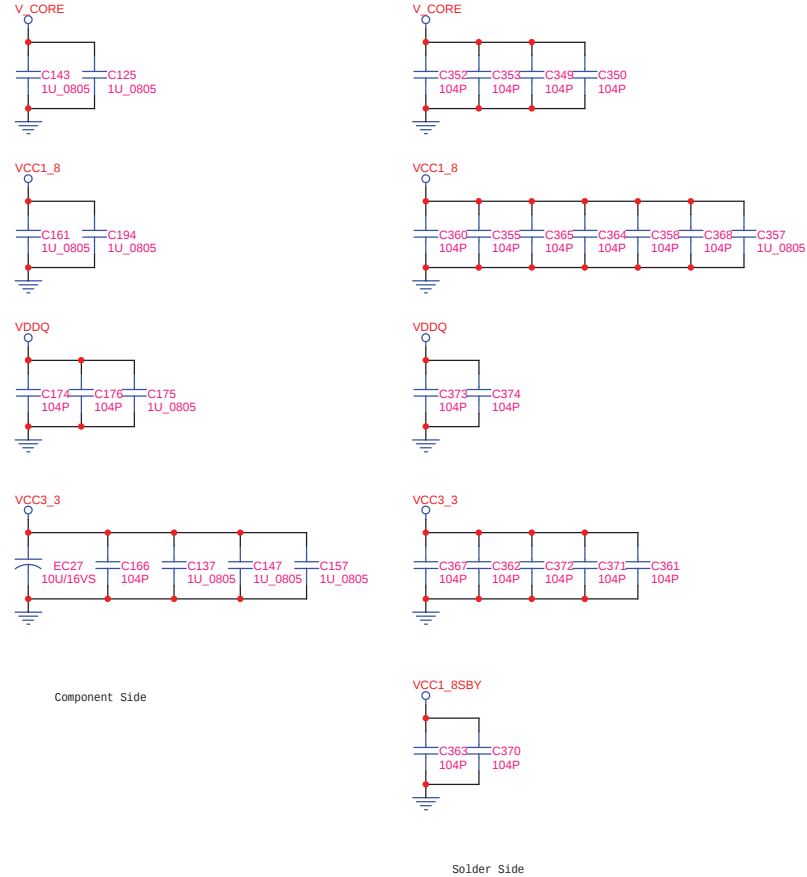
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Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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SIS 733 Power

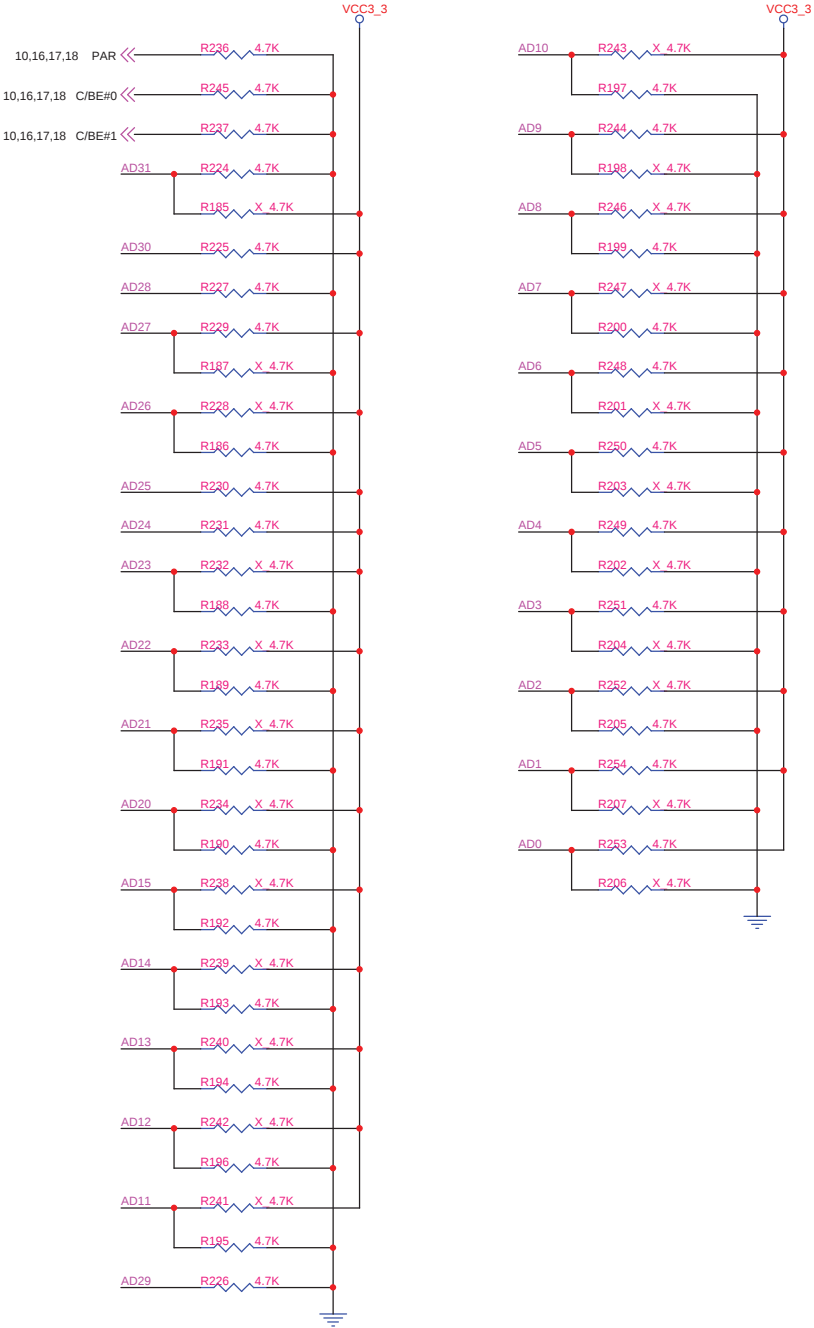
SIS 733 Four Coner Decoupling Capacitor



SIS 733 Power Decoupling Capacitor



SiS 733 Hardware Trap Define



AD31: Allow the ROM address
from FFF8_XXXX to FFFF_XXXXh
0:Disable (Recommend)
1:Enable

AD30: System Auto-Reset Function Enable
0:Disable
1:Enable (Default)

AD28: Clock Forward Offset
0:Delay 1000ps (Default)
1:No Delay

AD27: Processor Forward Clock Delay Mode
0:Disable
1:Enable (Default)

AD26: Receiver Delay Enable
0: Processor forward clock delay mode
1: NB forward clock delay mode

AD23 AD22: S2K Bus Length
0 0 Short (Default)
0 1
1 0
1 1 Long

AD21 AD20: System Clock Speed
0 0 100MHz (Default)
0 1 66MHz
1 0 90MHz
1 1 133MHz

AD15: Receive clock delay control mode
0: Use DLL control value
1: Use hardware trap value
(AD[14..11]) (Default)

AD[14..11]: Receive Forward Clock Delay
0000:minimum delay
1111:maximum delay

AD[10..9]: Slew (Output Slew Rate)
00:minimum slew rate
11:maximum slew rate

AD8: S2K output Buffer Driving Strength Control Mode
0: Use compensation logic control value
1: Use hardware trap value (AD[3..0] and AD[7..4])

AD[7..4]: S2K output Buffer NMOS Driving Strength
0000: minimum driving strength
1111: maximum driving strength

AD[3..0]: S2K Output Buffer PMOS Driving Strength
0000: maximum driving strength
1111: minimum driving strength

PAR: CPU, SDRAM, PCI, AGP Clock
PLL/DLL Circuit Enable
0: Enable
1: Disable

C/BE#0: IDE Test Enable
0: Disable
1: Enable

C/BE#1: Debug Test Enable
0: Disable
1: Enable

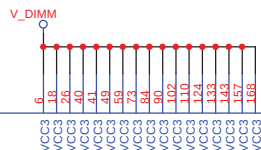
10,16,17,18,37 AD[0..31] << AD[0..31]
10,16,17,18 C/BE#[0..1] << C/BE#[0..1]

Micro Star Restricted Secret

Title		Rev
SIS 733 Hardware Strapping		0A
Document Number		MS-6397
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期五, 四月 13, 2001
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9,15 SMD[0..63] << SMD[0..63]
9,15 DMA[0..14] << DMA[0..14]
9,15 SDQM[0..7] << SDQM[0..7]

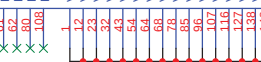
9,15 DCSA#[0..5] << DCSA#[0..5]
9,15 DCSB#[0..5] << DCSB#[0..5]
4,15 SDCLK[0..11] << SDCLK[0..11]



DIMM1

WP	81	WP
A[0]	2	SMD0
A[1]	3	SMD1
A[2]	4	SMD2
A[3]	5	SMD3
A[4]	7	SMD4
A[5]	8	SMD5
A[6]	9	SMD6
A[7]	10	SMD7
A[8]	11	SMD8
A[9]	13	SMD9
A[10]	14	SMD10
A[11]	15	SMD11
A[12]	16	SMD12
A[13]	17	SMD13
A[14]	19	SMD14
A[15]	20	SMD15
NC	51	SMD16
DQ[0]	56	SMD17
DQ[1]	57	SMD18
DQ[2]	58	SMD19
DQ[3]	60	SMD20
DQ[4]	65	SMD21
DQ[5]	66	SMD22
DQ[6]	67	SMD23
NC	146	SMD24
DQ[24]	69	SMD25
DQ[25]	71	SMD26
DQ[26]	72	SMD27
DQ[27]	74	SMD28
DQ[28]	75	SMD29
DQ[29]	76	SMD30
DQ[30]	77	SMD31
NC	145	SMD32
DQ[32]	86	SMD33
DQ[33]	87	SMD34
DQ[34]	88	SMD35
DQ[35]	89	SMD36
DQ[36]	91	SMD37
DQ[37]	92	SMD38
DQ[38]	93	SMD39
DQ[39]	94	SMD40
NC	135	SMD41
DQ[40]	95	SMD42
DQ[41]	97	SMD43
DQ[42]	98	SMD44
DQ[43]	99	SMD45
DQ[44]	100	SMD46
DQ[45]	101	SMD47
DQ[46]	102	SMD48
DQ[47]	103	SMD49
NC	134	SMD50
DQ[48]	139	SMD51
DQ[49]	140	SMD52
DQ[50]	141	SMD53
DQ[51]	142	SMD54
DQ[52]	144	SMD55
DQ[53]	149	SMD56
DQ[54]	150	SMD57
DQ[55]	151	SMD58
NC	109	SMD59
DQ[56]	153	SMD60
DQ[57]	154	SMD61
DQ[58]	155	SMD62
DQ[59]	156	SMD63
DQ[60]	158	SMD64
DQ[61]	159	SMD65
DQ[62]	160	SMD66
DQ[63]	161	SMD67

SDRAM DIMM



9,15 DRAS# << DRAS#
9,15 DCAS# << DCAS#

9,15 DCSA#0 << S#0
9,15 DCSA#1 << S#1
9,15 DCSB#0 << S#2
9,15 DCSB#1 << S#3

9,15 DWE# << DWE#

15 CKE0 << WE0#
15 CKE1 << WE2#

3,4,11,15,25,37 SCLK << SCL
3,4,11,15,25,37 SDATA << SDA

V_DIMM << REOE/NC
V_DIMM << NC/OE#0
V_DIMM << NC/OE#2

addr =
1010000b

WP	81	WP
A[0]	2	SMD0
A[1]	3	SMD1
A[2]	4	SMD2
A[3]	5	SMD3
A[4]	7	SMD4
A[5]	8	SMD5
A[6]	9	SMD6
A[7]	10	SMD7
A[8]	11	SMD8
A[9]	13	SMD9
A[10]	14	SMD10
A[11]	15	SMD11
A[12]	16	SMD12
A[13]	17	SMD13
A[14]	19	SMD14
A[15]	20	SMD15
NC	51	SMD16
DQ[0]	56	SMD17
DQ[1]	57	SMD18
DQ[2]	58	SMD19
DQ[3]	60	SMD20
DQ[4]	65	SMD21
DQ[5]	66	SMD22
DQ[6]	67	SMD23
NC	146	SMD24
DQ[24]	69	SMD25
DQ[25]	71	SMD26
DQ[26]	72	SMD27
DQ[27]	74	SMD28
DQ[28]	75	SMD29
DQ[29]	76	SMD30
DQ[30]	77	SMD31
NC	145	SMD32
DQ[32]	86	SMD33
DQ[33]	87	SMD34
DQ[34]	88	SMD35
DQ[35]	89	SMD36
DQ[36]	91	SMD37
DQ[37]	92	SMD38
DQ[38]	93	SMD39
DQ[39]	94	SMD40
NC	135	SMD41
DQ[40]	95	SMD42
DQ[41]	97	SMD43
DQ[42]	98	SMD44
DQ[43]	99	SMD45
DQ[44]	100	SMD46
DQ[45]	101	SMD47
DQ[46]	102	SMD48
DQ[47]	103	SMD49
NC	134	SMD50
DQ[48]	139	SMD51
DQ[49]	140	SMD52
DQ[50]	141	SMD53
DQ[51]	142	SMD54
DQ[52]	144	SMD55
DQ[53]	149	SMD56
DQ[54]	150	SMD57
DQ[55]	151	SMD58
NC	109	SMD59
DQ[56]	153	SMD60
DQ[57]	154	SMD61
DQ[58]	155	SMD62
DQ[59]	156	SMD63
DQ[60]	158	SMD64
DQ[61]	159	SMD65
DQ[62]	160	SMD66
DQ[63]	161	SMD67



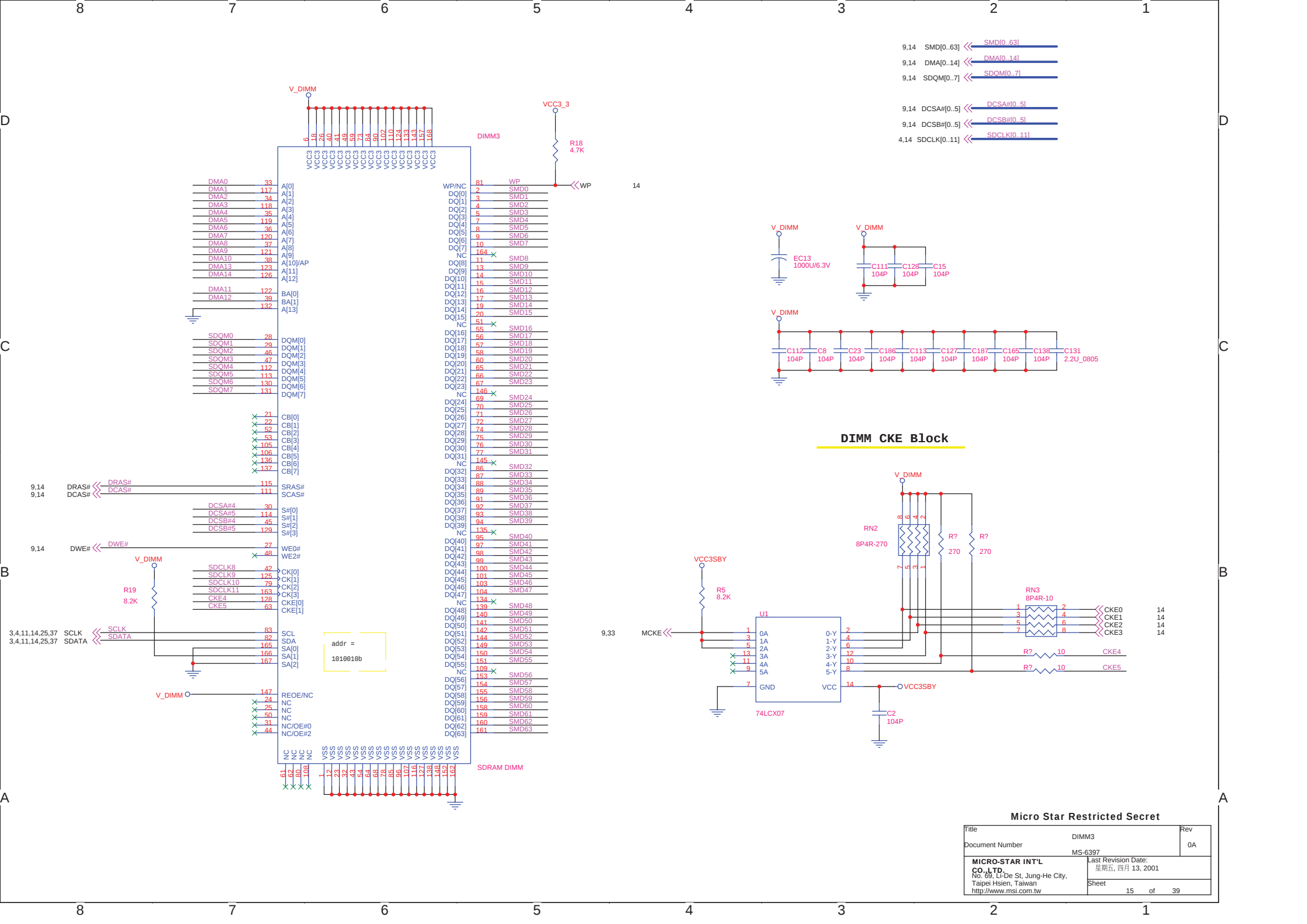
DIMM2

WP	81	WP
A[0]	2	SMD0
A[1]	3	SMD1
A[2]	4	SMD2
A[3]	5	SMD3
A[4]	7	SMD4
A[5]	8	SMD5
A[6]	9	SMD6
A[7]	10	SMD7
A[8]	11	SMD8
A[9]	13	SMD9
A[10]	14	SMD10
A[11]	15	SMD11
A[12]	16	SMD12
A[13]	17	SMD13
A[14]	19	SMD14
A[15]	20	SMD15
NC	51	SMD16
DQ[0]	56	SMD17
DQ[1]	57	SMD18
DQ[2]	58	SMD19
DQ[3]	60	SMD20
DQ[4]	65	SMD21
DQ[5]	66	SMD22
DQ[6]	67	SMD23
NC	146	SMD24
DQ[24]	69	SMD25
DQ[25]	71	SMD26
DQ[26]	72	SMD27
DQ[27]	74	SMD28
DQ[28]	75	SMD29
DQ[29]	76	SMD30
DQ[30]	77	SMD31
NC	145	SMD32
DQ[32]	86	SMD33
DQ[33]	87	SMD34
DQ[34]	88	SMD35
DQ[35]	89	SMD36
DQ[36]	91	SMD37
DQ[37]	92	SMD38
DQ[38]	93	SMD39
DQ[39]	94	SMD40
NC	135	SMD41
DQ[40]	95	SMD42
DQ[41]	97	SMD43
DQ[42]	98	SMD44
DQ[43]	99	SMD45
DQ[44]	100	SMD46
DQ[45]	101	SMD47
DQ[46]	102	SMD48
DQ[47]	103	SMD49
NC	134	SMD50
DQ[48]	139	SMD51
DQ[49]	140	SMD52
DQ[50]	141	SMD53
DQ[51]	142	SMD54
DQ[52]	144	SMD55
DQ[53]	149	SMD56
DQ[54]	150	SMD57
DQ[55]	151	SMD58
NC	109	SMD59
DQ[56]	153	SMD60
DQ[57]	154	SMD61
DQ[58]	155	SMD62
DQ[59]	156	SMD63
DQ[60]	158	SMD64
DQ[61]	159	SMD65
DQ[62]	160	SMD66
DQ[63]	161	SMD67



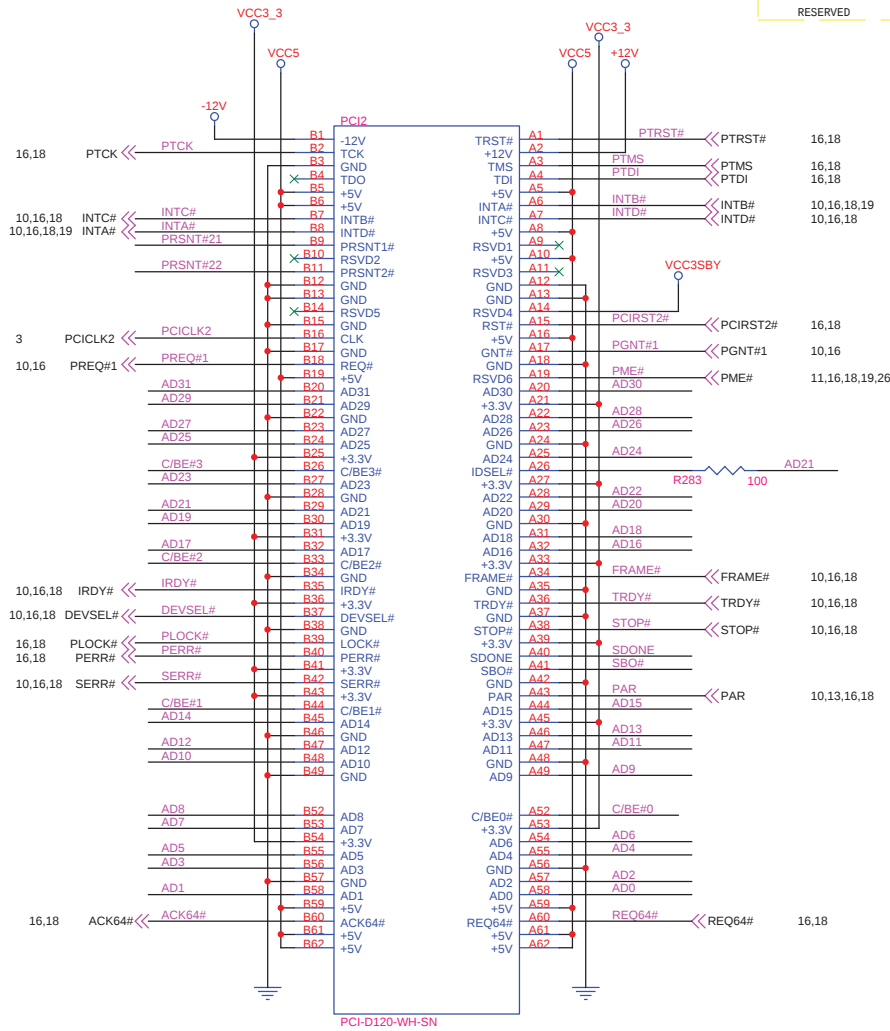
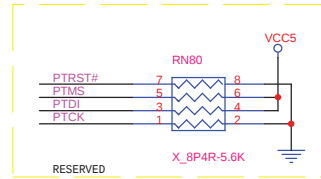
Micro Star Restricted Secret

File	DIMM1 & DIMM2	Rev	0A
Document Number	MS-6397	Last Revision Date:	星期五, 四月 13, 2001
MICRO-STAR INT'L CO., LTD. No. 69, U-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Sheet	14 of 39

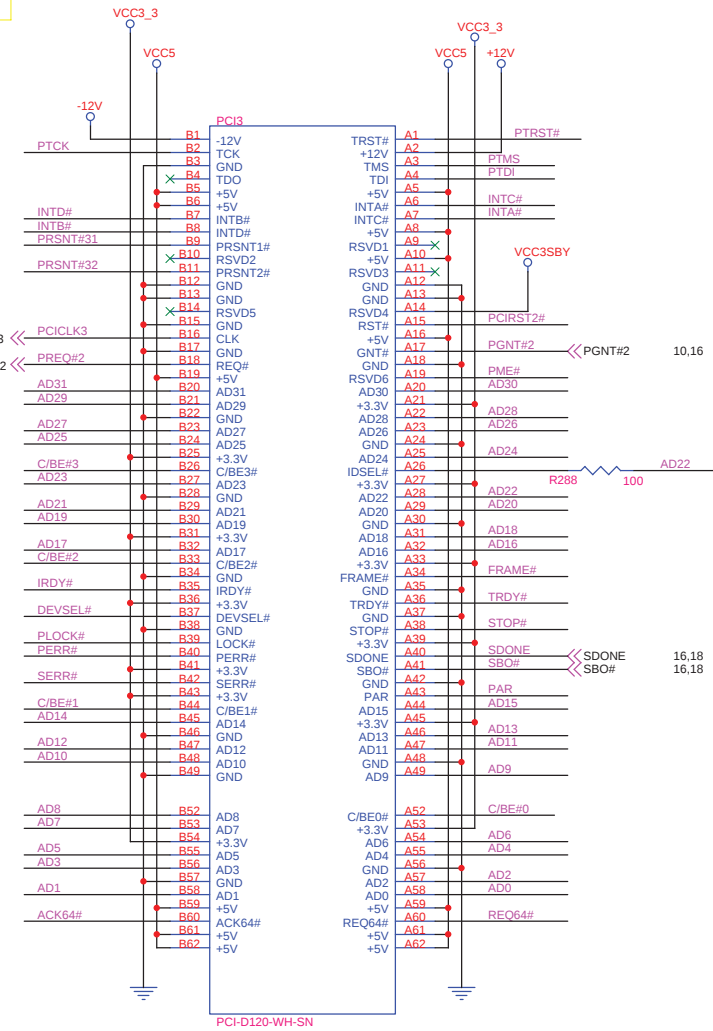
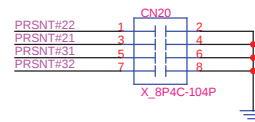


10,13,16,18,37 AD[31..0] << AD[31..0]

10,13,16,18 C/BE#[3..0] << C/BE#[3..0]



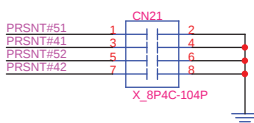
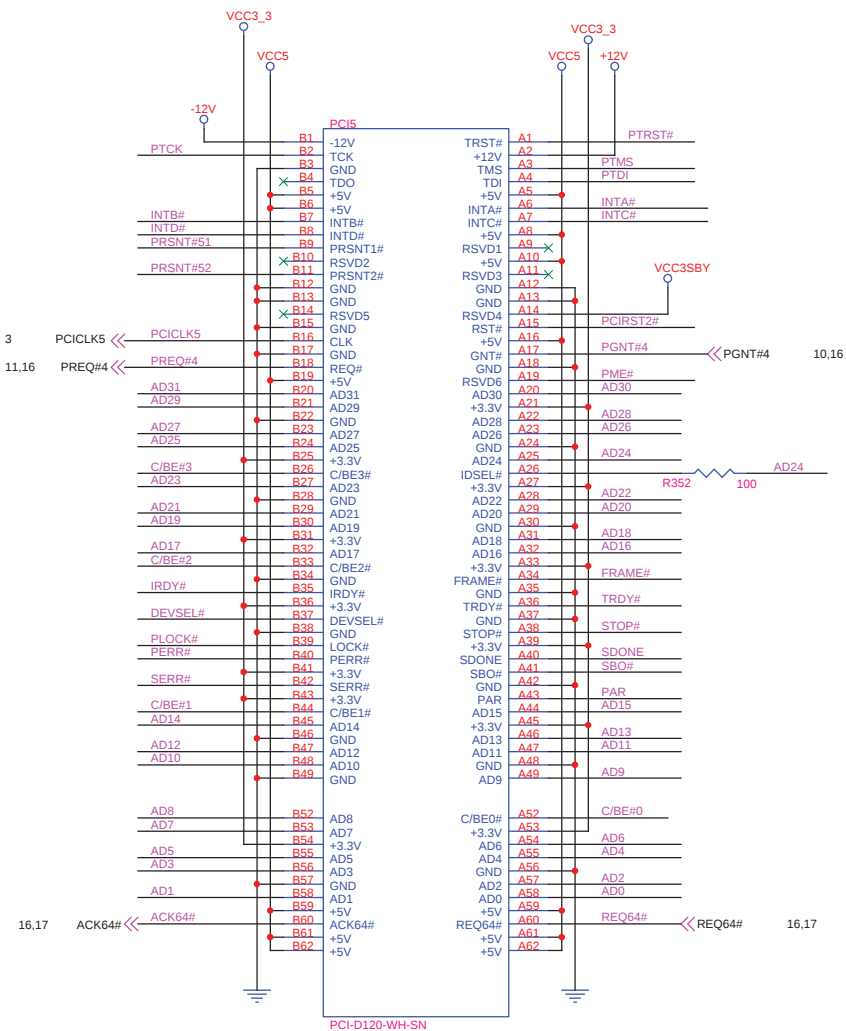
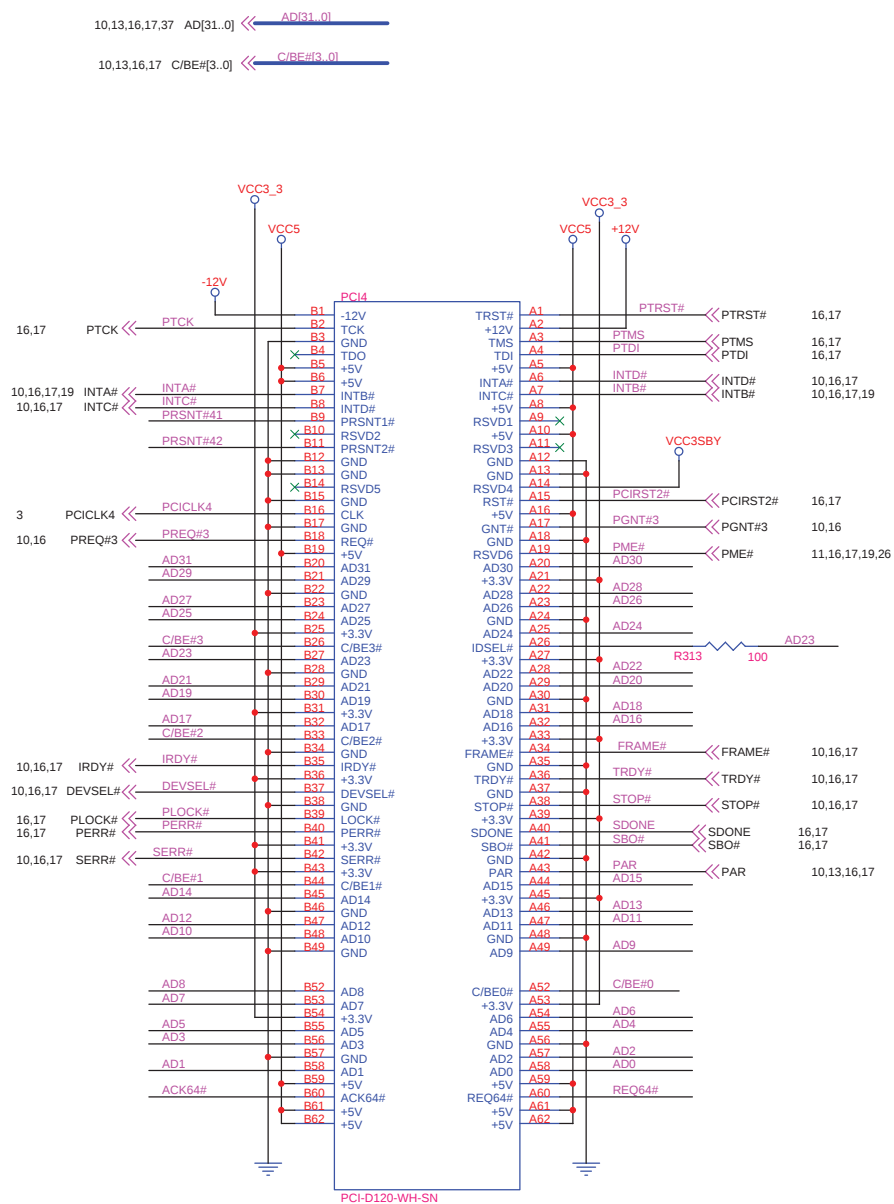
PCI-D120-WH-SN



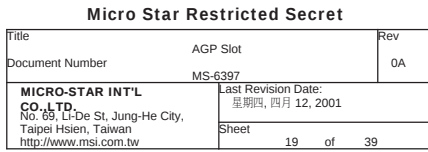
PCI-D120-WH-SN

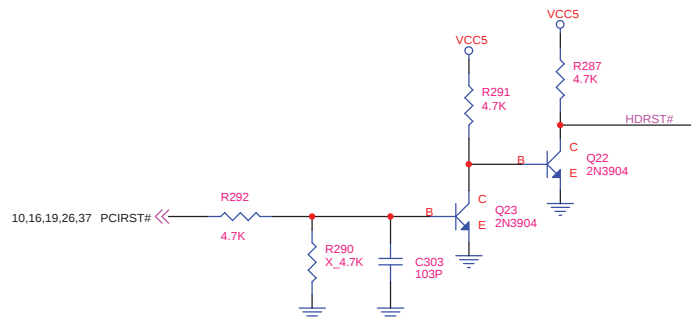
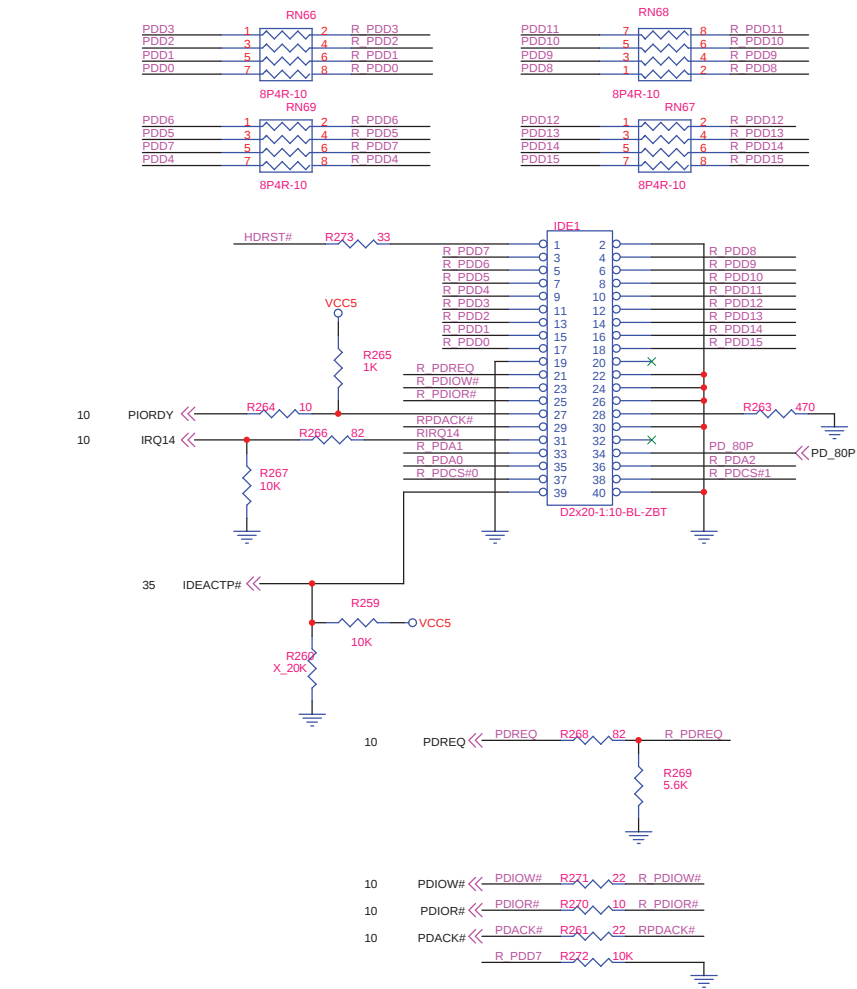
Micro Star Restricted Secret

Title	PCI2 & PCI3	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001 Sheet 17 of 39

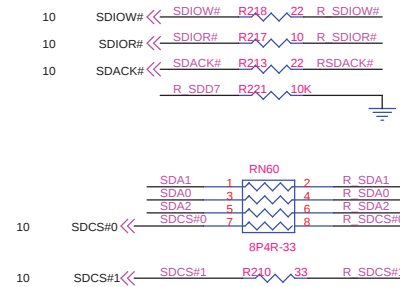
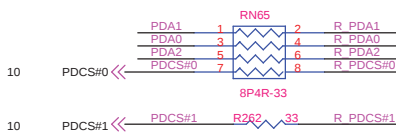


Title	PCI4 & PCI5	Rev	
Document Number	MS-6397		0A
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw	Last Revision Date: 星期四, 四月 12, 2001		
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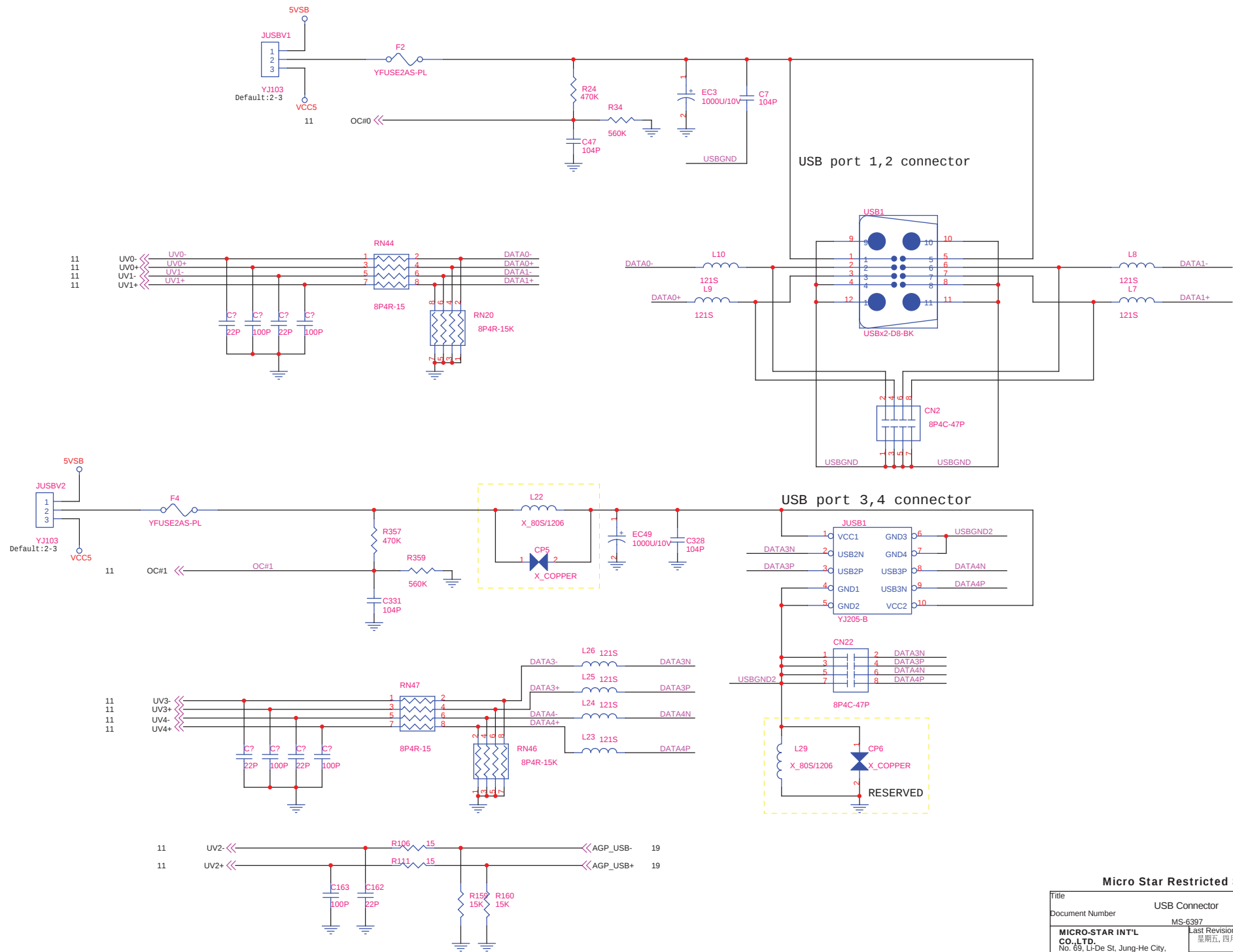


PDD[15..0] << PDD[15..0]
PDA[2..0] << PDA[2..0]
SDA[2..0] << SDA[2..0]
SDD[0..15] << SDD[0..15]



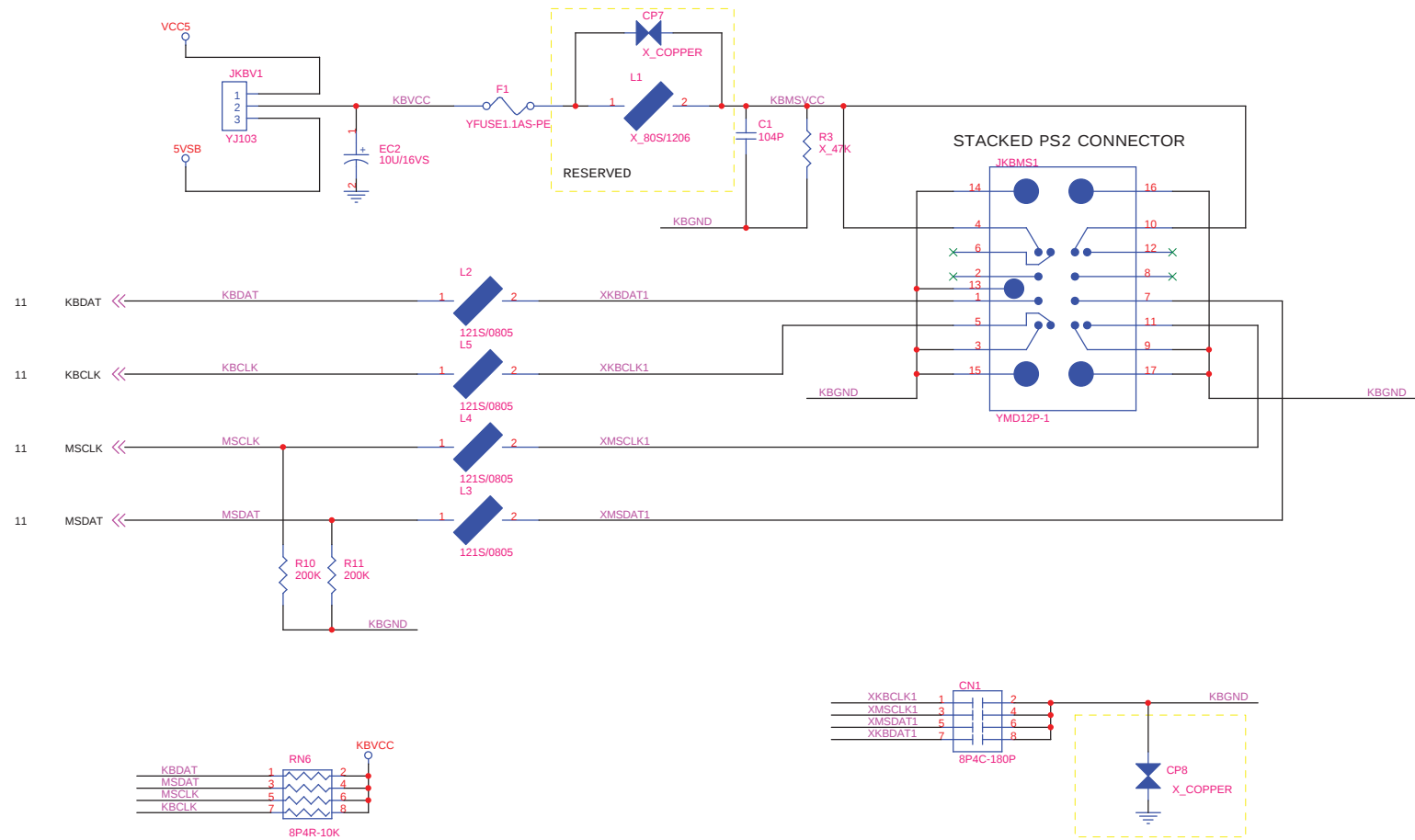
Micro Star Restricted Secret

Title	IDE CONNECTOR	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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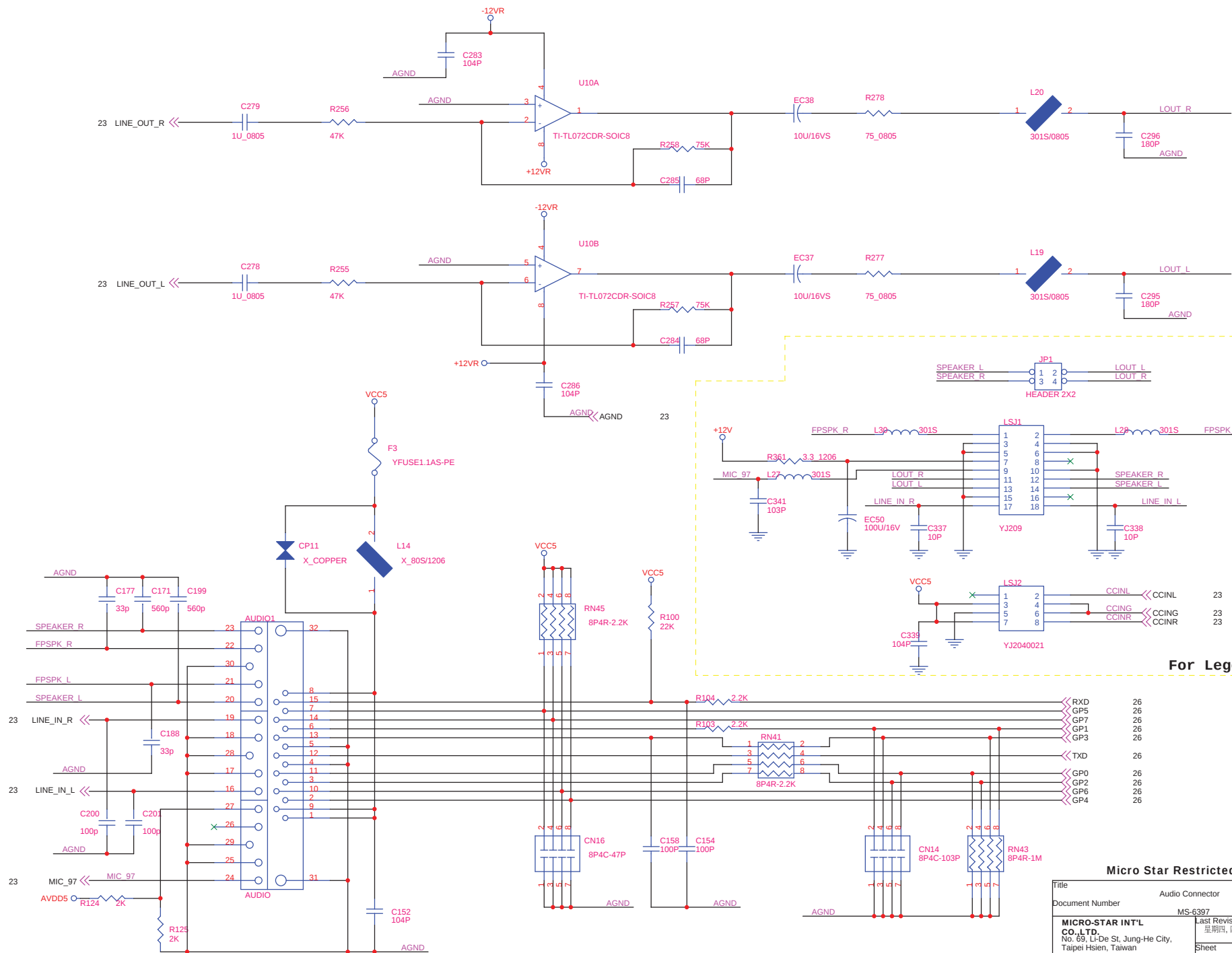
Micro Star Restricted Secret		
Title	USB Connector	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期五, 四月 13, 2001 Sheet 21 of 39

KEYBOARD/MOUSE PORTS



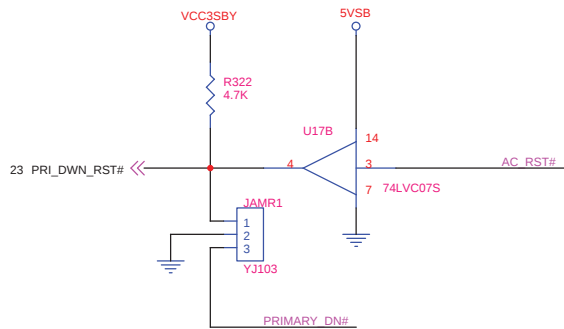
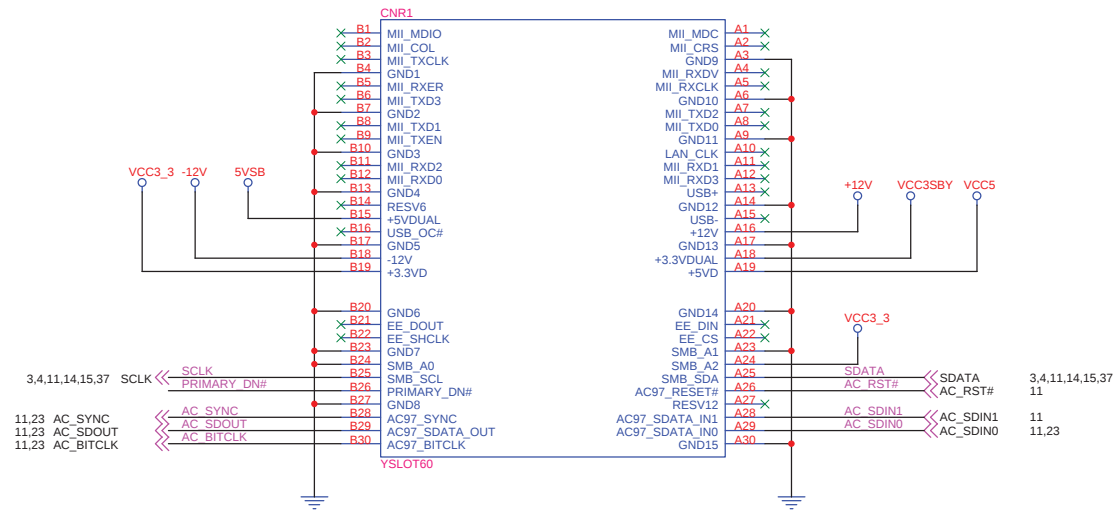
Micro Star Restricted Secret

Title	Keyboard/Mouse Connector	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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For Legend

Micro Star Restricted Secret		
Title	Audio Connector	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001 Sheet 24 of 39

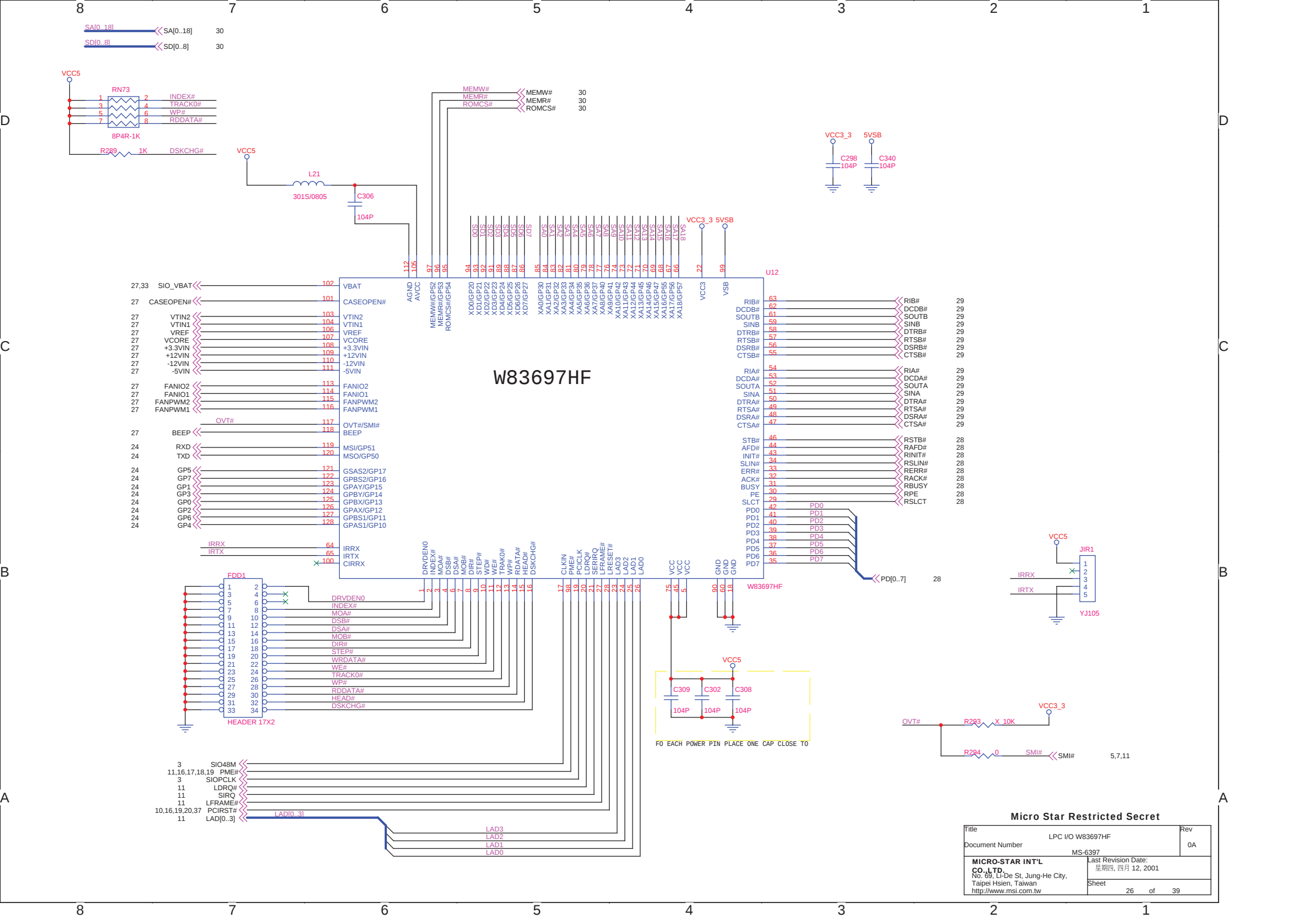


JAMR1	AUDIO DOWN
1 - 2	Disable onboard audio codec
2 - 3	Enable onboard audio codec

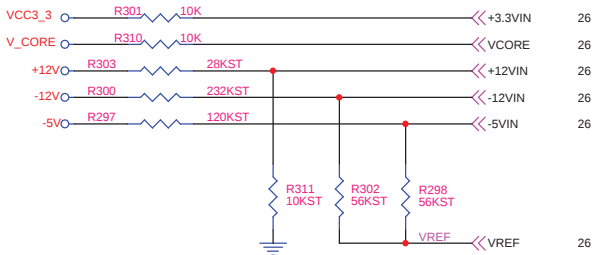
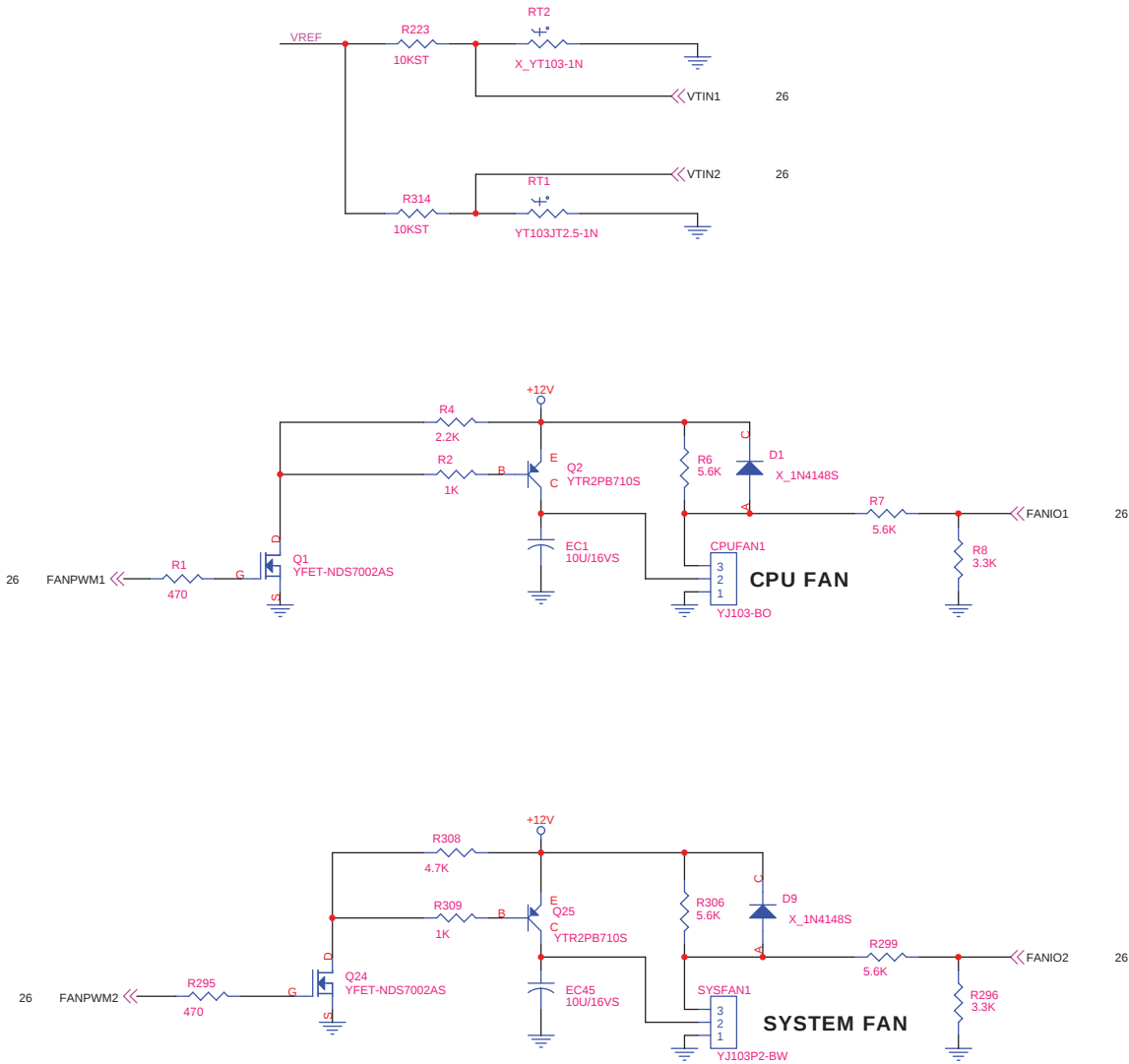
Default 2 - 3

Micro Star Restricted Secret

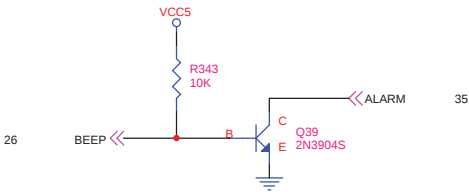
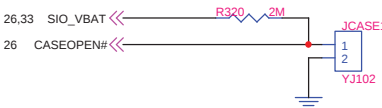
File	CNR Slot	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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Hardware Monitor

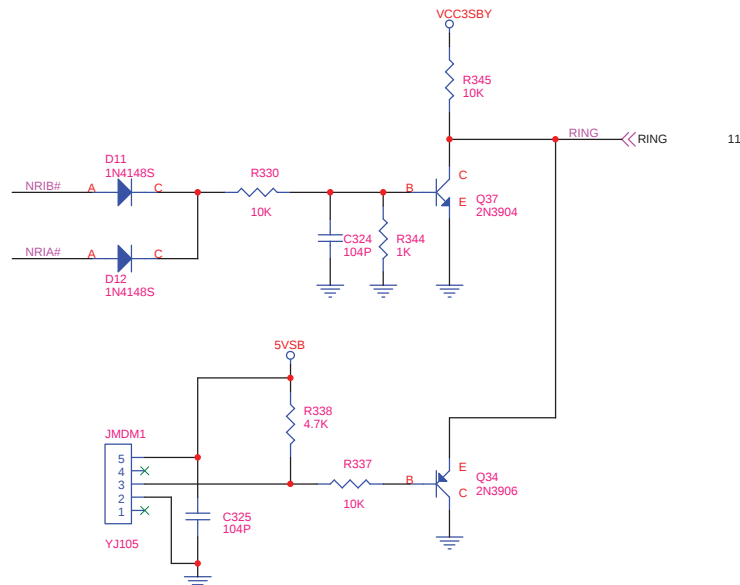
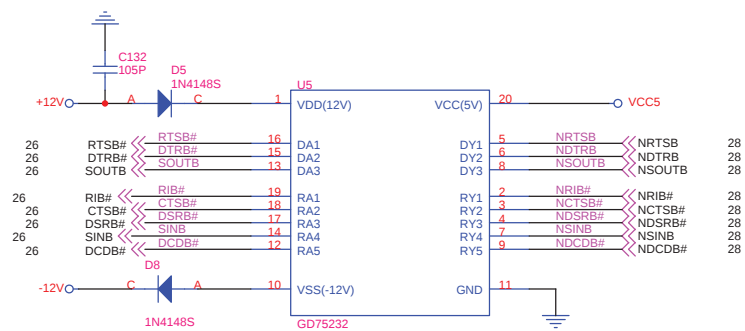
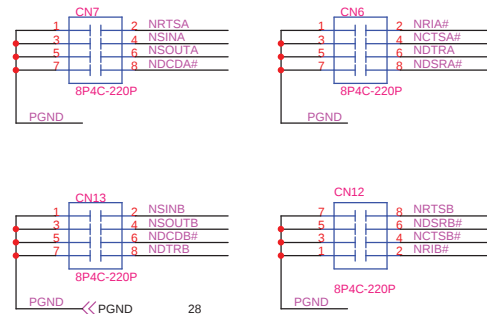
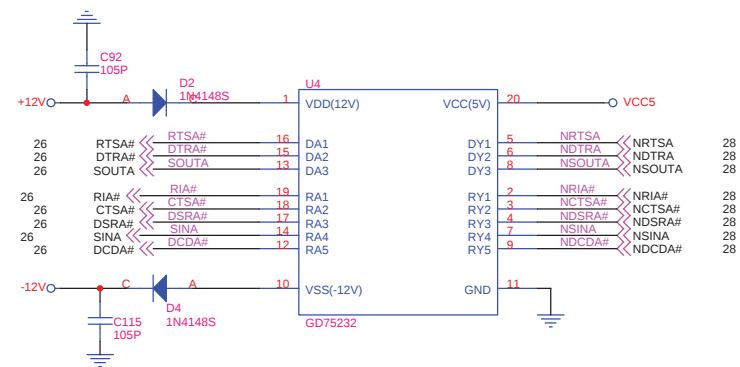


Chassis Intrusion Header



Micro Star Restricted Secret

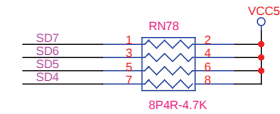
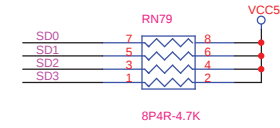
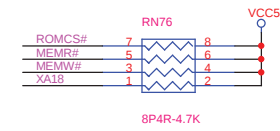
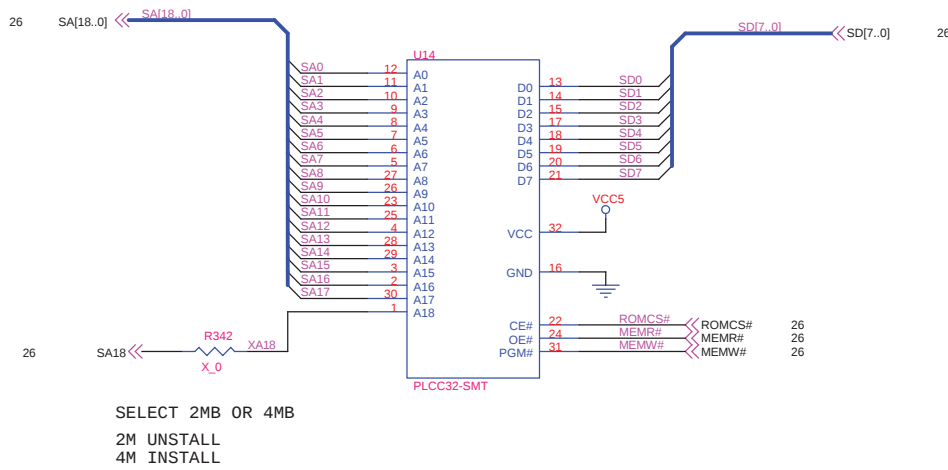
Title	Hardware Monitor	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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INTERNAL MODEM WAKEUP HEADER

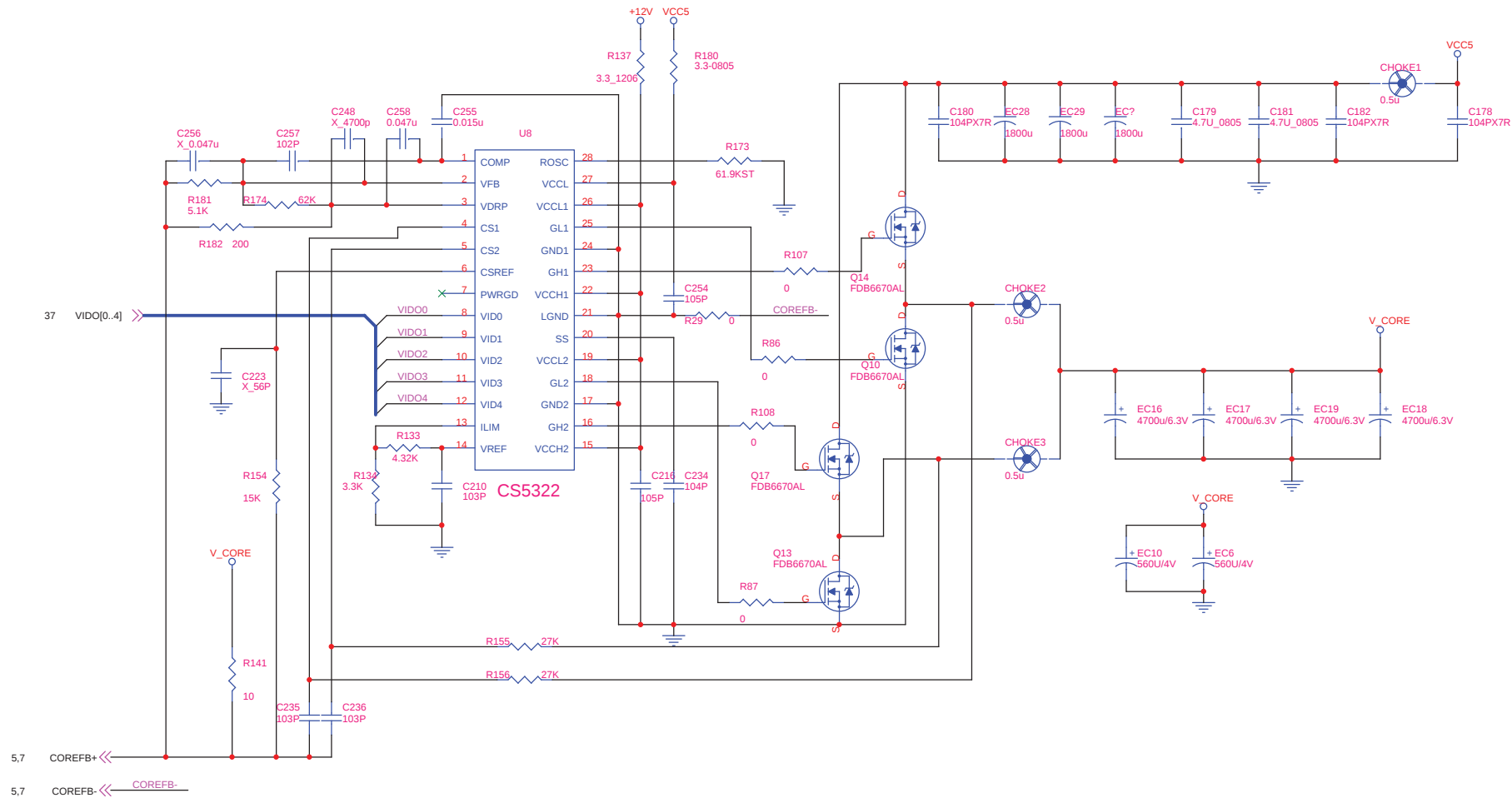
Micro Star Restricted Secret

Title	Serial Port	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001 Sheet 29 of 39



Micro Star Restricted Secret

Title	Flash Memory	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001 Sheet 30 of 39



CS5322 – VRM 9.0

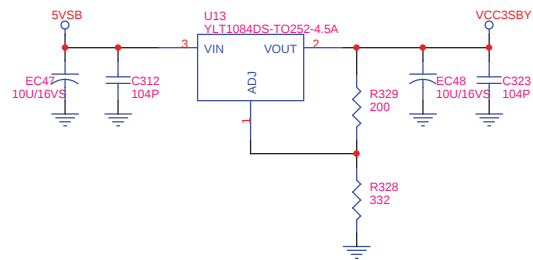
VID4	VID3	VID2	VID1	VID0	VDC(V)	VID4	VID3	VID2	VID1	VID0	VDC(V)
1	0	1	1	0	1.30	0	0	1	1	0	1.70
1	0	0	0	1	1.425	0	0	1	0	1	1.725
1	0	0	0	0	1.45	0	0	1	0	0	1.75
0	1	1	1	1	1.475	0	0	0	1	1	1.775
0	1	1	1	0	1.500	0	0	0	1	0	1.80
0	1	1	0	1	1.525	0	0	0	0	1	1.825
0	1	1	0	0	1.550	0	0	0	0	0	1.85
0	1	0	1	1	1.575	1	1	1	1	1	NO CPU
0	1	0	1	0	1.600						
0	1	0	0	1	1.625						
0	1	0	0	0	1.650						
0	0	1	1	1	1.675						

Micro Star Restricted Secret

Title	PWM_CS5322	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期五, 四月 13, 2001 Sheet 31 of 39

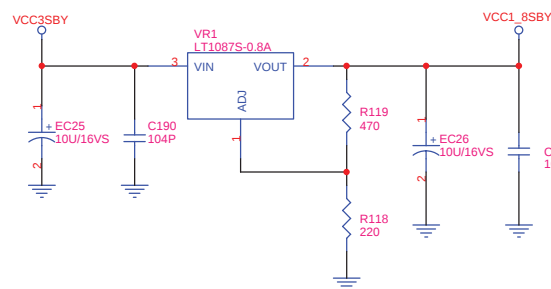
3.3V STANDBY POWER TRANSLATOR

(40mils trace / 15 mils space)



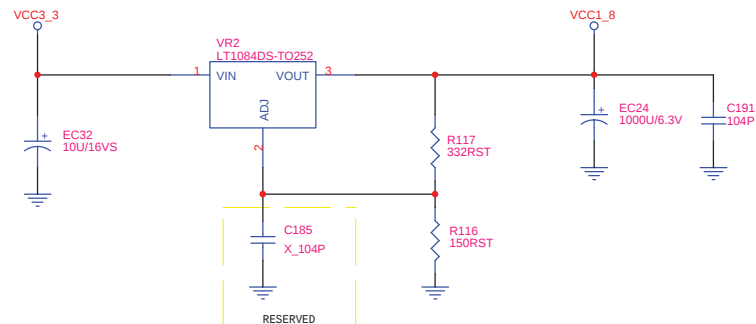
1.8V STANDBY POWER TRANSLATOR

(30mils trace / 15 mils space)

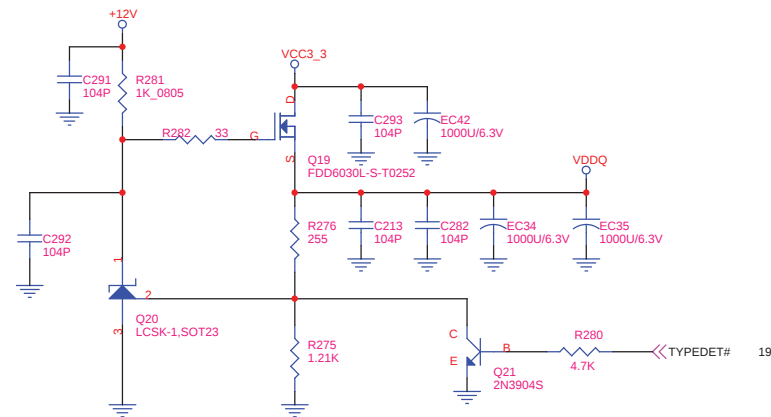


1.8V POWER TRANSLATOR

(50mils trace / 15 mils space)

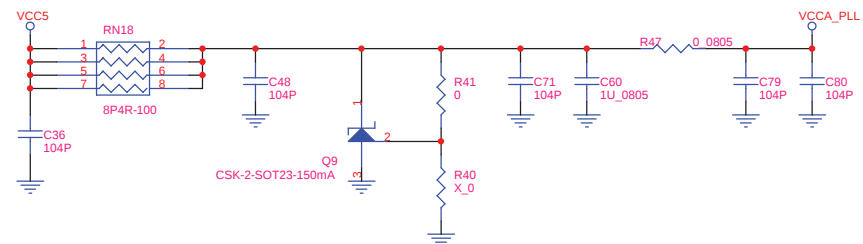


AGP 4X SLOT 1.5V or 3.3V POWER TRANSLATOR



CPU VCCA VOLTAGE BLOCK

(40mils trace / 15 mils space)

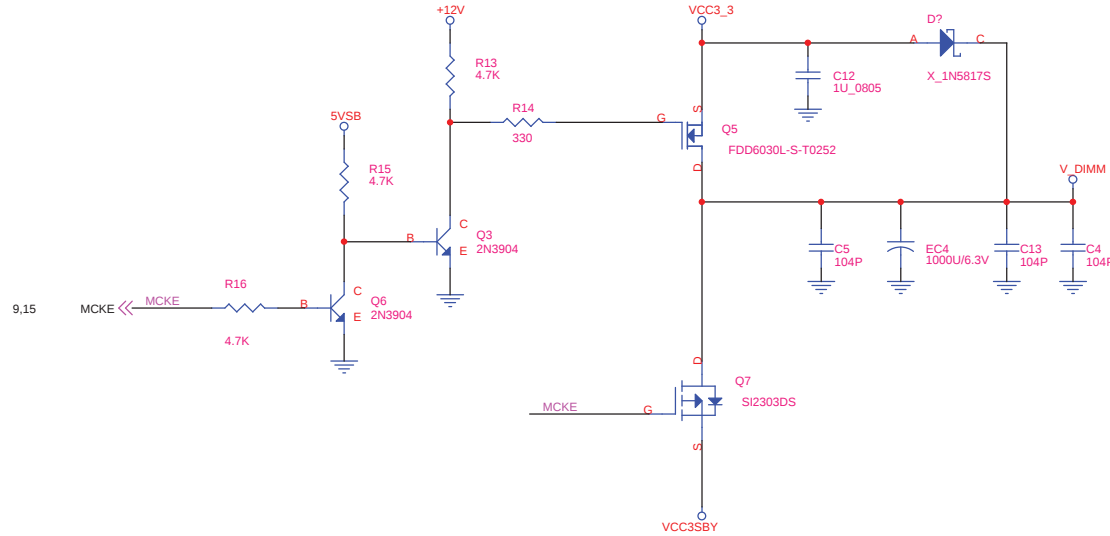


Micro Star Restricted Secret

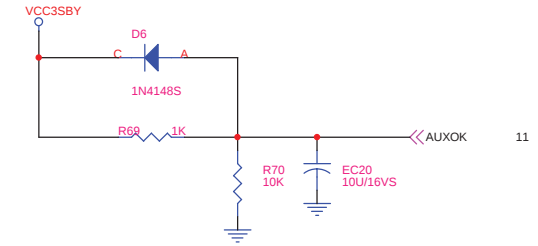
Title	Voltage Regulator 1	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期四, 四月 12, 2001
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ACPI S3 (STR) POWER TRANSLATE CIRCUIT

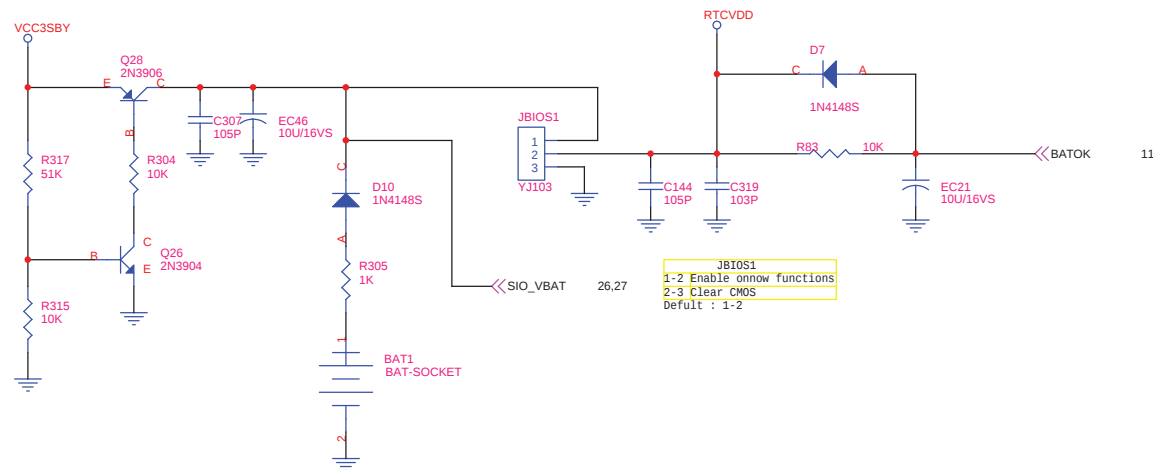
NEAR DIMM



AUX_OK BLOCK

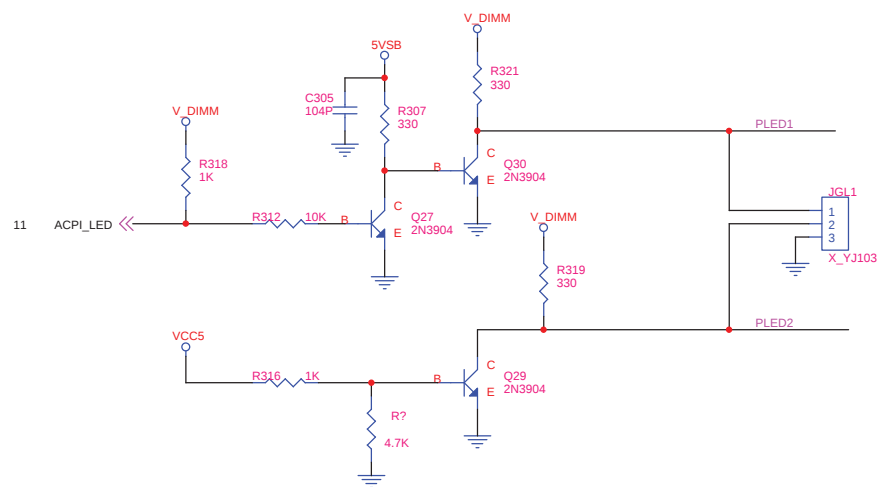
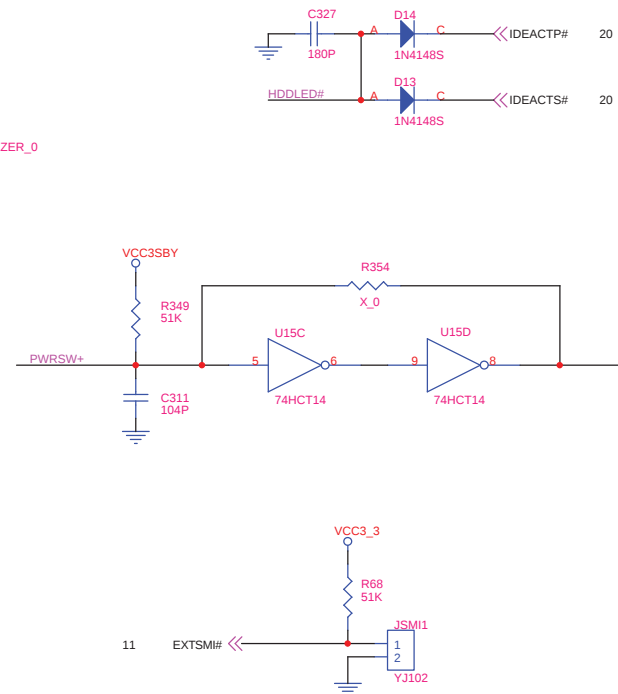


BATTERY BLOCK



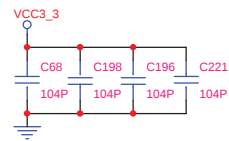
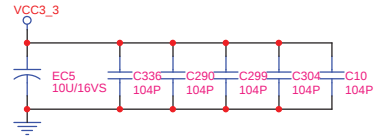
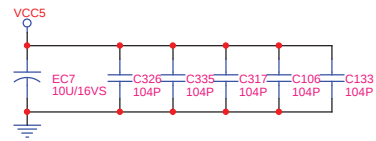
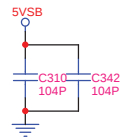
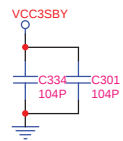
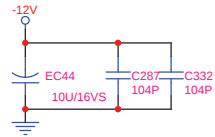
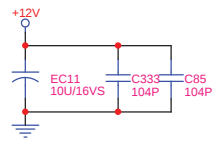
Micro Star Restricted Secret

Title	Voltage Regulator 2	Rev
Document Number	MS-6397	0A
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: 星期五, 四月 13, 2001 Sheet 33 of 39

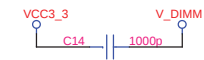
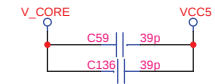
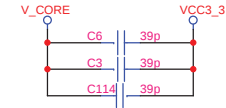
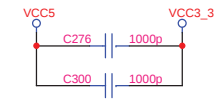


Title	Front Pannel	Rev
Document Number	MS-6397	0A
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System Decoupling Capacitors



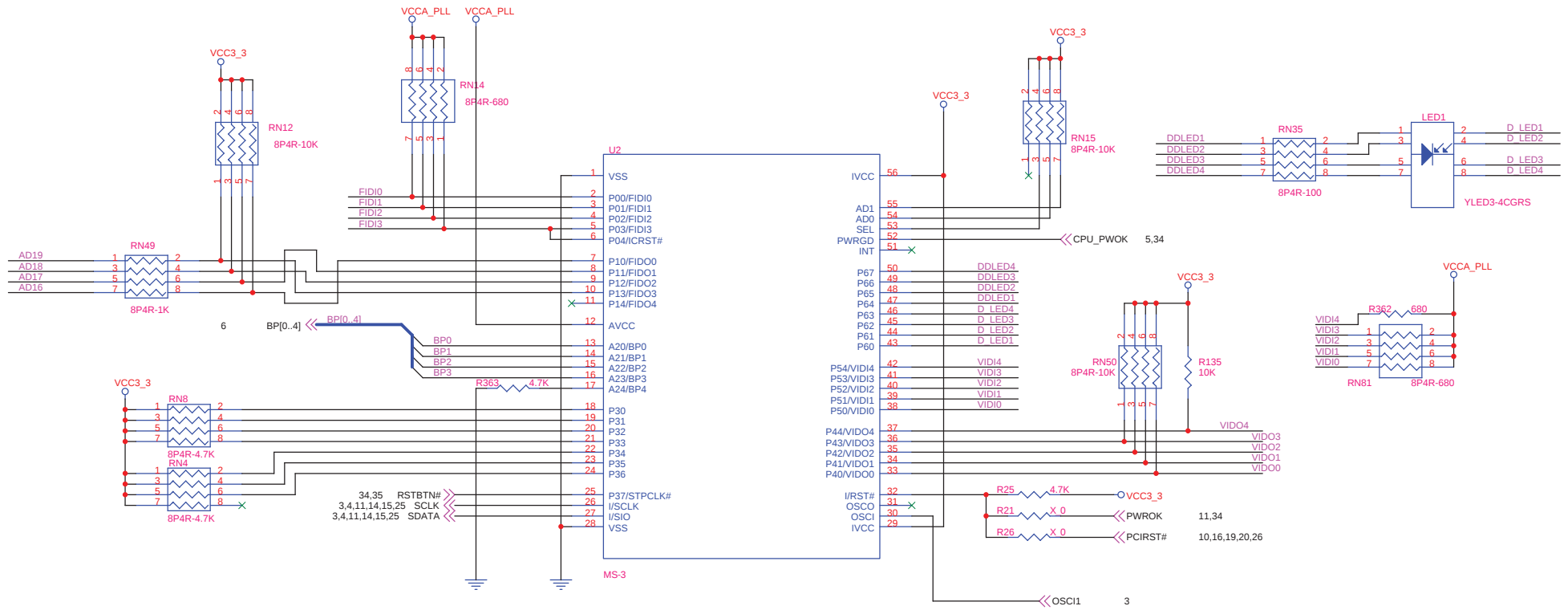
High Freq. return current decoupling



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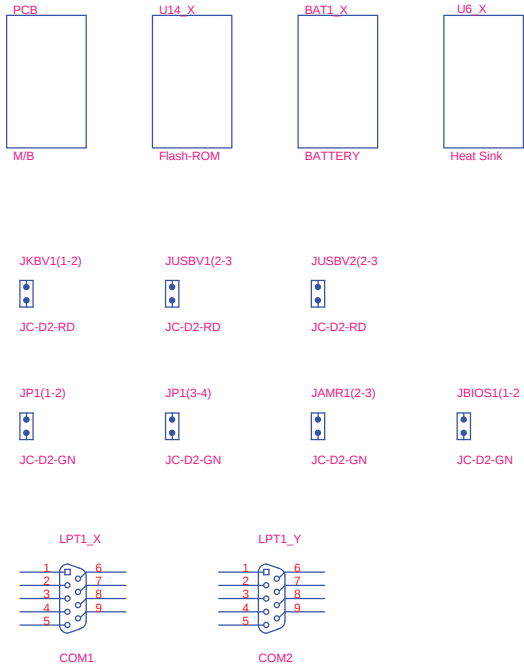
Title	System Decoupling	Rev
Document Number	MS-6397	0A
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B																								
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Micro Star Restricted Secret																								
Title										GPIO SPEC.										Rev				
Document Number										MS-6397										0A				
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