P393-A01 Base Design

P393-A01, G92, 8Mx32/16Mx32 GDDR3 (800/1000 MHz),
DVI-I-DL, DVI-I-DL/DisplayPort, HDTVout/Stereo

Table of Contents:

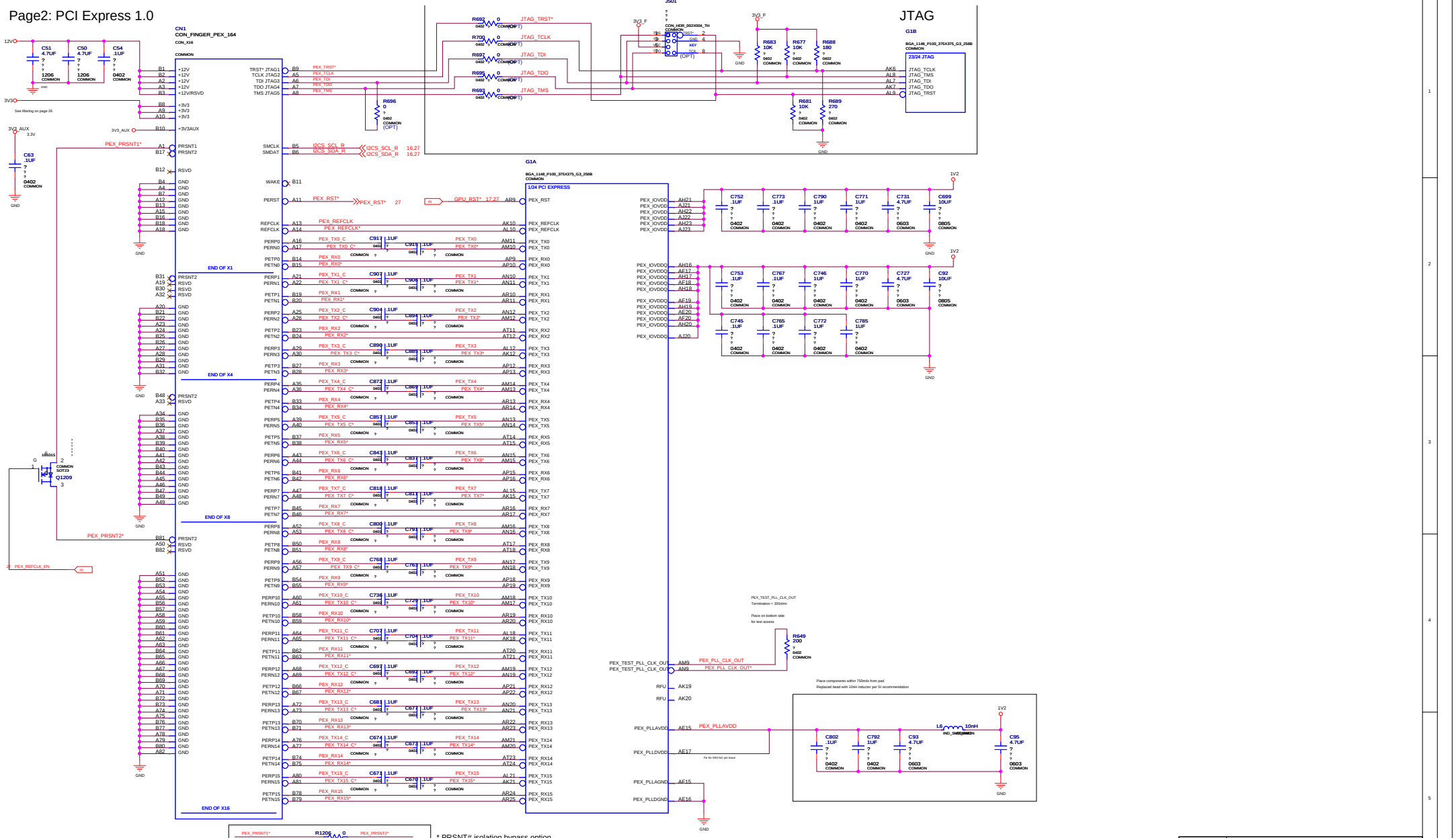
1.V117-0C Base on P393
2.page 2 del Q1209,R1219,R58,R55,C63 circuit ,del net pex_rst link page27
3.page 10 del I2CA_SCR_R,I2CA_SDA_R link net Page 27
4.page 11 del I2CB_SCR_R,I2CB_SDA_R link net page27
5.page 15 del Display port circuit
6.page 16 del I2CS for Hybrid power circuit , del GPIO 4/10 net, R91 link gnd, del R66,R75
7.page 14 del MIOB_D2/3/4/5/6/7/10 net link page 19
8.page 20 del DP_POWER circuit
9.page 27 del Hybrid power circuit
10.page 3/5/6. update FBA_CMD(25..0)/FBB_CMD(25..0)
11.page 4/7/8. update FBC_CMD(25..0)/FBD_CMD(25..0)
12.page 17. del GPIO4_FAN_PWM_R net
V117-0D Base on P393
1.page 10 DAC-A Co-lay slim D-sub with DVI
2.page 11 DAC-C Co-lay slim D-sub with DVI
3.page 17 Modify SPIDF in circuit and co-lay MAX6649 circuit with ATD7473
4.page 21 Modify 1V8 power circuit.
5.page 22 Modify 1V2 and FBVDD power circuit.
6.page 23 Modify NVVDD power circuit.
7.page 26 Del 3V3_Q power and change 12V chock to DIP
8.page 19 Del MEC2
9.page 20 Del 5V STEREO Supply
V117-300 Base on P393 and V117-0D
1.page 23 correct Q510 and add 0 ohm by pass
2.page 22 Change L11 and C167,C168 footprint
V146-0A Base on P393 and V117-300
1.page 2 Add Q1209
2.page 10 Add U1201 I2C switch
3.page 11 Add U1201 I2C switch
4.page 27 Hybrid Power circuit

SKU	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10393-base-100	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU_DT_0000	600-10393-0000-100	P393 G92-300 512MB GDDR3 16Mx32 DVI-I+DVI-I+HDTV
2	SKU_DT_0002	600-10393-0002-100	P393 G92-200 512MB GDDR3 16Mx32 DVI-I+DVI-I+HDTV
3	SKU_WS_0500	600-50393-0500-100	P393 G92-875 512MB GDDR3 16Mx32 DVI-I+DP+STEREO
4	SKU_WS_0501	600-50393-0501-100	P393 G92-850 512MB GDDR3 16Mx32 DVI-I+DVI-I+HDTV
5	SKU_DT_0004	600-10393-0004-100	P393 G92-270 512MB GDDR3 16Mx32 DVI-I+DVI-I+HDTV
6	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
7	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
8	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
9	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
10	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
11	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
12	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
13	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
14	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
15	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Overview

Micro-Star International Co., LTD.
SUMMARY
Size: Custom | Document Number: MS-V117 | Rev: 100
Date: Thursday, May 29, 2008 | Sheet 1 of 27

Page2: PCI Express 1.0



ASSEMBLY: P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL

PAGE DETAIL: PCI Express 1.0

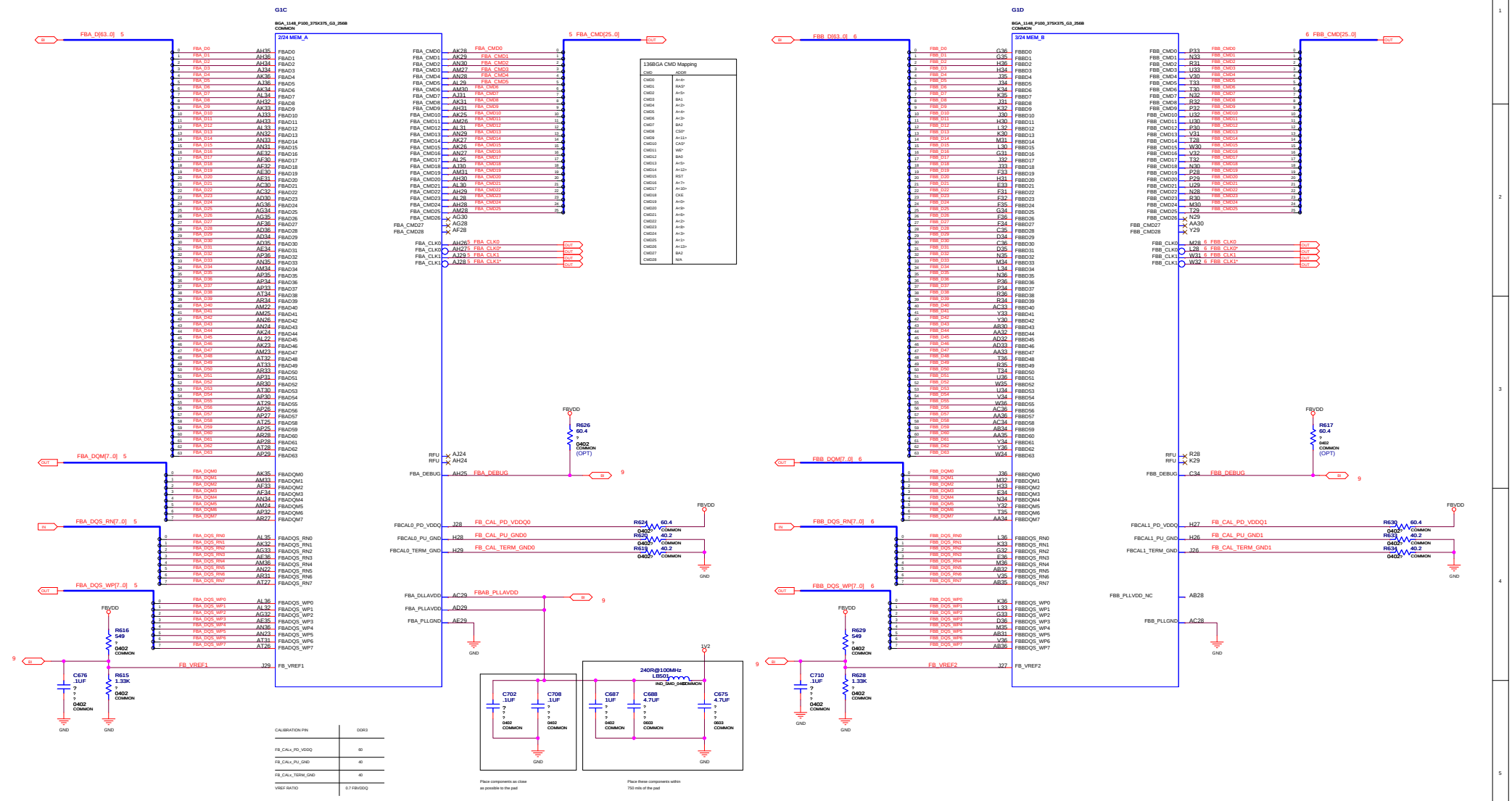
Micro-Star International Co., LTD.

PCI Express 1.0

Size: Custom | Document Number: MS-V146 | Rev: <FevCode>

Date: Thursday, May 29, 2008 | Sheet 2 of 27

Page3: MEMORY: GPU Partition A/B



ASSEMBLY: P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL

PAGE DETAIL: MEMORY: GPU Partition A/B

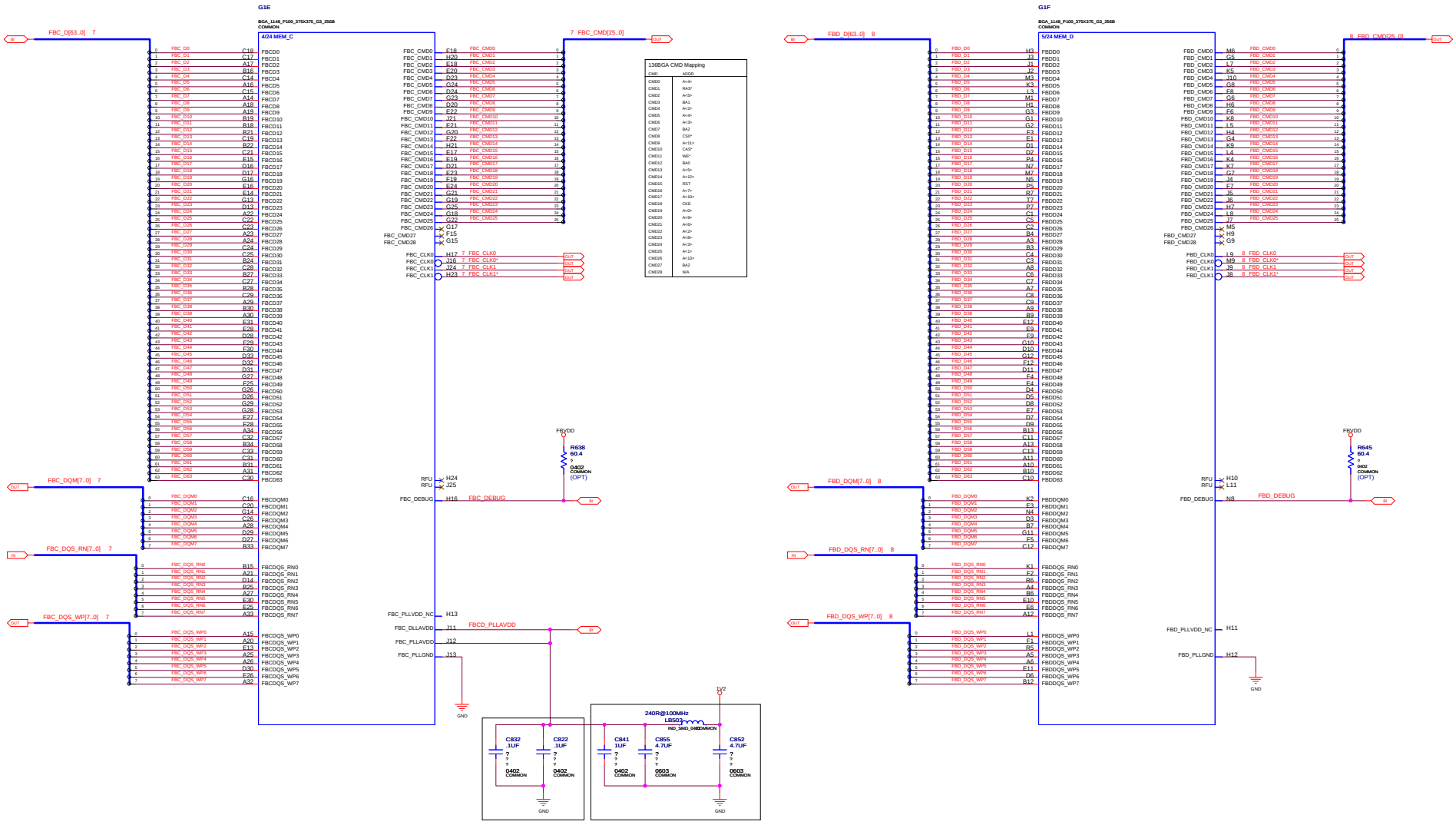
Micro-Star International Co., LTD.

MEMORY: GPU Partition A/B

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 3 of 27

Page4: MEMORY: GPU Partition C/D



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MEMORY: GPU Partition C/D

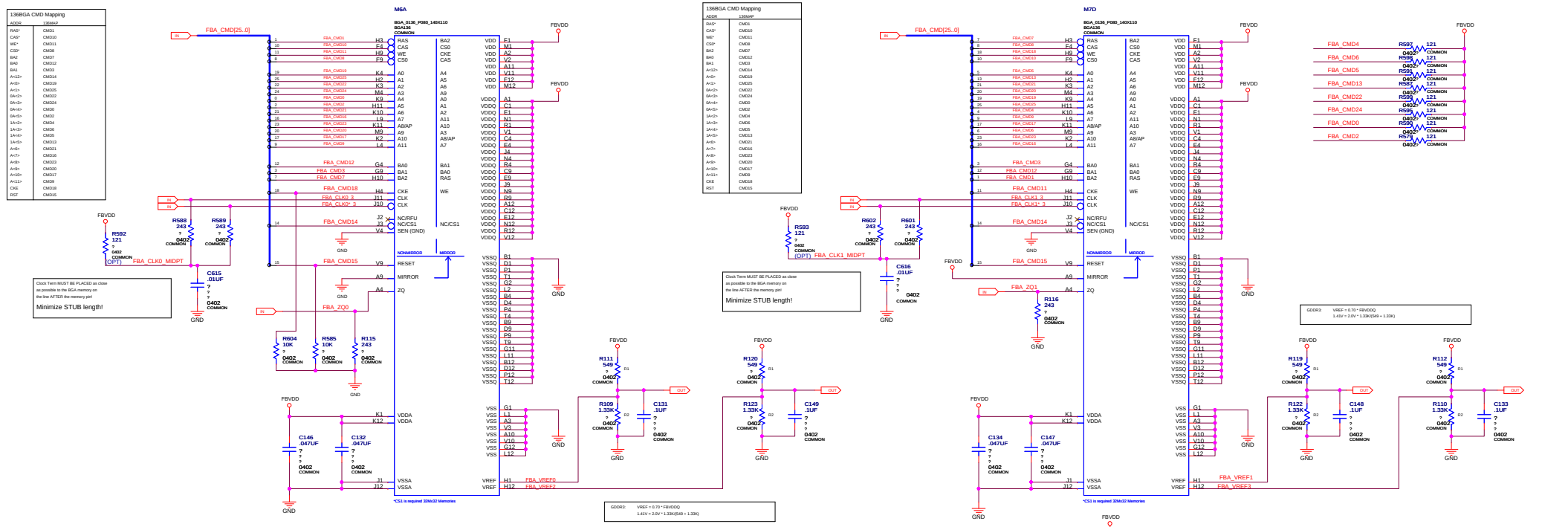
Micro-Star International Co., LTD.

MEMORY: GPU Partition C/D

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

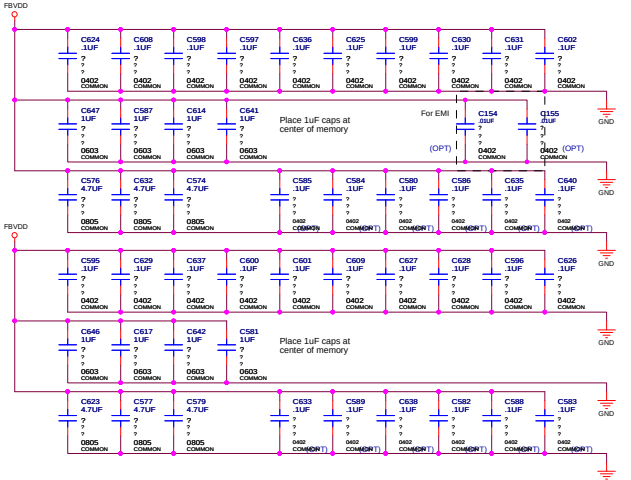
Date: Thursday, May 29, 2008 Sheet 4 of 27

Page5: FBA Partition



Decoupling for FBA Lo

Decoupling for FBA Hi



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FBA Partition

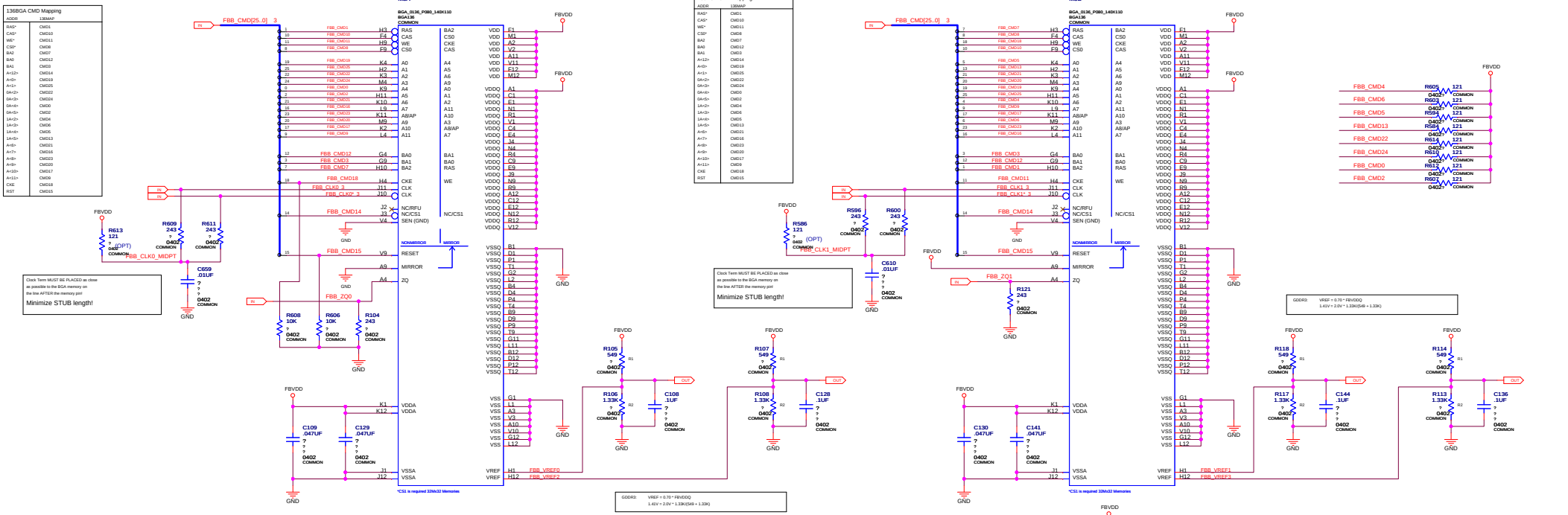
Micro-Star International Co., LTD.

FBA Partition

Size	Document Number	Rev
Custom	MS-V117	<RevCode>

Date: Thursday, May 29, 2008 Sheet 5 of 27

Page6: FBB Partition



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	P383 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FBB Partition

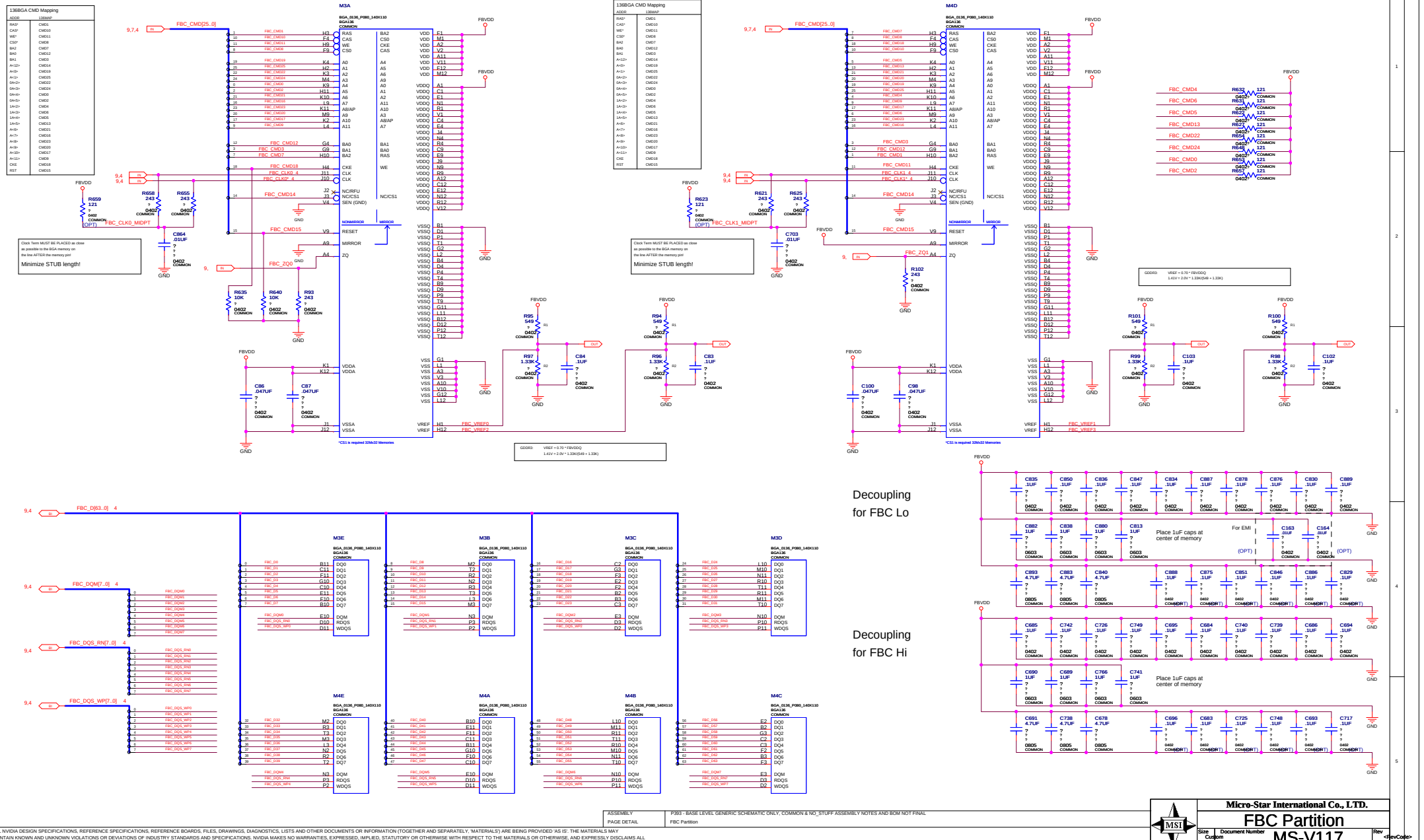
Micro-Star International Co., LTD.

FBB Partition

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 6 of 27

Page7: FBC Partition



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FBC Partition

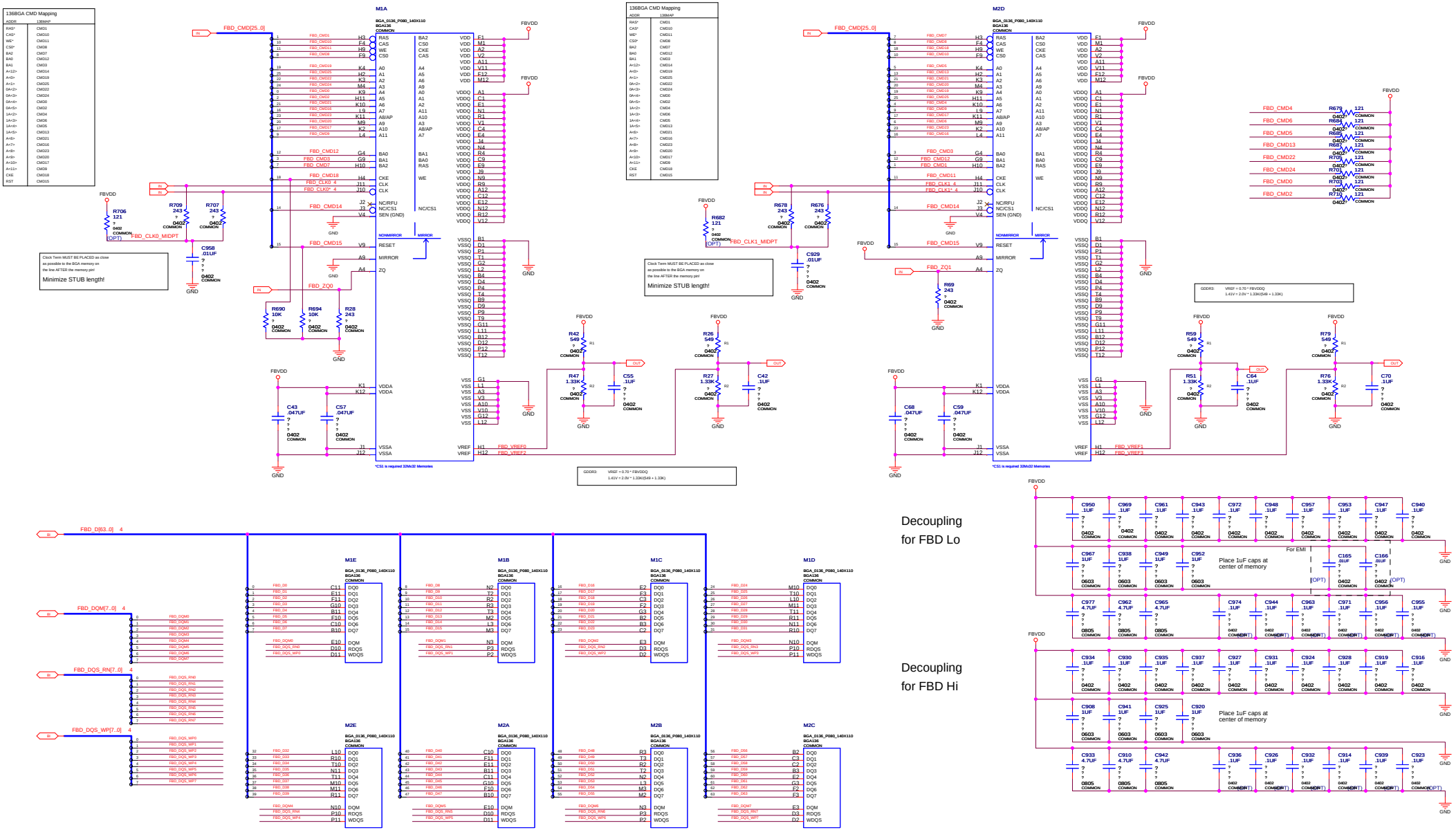
Micro-Star International Co., LTD.

FBC Partition

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 | Sheet 7 of 27

Page8: FBD Partition



ASSEMBLY	P303 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FBD Partition

Micro-Star International Co., LTD.

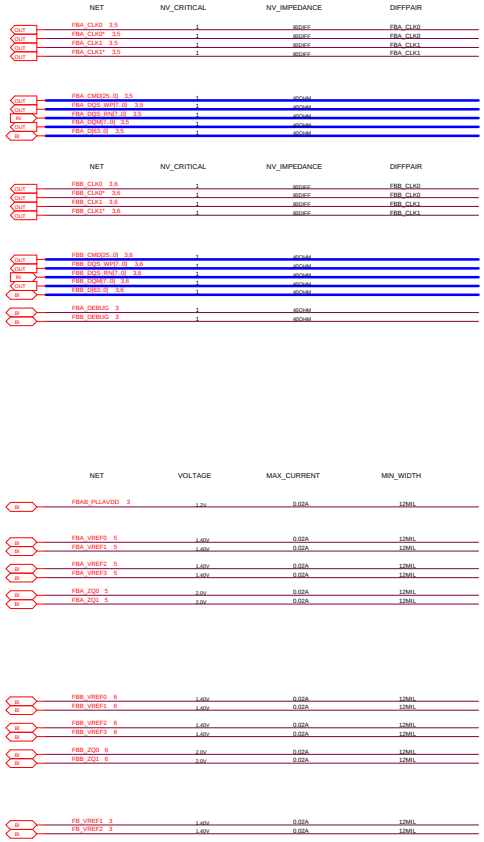
FBD Partition

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

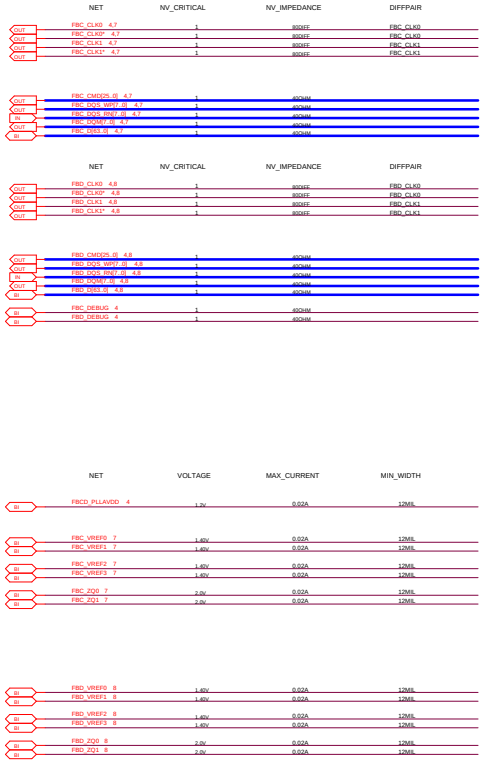
Date: Thursday, May 29, 2008 Sheet 8 of 27

Page9: FrameBuffer Net Rules

NET RULES for FrameBuffer A/B



NET RULES for FrameBuffer C/D



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	FrameBuffer Net Rules

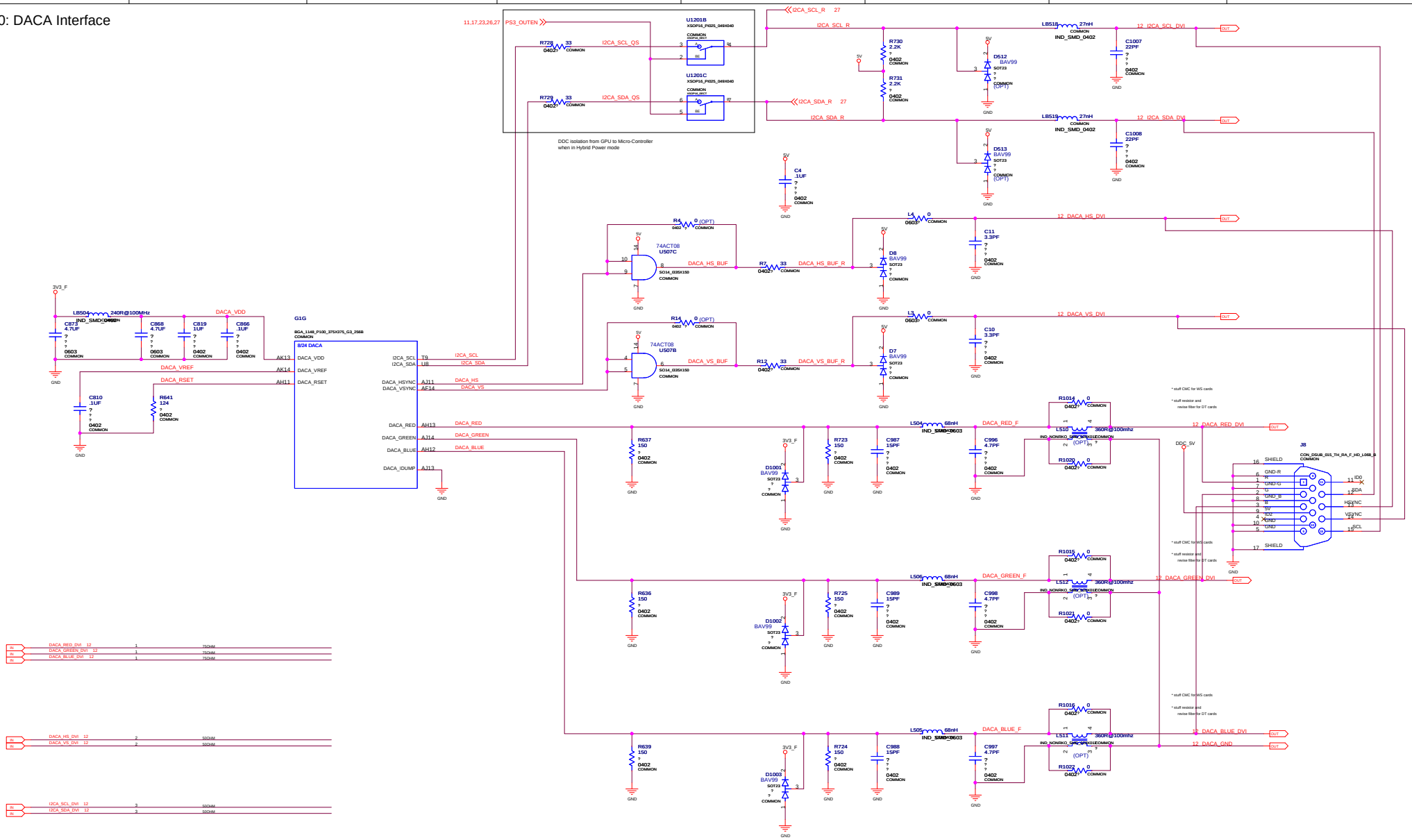
Micro-Star International Co., LTD.

<Title>

Size	Document Number	Rev
Custom	<Doc>	<FevCode>

Date: Thursday, May 29, 2008 Sheet 9 of 27

Page10: DACA Interface



ASSEMBLY: P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL

PAGE DETAIL: DACA Interface

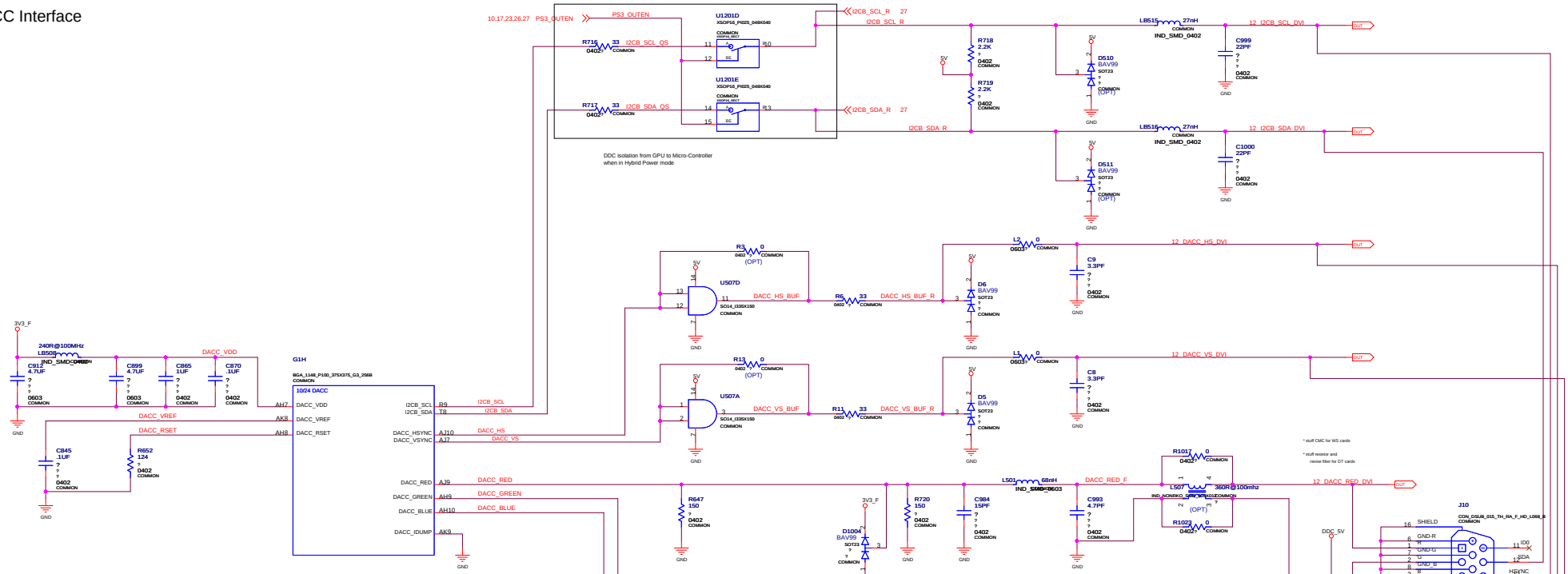
Micro-Star International Co., LTD.

DACA Interface

Size: Custom | Document Number: MS-V117 | Rev: <FevCode>

Date: Thursday, May 29, 2008 | Sheet 10 of 27

Page11: DACC Interface



DACC NET RULES

NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
DACC_RED_DVI 12	1	75OHM	
DACC_GREEN_DVI 12	1	75OHM	
DACC_BLUE_DVI 12	1	75OHM	
DACC_HS_DVI 12	2	50OHM	
DACC_VS_DVI 12	2	50OHM	
I2CB_SCL_DVI 12	3	50OHM	
I2CB_SDA_DVI 12	3	50OHM	

NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	DACC Interface

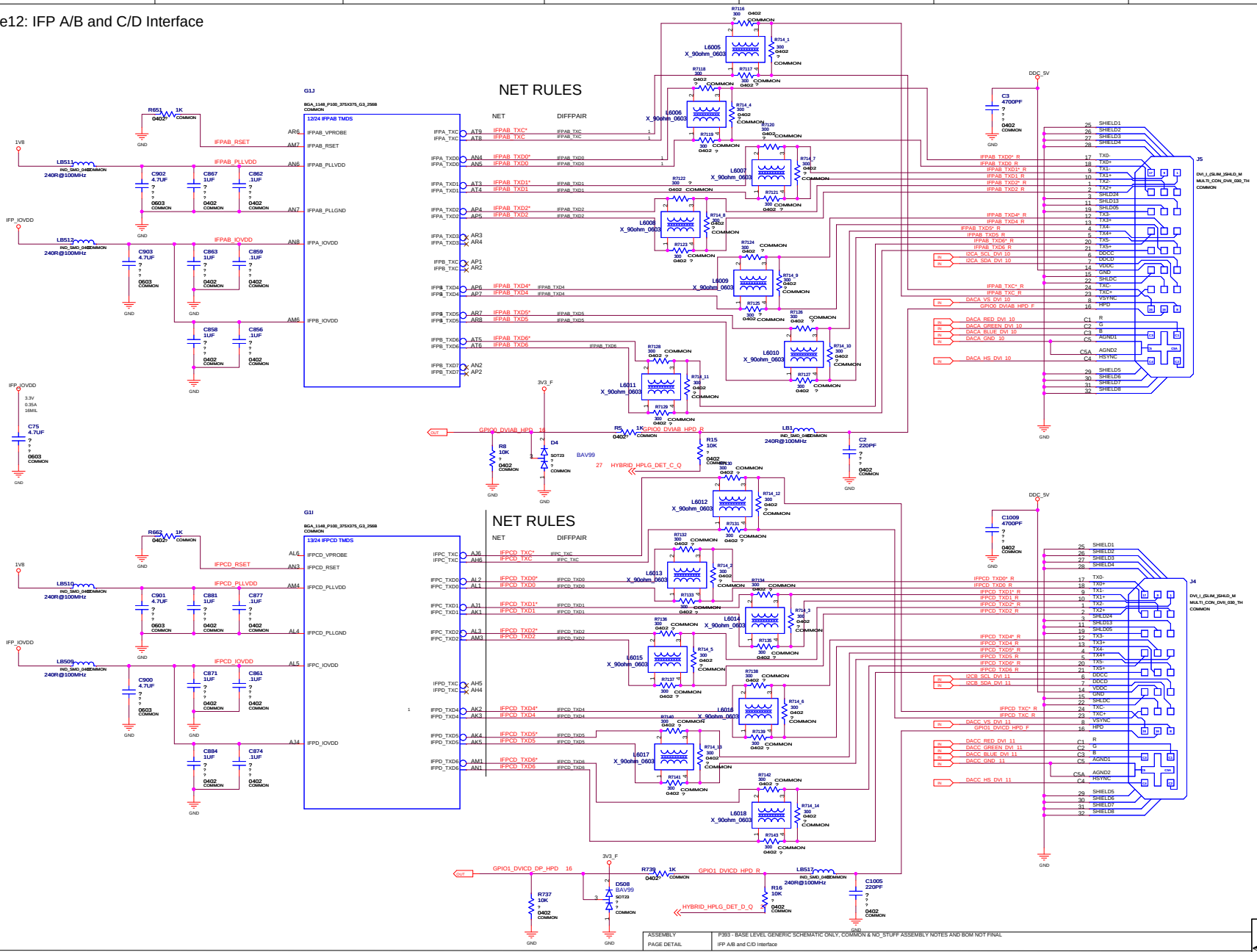
Micro-Star International Co., LTD.

DACC Interface

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 11 of 27

Page12: IFP A/B and C/D Interface



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	IFP A/B and C/D Interface

Micro-Star International Co., LTD.

IFP A/B and C/D Interface

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

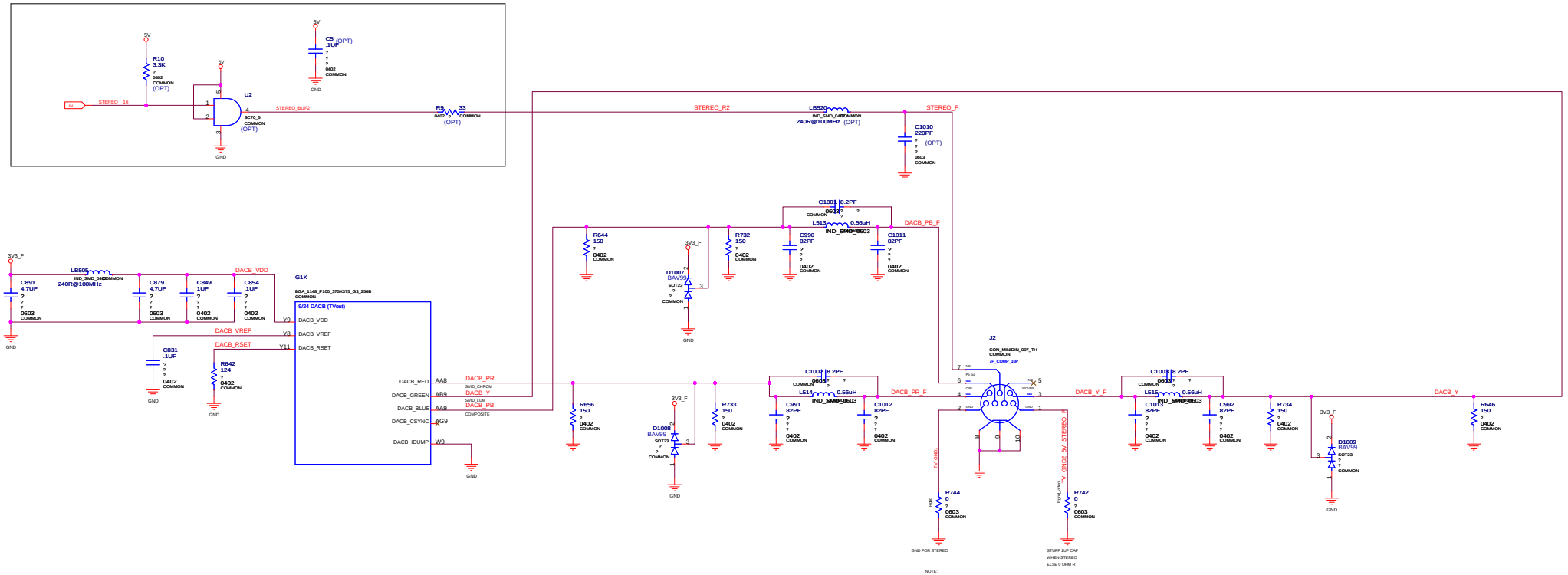
Date: Thursday, May 29, 2008 Sheet 12 of 27

Page13: DACB and Stereo Interface

DACB,STEREO, FL NET RULES

NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR

Stereo



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	DACB and Stereo Interface

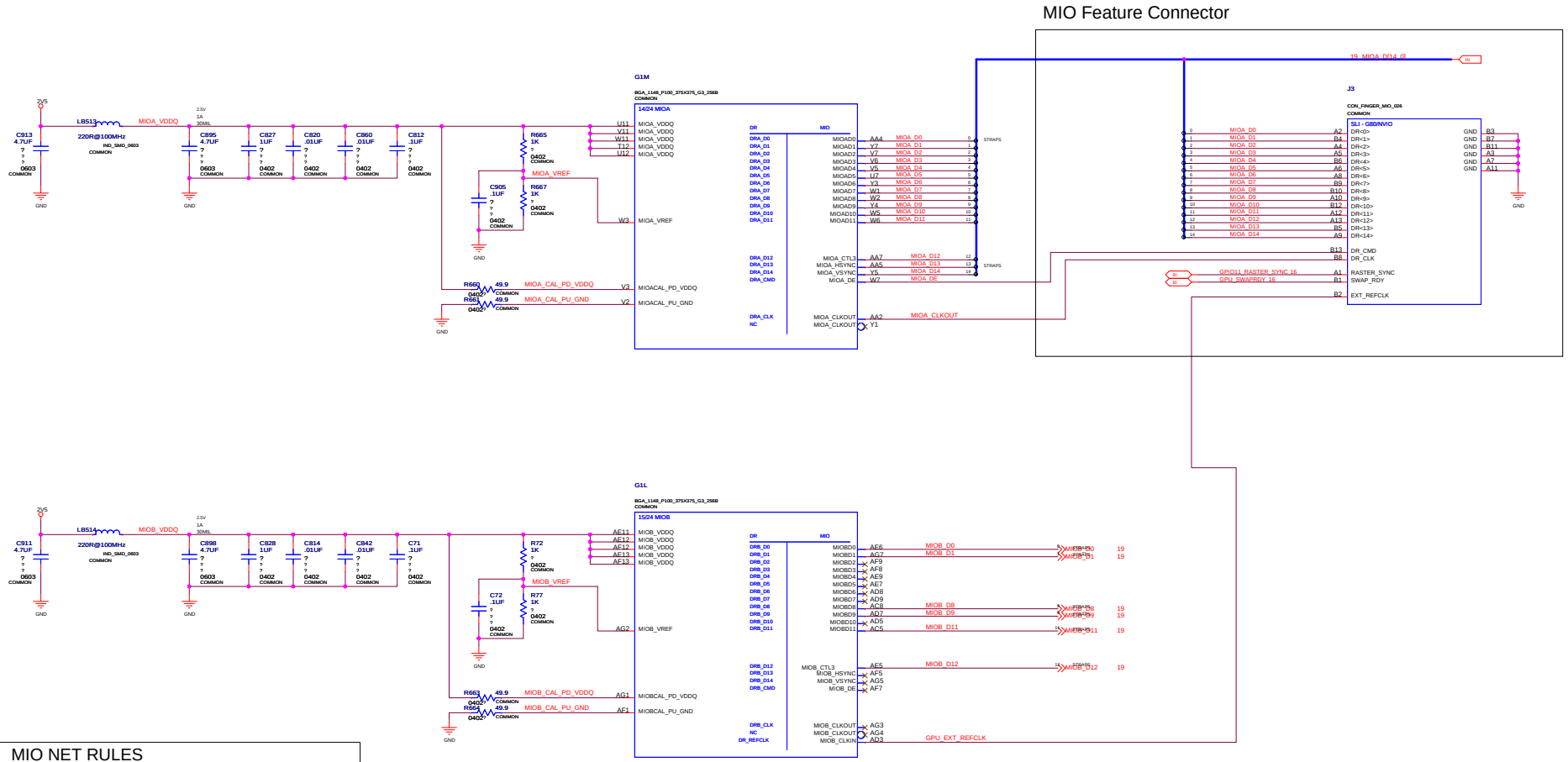
Micro-Star International Co., LTD.

DACB and Stereo Interface

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 13 of 27

Page14: Multi-use IO(MIO) Interface



ASSEMBLY: P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL

PAGE DETAIL: Multi-use IO(MIO) Interface

Micro-Star International Co., LTD.

Multi-use IO(MIO) Interface

Size: Custom | Document Number: MS-V117 | Rev: <FevCode>

Date: Thursday, May 29, 2008 | Sheet 14 of 27

Page15: Display Port (Analogix ANX9802/ANX9805)

* I2C keeper circuit removed

* ANX9805 support

pin 76 - GPIO3 to DP mode, from pin 13, grounded on ANX9802
- place GND resistor away from ANX device if needed

pin 74 - GPIO2, grounded on ANX9802
- place GND resistor away from ANX device if needed

pin 73 - CEC support via FET and pull-up, grounded on ANX9802
- place GND resistor away from ANX device if needed

pin 71 - SPDIF1 - tie to GND, input select 0/1 through internal register

pin 70 - SPDIF0 - support for Audio input, grounded on ANX9802
- place GND resistor away from ANX device if needed

pin 68 - NC - tie to GND

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Display Port

Micro-Star International Co., LTD.

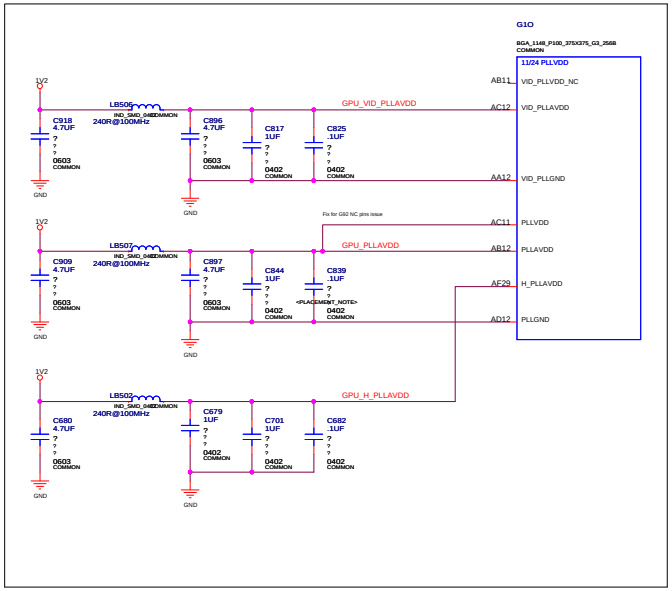
<Title>

Size	Document Number	Rev
Custom	<Doc>	<FevCode>

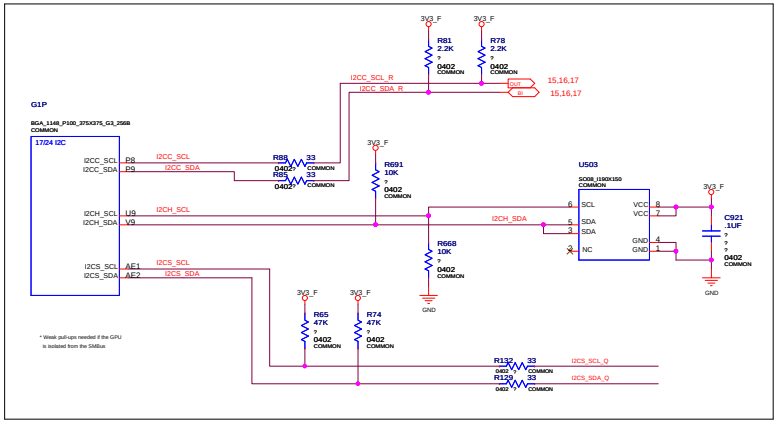
Date: Thursday, May 29, 2008 Sheet 15 of 27

Page16: MISC: GPIO, I2C, BIOS, PLL, and XTAL

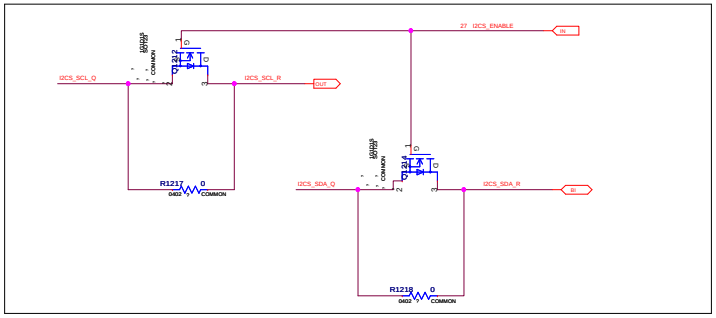
PLLVDD/VID_PLLVDD



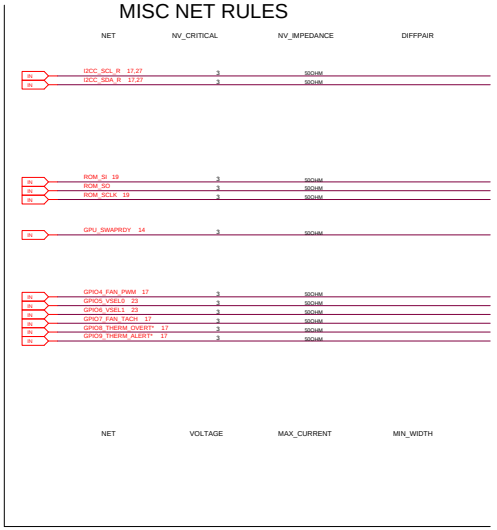
I2CC / I2CH(+ HDCP ROM) / I2CS



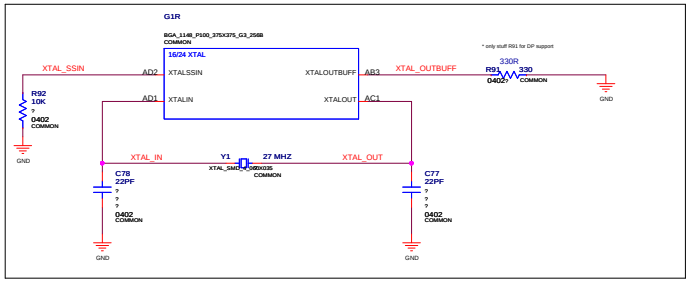
I2CS isolation for Hybrid Power



MISC NET RULES

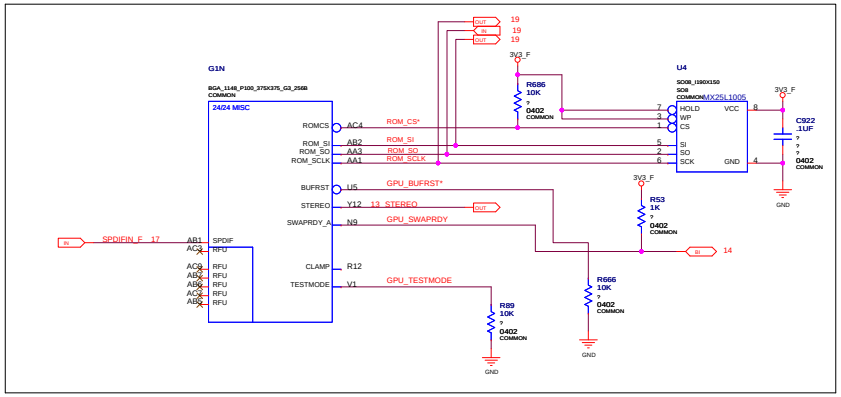


XTAL

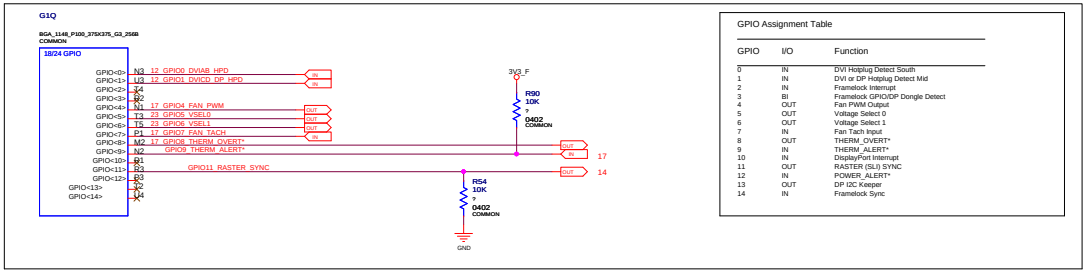


ROM / MISC

(BUFRST/STEREO/SWAPRDY/CLAMP/TESTMODE)



GPIO



GPIO Assignment Table

GPIO	I/O	Function
0	IN	DVI Hotplug Detect South
1	IN	DVI or DP Hotplug Detect Mid
2	IN	Framelock Interrupt
3	BI	Framelock GPIO/DP Dongle Detect
4	OUT	Fan PWM Output
5	OUT	Voltage Select 0
6	OUT	Voltage Select 1
7	IN	Fan Tach Input
8	OUT	THERM_OVERT*
9	IN	THERM_ALERT*
10	IN	DisplayPort Interrupt
11	OUT	RASTER (SLI) SYNC
12	IN	POWER_ALERT*
13	OUT	DP I2C Keeper
14	IN	Framelock Sync

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MISC: GPIO, I2C, BIOS, PLL, and XTAL

Micro-Star International Co., LTD.

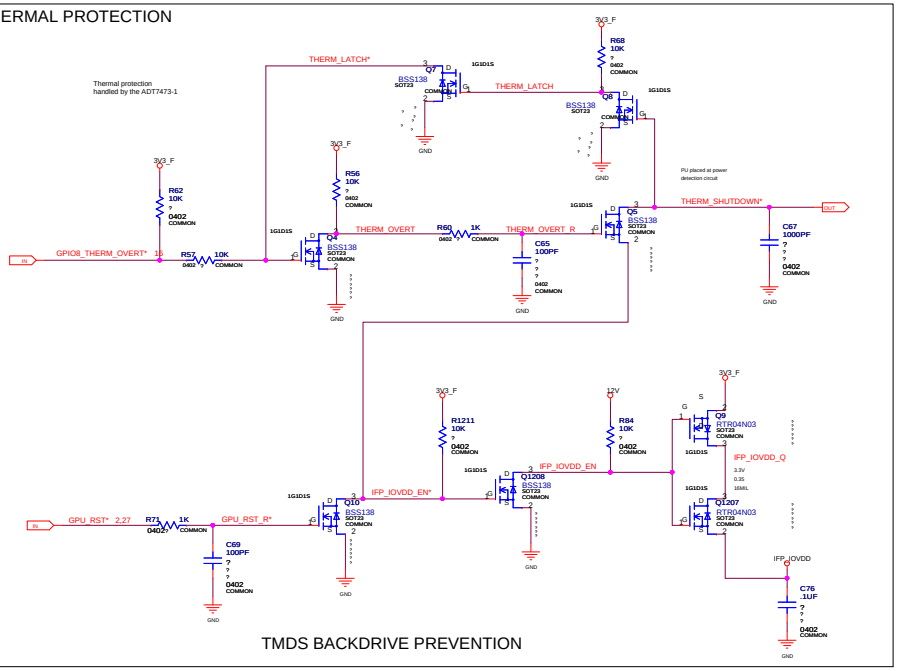
GPIO, I2C, BIOS, PLL, and XTAL

Size	Document Number	Rev
Custom	MS-V117	<FevCode>
Date: Thursday, May 29, 2008	Sheet 16 of 27	

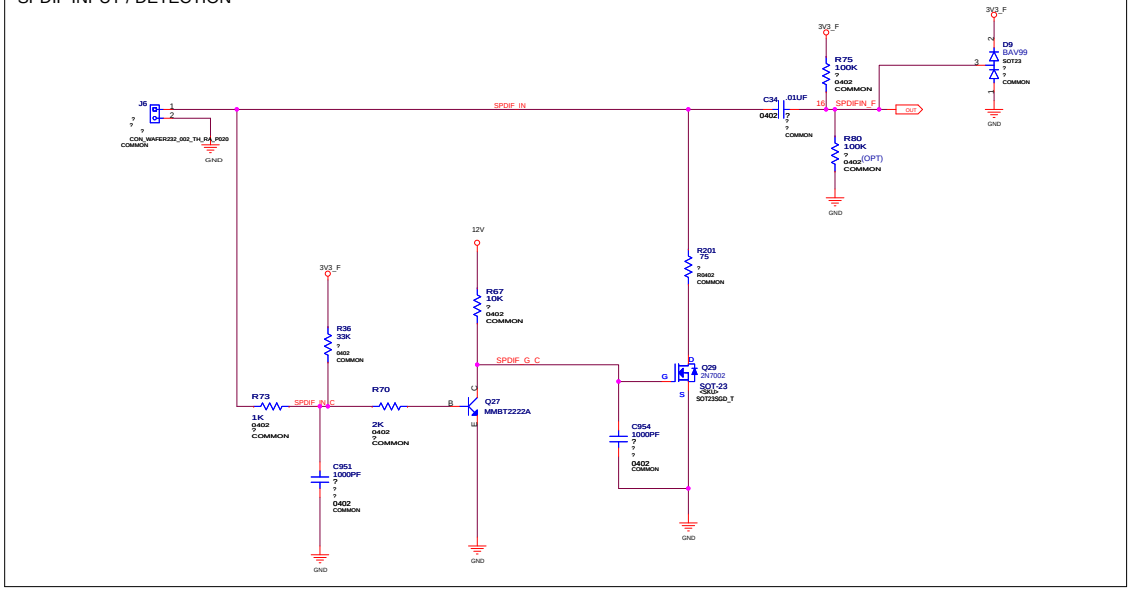
Page17: Thermal Control/Protection and SPDIF Input

NET	IMPEDANCE	NV_CRITICAL_NET	MIN_LINE_WIDTH
IN	SPDIFIN_F 16	SIGNAL	1

THERMAL PROTECTION



SPDIF INPUT / DETECTION

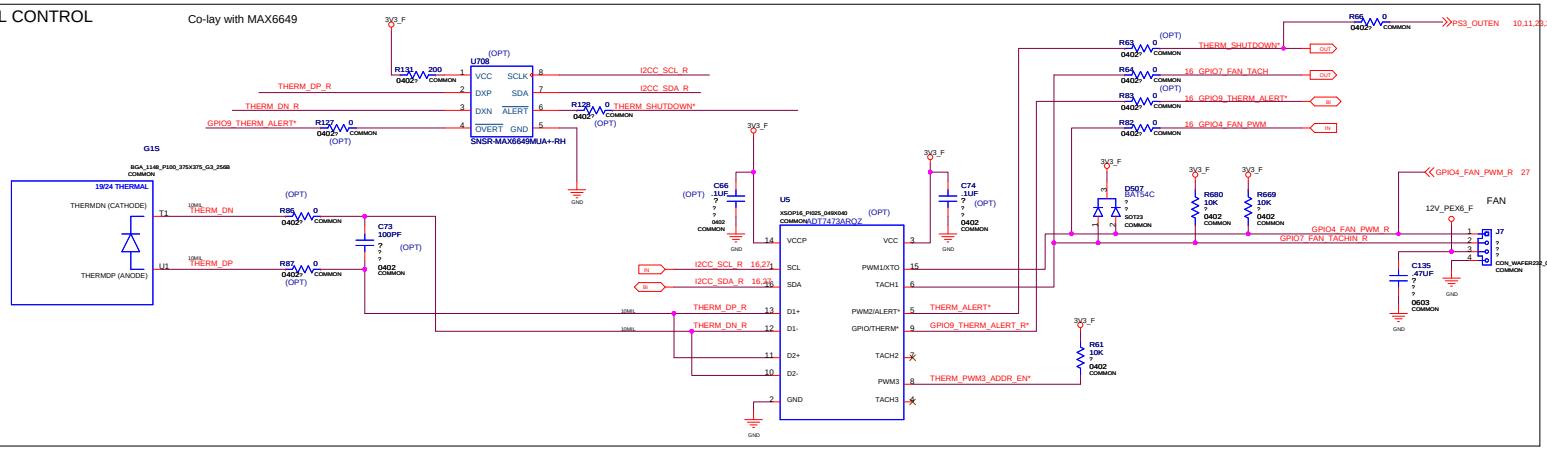


Stuffing possibilities for thermal control and protection:

2) ADT7473 is COMMON
GPIO4 is not used.
GPIO7 is the tach input from the fan
GPIO9 is the thermal alert for GPU slowdown.
With a newer version of the ADT chip, PWM2 can optionally be used for shutdown

THERMAL CONTROL

Co-lay with MAX6649



The FAN connector needs to move as follows for mechanical / ID support:

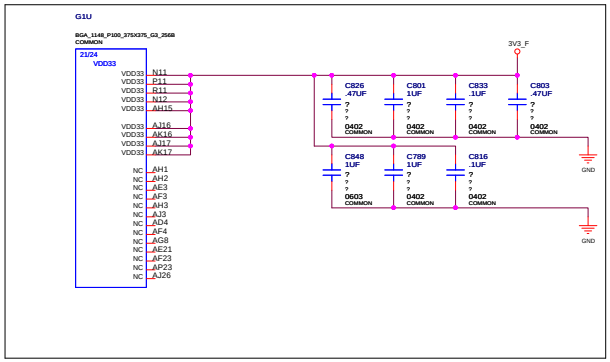
* move -43mils in Y
* move +33mils in X

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Thermal Control/Protection and SPDIF Input

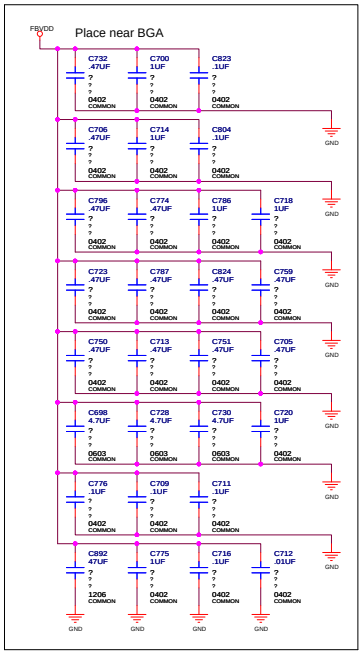
Micro-Star International Co., LTD.	
Thermal Control/Protection and SPDIF Input	
Size: Custom	Document Number: MS-V117
Rev: <FevCode>	
Date: Thursday, May 29, 2008	Sheet 17 of 27

Page18: Power/GND and Decoupling

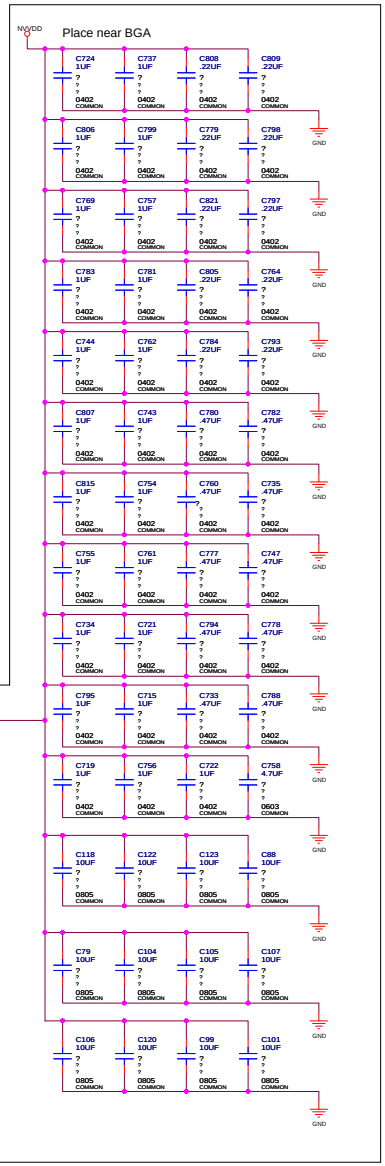
VDD33



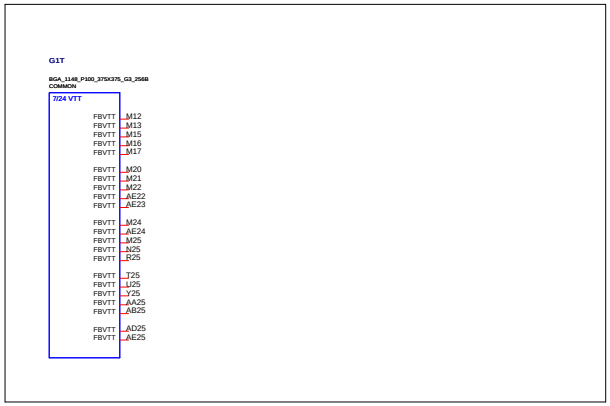
FBVDDQ

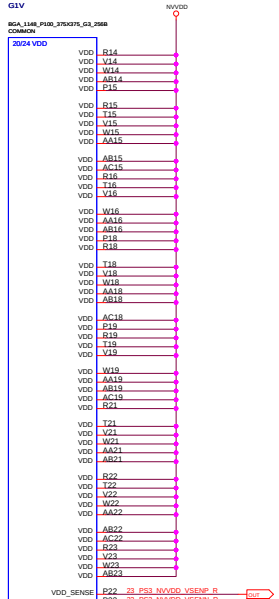


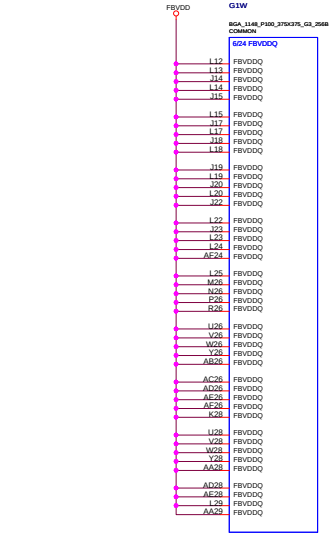
NVVDD

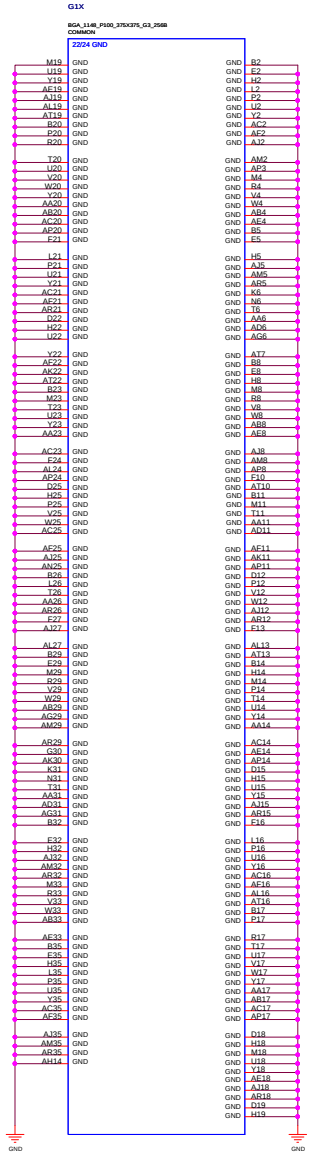


FBVTT









NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
PS3_NVVDD_VSENP_R_23	1	800OHM	NVVDD_SENSE
PS3_NVVDD_VSENN_R_23	1	800OHM	NVVDD_SENSE

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	PowerGND and Decoupling

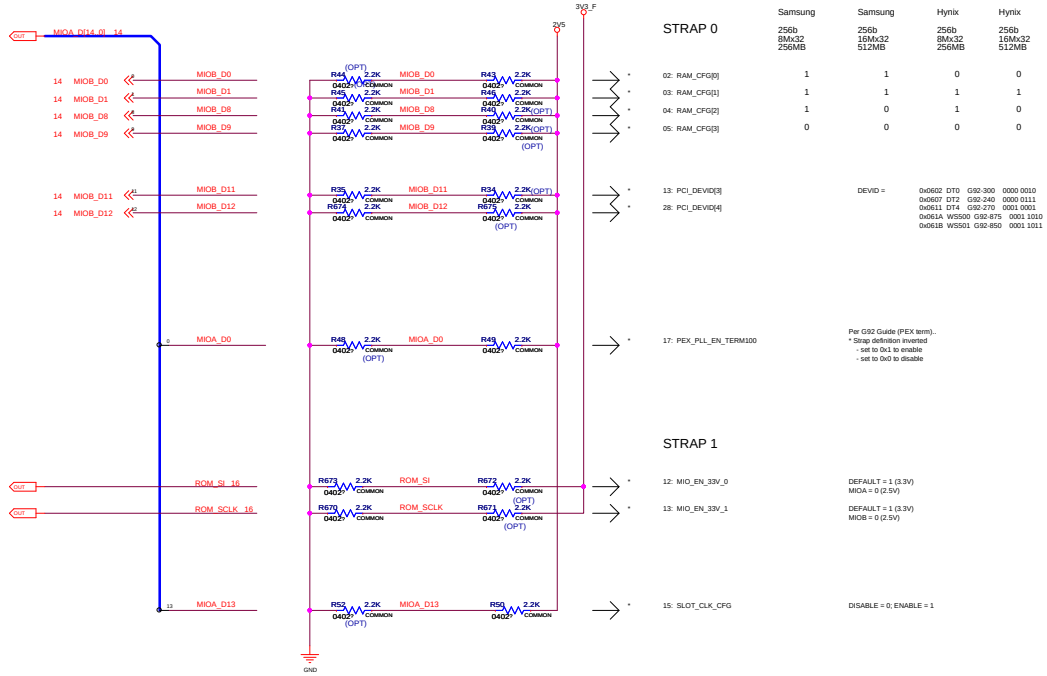
Micro-Star International Co., LTD.

Power/GND and Decoupling

Size	Document Number	Rev
Custom	MS-V117	<FevCode>
Date: Thursday, May 29, 2008	Sheet 18 of 27	

Page19: Configuration Straps and Mechanical

STRAPS



STRAP 0

		Samsung	Samsung	Hynix	Hynix
		256b 8Mx32 256MB	256b 16Mx32 512MB	256b 8Mx32 256MB	256b 16Mx32 512MB
02:	RAM_CFG[0]	1	1	0	0
03:	RAM_CFG[1]	1	1	1	1
04:	RAM_CFG[2]	1	0	1	0
05:	RAM_CFG[3]	0	0	0	0

13:	PCI_DEVID[3]	DEVID =
28:	PCI_DEVID[4]	

0x0602	DT0	G92-300 0000 0010
0x0607	DT2	G92-240 0000 0111
0x0611	DT4	G92-270 0001 0001
0x061A	WS500	G92-875 0001 1010
0x061B	WS501	G92-850 0001 1011

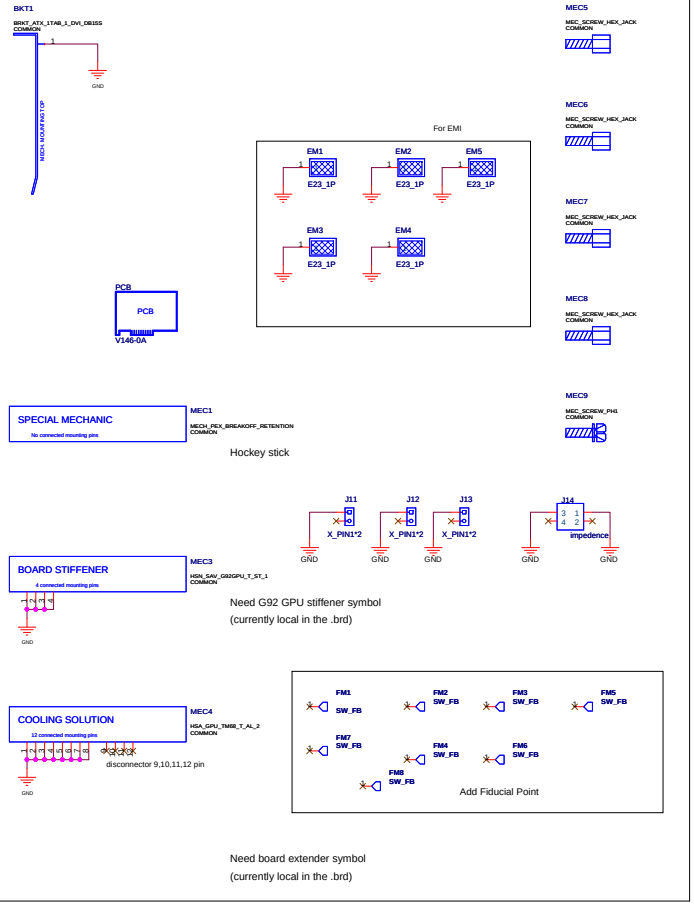
17: PEX_PLL_EN_TERM100

Per G92 Guide (PEX term)..
* Strap definition inverted
- set to 0x1 to enable
- set to 0x0 to disable

STRAP 1

12:	MIO_EN_33V_0	DEFAULT = 1 (3.3V) MIOA = 0 (2.5V)
13:	MIO_EN_33V_1	DEFAULT = 1 (3.3V) MIOB = 0 (2.5V)
15:	SLOT_CLK_CFG	DISABLE = 0; ENABLE = 1

MECHANICAL



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Configuration Straps and Mechanical

Micro-Star International Co., LTD.

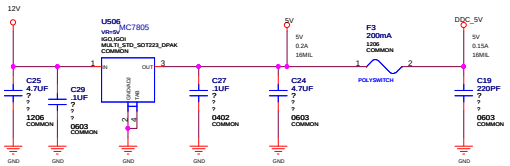
Straps and Mechanical

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

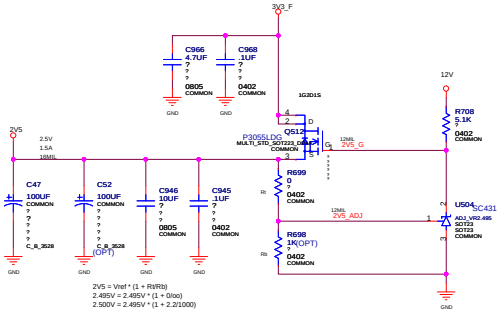
Date: Thursday, May 29, 2008 Sheet 19 of 27

Page20: Power Supply: 5V, 2V5,

5V and DDC5V Supply



2V5 Supply



DEL 5V STEREO Supply

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: 5V, STEREO_5V, 2V5, DP_PWR

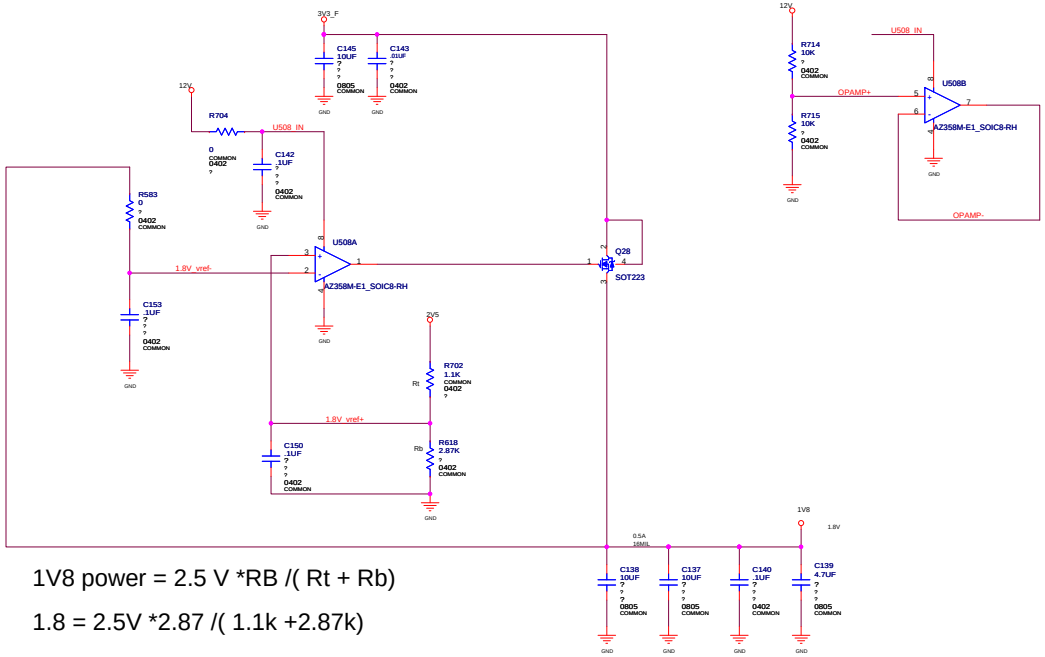
Micro-Star International Co., LTD.

5V, 2V5,

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 20 of 27

Page21: Power Supply: 1V8



1V8 power = 2.5 V *RB /(Rt + Rb)

1.8 = 2.5V *2.87 /(1.1k +2.87k)

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: 1V2, 1V8

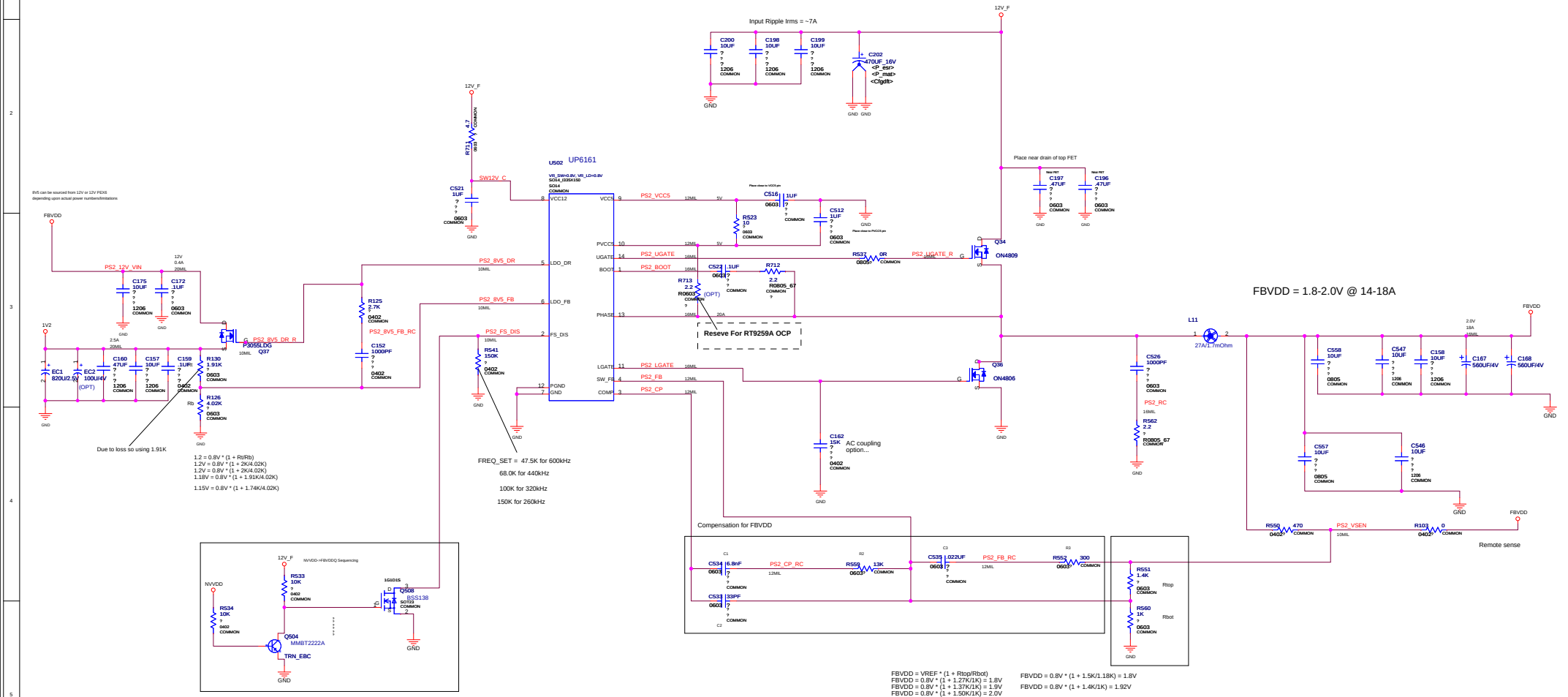
Micro-Star International Co., LTD.

1V8

Size	Document Number	Rev
Custom	MS-V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 21 of 27

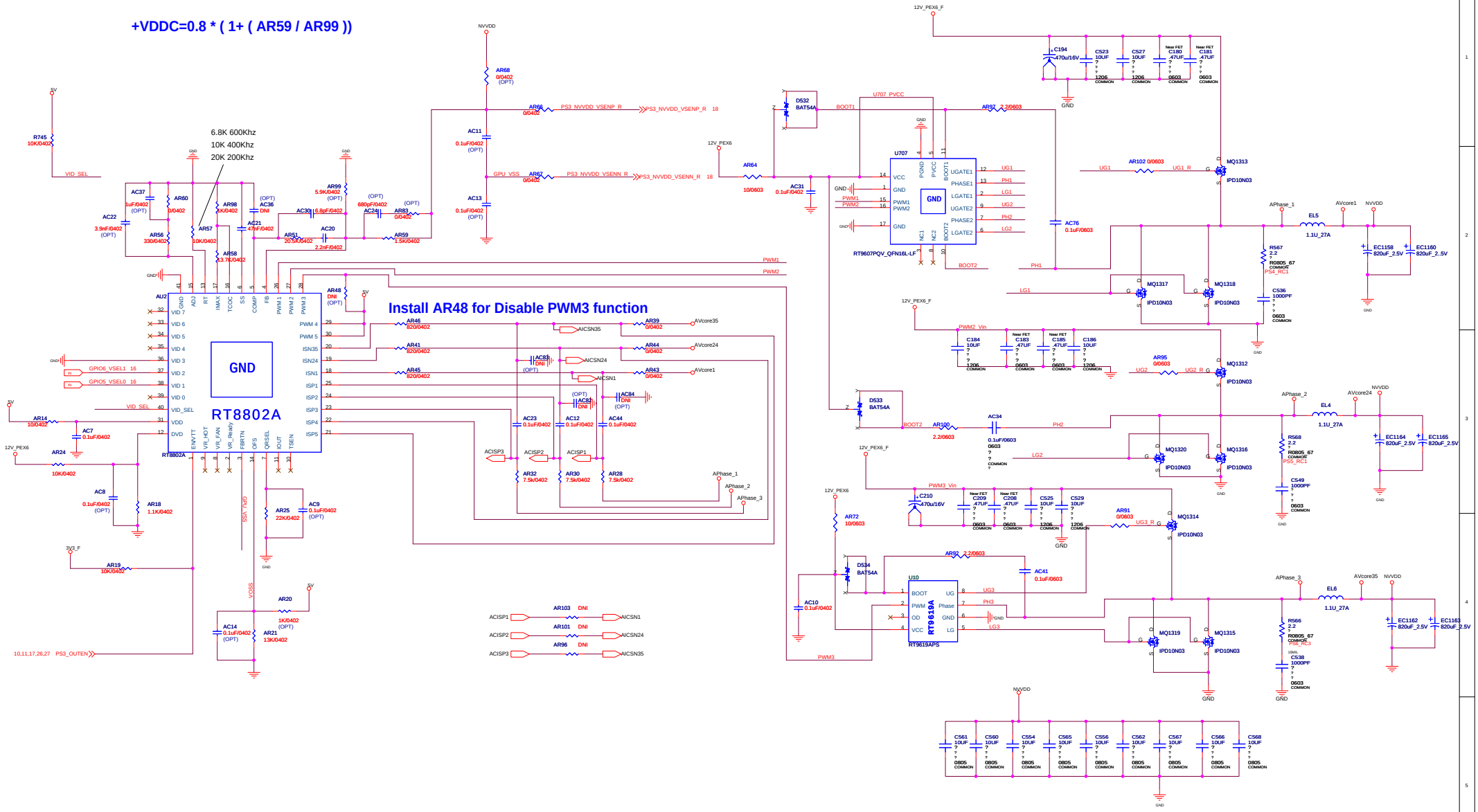
Page22: Combined FBVDD/VDDQ, 1V2



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: FBVDD/Q, 8V5

Micro-Star International Co., LTD.	
FBVDD/VDDQ, 1V2	
Size: Custom	Document Number: MS-V117
Rev: <FevCode>	
Date: Thursday, May 29, 2008	Sheet 22 of 27

Page23: Power Supply: NVVDD Regulator



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: NVVDD Regulator

Micro-Star International Co., LTD.

NVVDD

Size	Document Number	Rev
Custom	V117	<FevCode>

Date: Thursday, May 29, 2008 Sheet 23 of 27

Page24: Power Supply: NVVDD Phase 2, 3

ASSEMBLY | P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL

PAGE DETAIL | Power Supply: NVVDD Phase 1 & 2

Micro-Star International Co., LTD.

<Title>

Size	Document Number	Rev
Custom	<Doc>	<FevCode>

Date: Thursday, May 29, 2008 | Sheet 24 of 27

Page25: Power Supply: NVVDD Phase 1

ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: NVVDD Phase 3

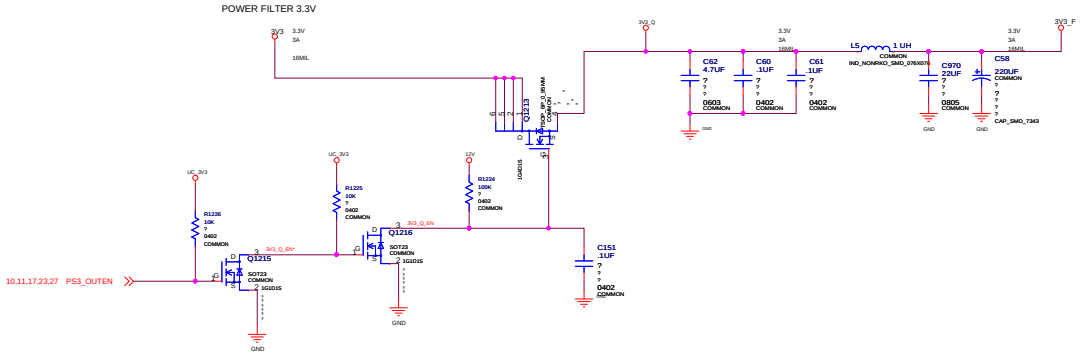
Micro-Star International Co., LTD.

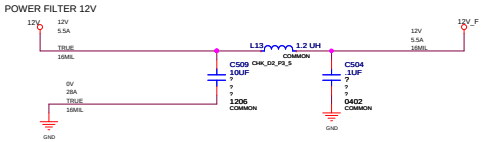
<Title>

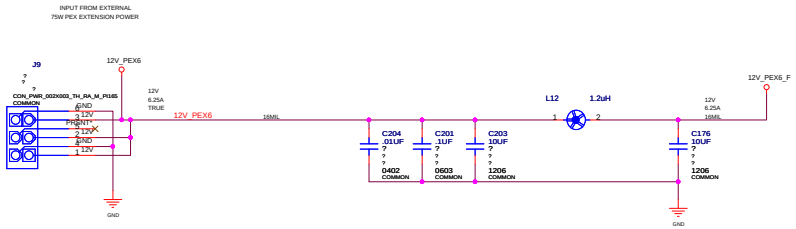
Size	Document Number	Rev
Custom	<Doc>	<FevCode>

Date: Thursday, May 29, 2008 Sheet 25 of 27

Page26: Power Supply: Filter/Detection of 3V3,12V,12V_PEX







ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: Filter/Detection of 3V3, 12V, 12V_PEX6

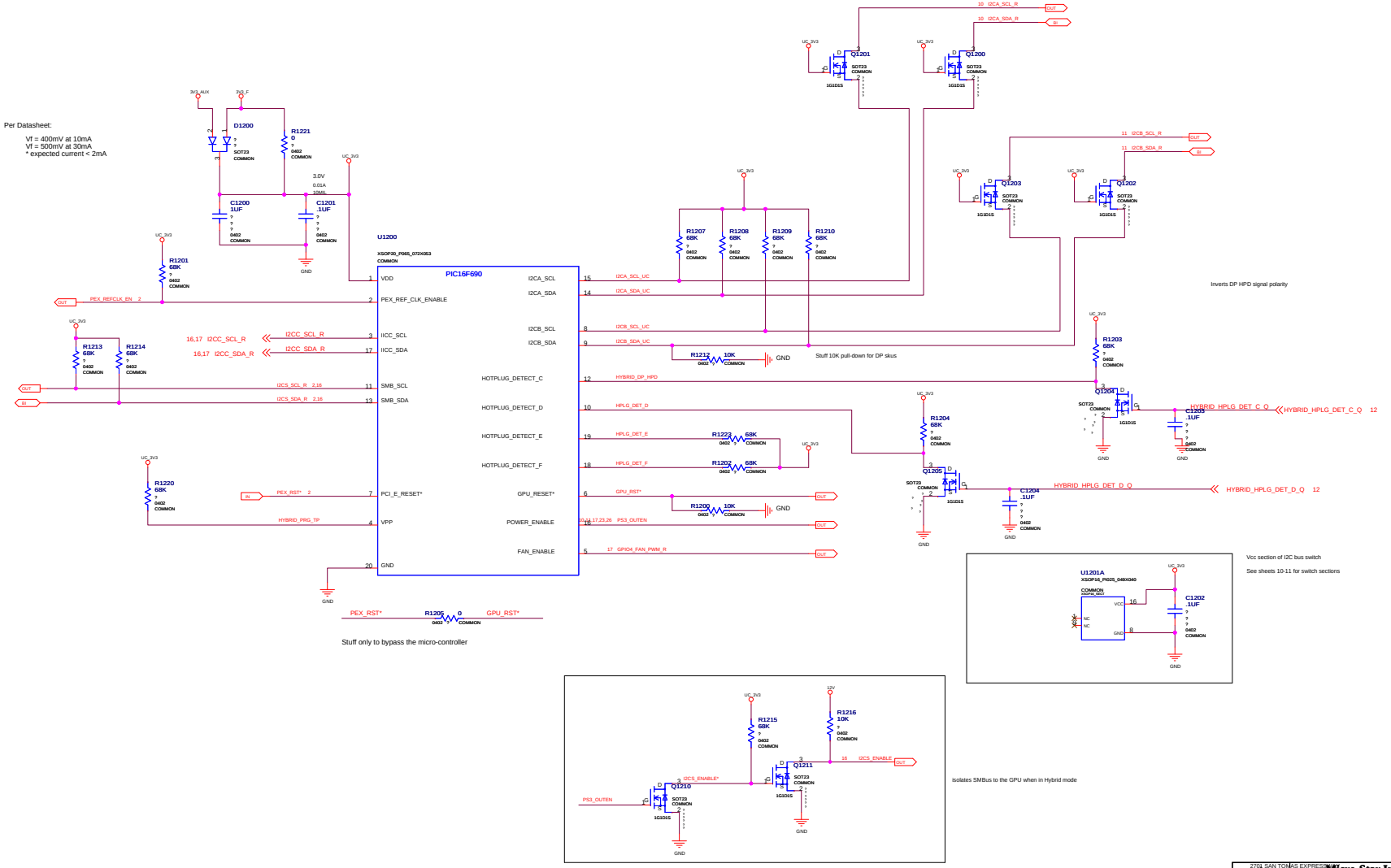
Micro-Star International Co., LTD.

3V3,12V,12V_PEX

Size	Document Number	Rev
Custom	MS-V117	<RevCode>

Date: Thursday, May 29, 2008 Sheet 26 of 27

Page27: Power Supply: Hybrid Power



ASSEMBLY	P393 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply: Hybrid Power

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95051, USA

Micro-Star International Co., Ltd.

<Title>			
Size: Custom	Document Number: 600-10393-base-100 A		Rev: <RevCode>
Date: Thursday, May 29, 2008	Sheet 27 of 27		