P413: G86, DDR2 MEMORY 32MX16/16Mx16

Page 1: P413 Overview

Page 2: PCI Express Interface

Page 3: Frame Buffer Interface

Page 4: Memory 1st Bank 0..31

Page 5: Memory 1st Bank 32..63

Page 6: DACA, Slim DB15 Connector

Page 7: DACB, MUX, 2x6 Header

Page 8: MiniDIN Connector & AVout

Page 9: TMDS Interface

Page 10: MIOA, MIOB Interface

Page 11: Straps, Mechanical Parts

Page 12: XTAL, GPIO, BIOS, FAN, JTAG, HDCP

Page 13: Power Supply I: NVVDD, PLLVDD

Page 14: Power Supply II: F3V3, 5V, DDC5V, FBVDDQ

Page 15: Basenet Report

Page 16: Cref Part

REV HISTORY

rev.	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10413-xxxx-000	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0000	600-10413-0000-000	P413: G86-200, 64 BIT DDR2 16Mx16 MEMORY, VGA+DVI+HDout
2	SKU0001	600-10413-0001-000	P413: G86-200, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+HDout
3	SKU0050	600-10413-0050-000	P413: G78-300, 64 BIT DDR2 16Mx16 MEMORY, VGA+DVI+HDout
4	SKU0051	600-10413-0051-000	P413: G78-300, 64 BIT DDR2 32Mx16 MEMORY, VGA+DVI+HDout
5	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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>

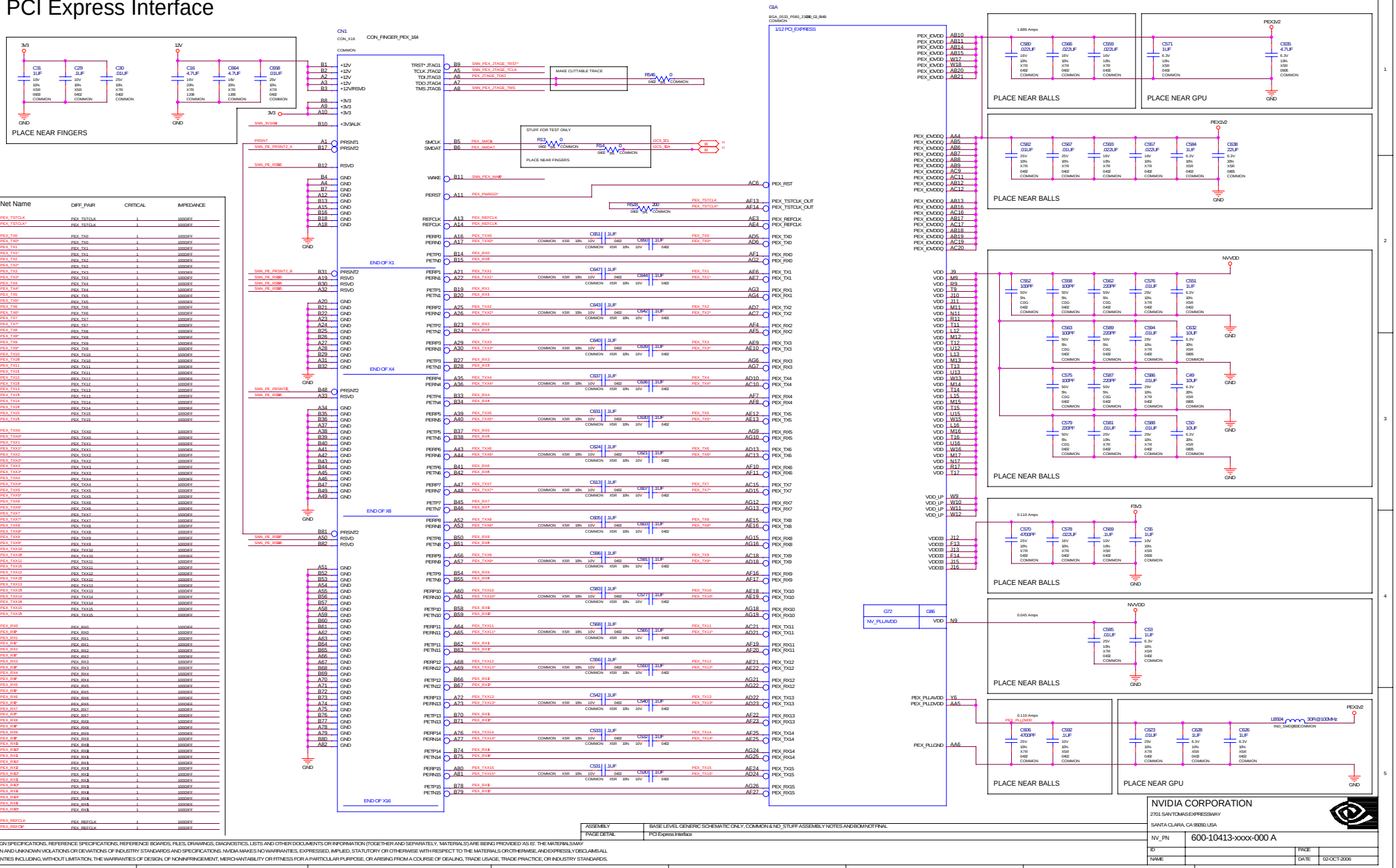
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	P413 Overview

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

PCI Express Interface



Net Name

Net Name	DIFF_PAIR	CRITICAL	IMPEDANCE
PEX_TSTCLK	PEX_TSTCLK	1	100DIFF
PEX_TSTCLK*	PEX_TSTCLK*	1	100DIFF
PEX_TX0	PEX_TX0	1	100DIFF
PEX_TX0*	PEX_TX0	1	100DIFF
PEX_TX1	PEX_TX1	1	100DIFF
PEX_TX1*	PEX_TX1	1	100DIFF
PEX_TX2	PEX_TX2	1	100DIFF
PEX_TX2*	PEX_TX2	1	100DIFF
PEX_TX3	PEX_TX3	1	100DIFF
PEX_TX3*	PEX_TX3	1	100DIFF
PEX_TX4	PEX_TX4	1	100DIFF
PEX_TX4*	PEX_TX4	1	100DIFF
PEX_TX5	PEX_TX5	1	100DIFF
PEX_TX5*	PEX_TX5	1	100DIFF
PEX_TX6	PEX_TX6	1	100DIFF
PEX_TX6*	PEX_TX6	1	100DIFF
PEX_TX7	PEX_TX7	1	100DIFF
PEX_TX7*	PEX_TX7	1	100DIFF
PEX_TX8	PEX_TX8	1	100DIFF
PEX_TX8*	PEX_TX8	1	100DIFF
PEX_TX9	PEX_TX9	1	100DIFF
PEX_TX9*	PEX_TX9	1	100DIFF
PEX_TX10	PEX_TX10	1	100DIFF
PEX_TX10*	PEX_TX10	1	100DIFF
PEX_TX11	PEX_TX11	1	100DIFF
PEX_TX11*	PEX_TX11	1	100DIFF
PEX_TX12	PEX_TX12	1	100DIFF
PEX_TX12*	PEX_TX12	1	100DIFF
PEX_TX13	PEX_TX13	1	100DIFF
PEX_TX13*	PEX_TX13	1	100DIFF
PEX_TX14	PEX_TX14	1	100DIFF
PEX_TX14*	PEX_TX14	1	100DIFF
PEX_TX15	PEX_TX15	1	100DIFF
PEX_TX15*	PEX_TX15	1	100DIFF
PEX_TX0	PEX_TX0	1	100DIFF
PEX_TX0*	PEX_TX0	1	100DIFF
PEX_TX1	PEX_TX1	1	100DIFF
PEX_TX1*	PEX_TX1	1	100DIFF
PEX_TX2	PEX_TX2	1	100DIFF
PEX_TX2*	PEX_TX2	1	100DIFF
PEX_TX3	PEX_TX3	1	100DIFF
PEX_TX3*	PEX_TX3	1	100DIFF
PEX_TX4	PEX_TX4	1	100DIFF
PEX_TX4*	PEX_TX4	1	100DIFF
PEX_TX5	PEX_TX5	1	100DIFF
PEX_TX5*	PEX_TX5	1	100DIFF
PEX_TX6	PEX_TX6	1	100DIFF
PEX_TX6*	PEX_TX6	1	100DIFF
PEX_TX7	PEX_TX7	1	100DIFF
PEX_TX7*	PEX_TX7	1	100DIFF
PEX_TX8	PEX_TX8	1	100DIFF
PEX_TX8*	PEX_TX8	1	100DIFF
PEX_TX9	PEX_TX9	1	100DIFF
PEX_TX9*	PEX_TX9	1	100DIFF
PEX_TX10	PEX_TX10	1	100DIFF
PEX_TX10*	PEX_TX10	1	100DIFF
PEX_TX11	PEX_TX11	1	100DIFF
PEX_TX11*	PEX_TX11	1	100DIFF
PEX_TX12	PEX_TX12	1	100DIFF
PEX_TX12*	PEX_TX12	1	100DIFF
PEX_TX13	PEX_TX13	1	100DIFF
PEX_TX13*	PEX_TX13	1	100DIFF
PEX_TX14	PEX_TX14	1	100DIFF
PEX_TX14*	PEX_TX14	1	100DIFF
PEX_TX15	PEX_TX15	1	100DIFF
PEX_TX15*	PEX_TX15	1	100DIFF
PEX_RX0	PEX_RX0	1	100DIFF
PEX_RX0*	PEX_RX0	1	100DIFF
PEX_RX1	PEX_RX1	1	100DIFF
PEX_RX1*	PEX_RX1	1	100DIFF
PEX_RX2	PEX_RX2	1	100DIFF
PEX_RX2*	PEX_RX2	1	100DIFF
PEX_RX3	PEX_RX3	1	100DIFF
PEX_RX3*	PEX_RX3	1	100DIFF
PEX_RX4	PEX_RX4	1	100DIFF
PEX_RX4*	PEX_RX4	1	100DIFF
PEX_RX5	PEX_RX5	1	100DIFF
PEX_RX5*	PEX_RX5	1	100DIFF
PEX_RX6	PEX_RX6	1	100DIFF
PEX_RX6*	PEX_RX6	1	100DIFF
PEX_RX7	PEX_RX7	1	100DIFF
PEX_RX7*	PEX_RX7	1	100DIFF
PEX_RX8	PEX_RX8	1	100DIFF
PEX_RX8*	PEX_RX8	1	100DIFF
PEX_RX9	PEX_RX9	1	100DIFF
PEX_RX9*	PEX_RX9	1	100DIFF
PEX_RX10	PEX_RX10	1	100DIFF
PEX_RX10*	PEX_RX10	1	100DIFF
PEX_RX11	PEX_RX11	1	100DIFF
PEX_RX11*	PEX_RX11	1	100DIFF
PEX_RX12	PEX_RX12	1	100DIFF
PEX_RX12*	PEX_RX12	1	100DIFF
PEX_RX13	PEX_RX13	1	100DIFF
PEX_RX13*	PEX_RX13	1	100DIFF
PEX_RX14	PEX_RX14	1	100DIFF
PEX_RX14*	PEX_RX14	1	100DIFF
PEX_RX15	PEX_RX15	1	100DIFF
PEX_RX15*	PEX_RX15	1	100DIFF
PEX_REFCLK	PEX_REFCLK	1	100DIFF
PEX_REFCLK*	PEX_REFCLK	1	100DIFF

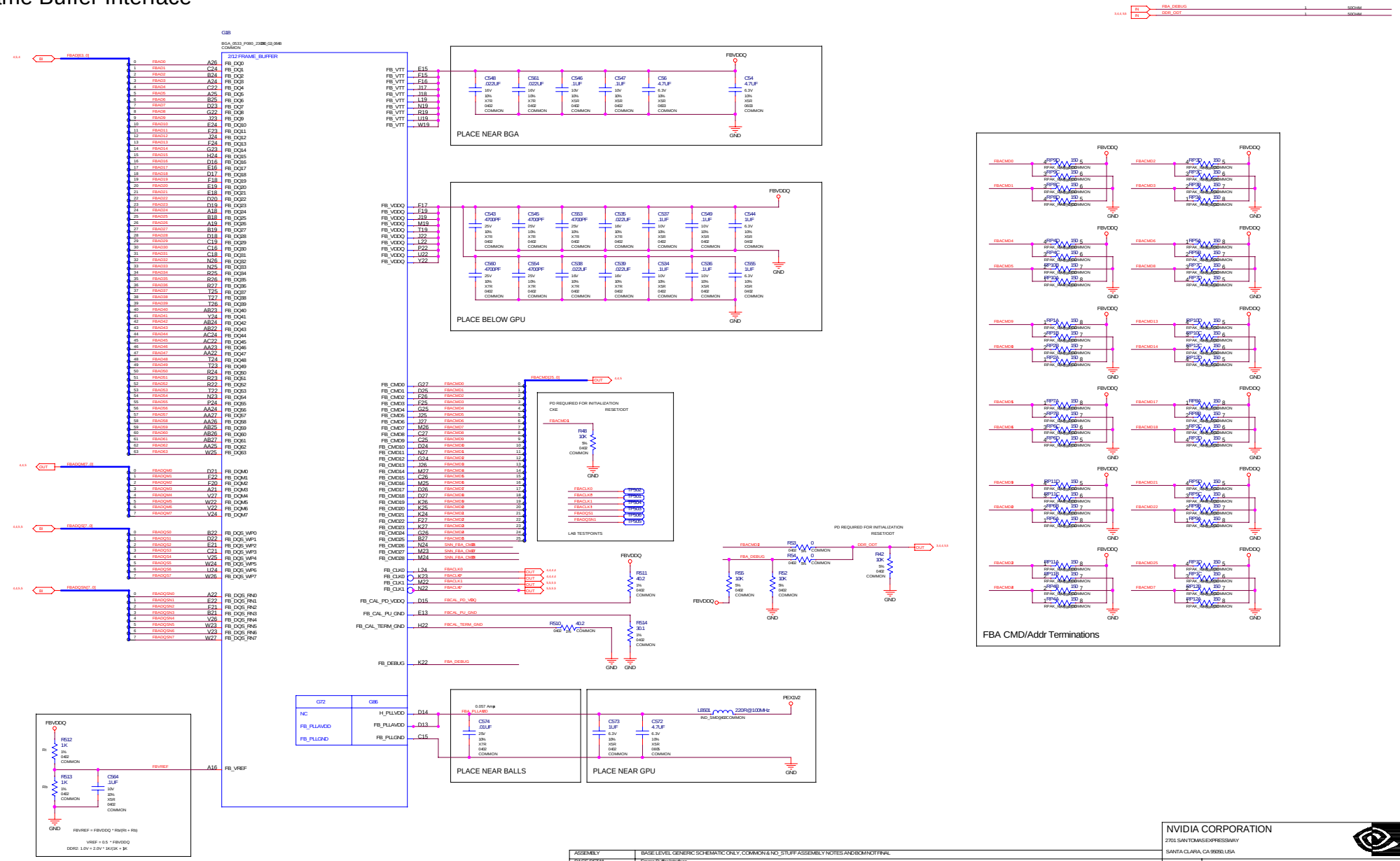
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	PCI Express Interface

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

Frame Buffer Interface



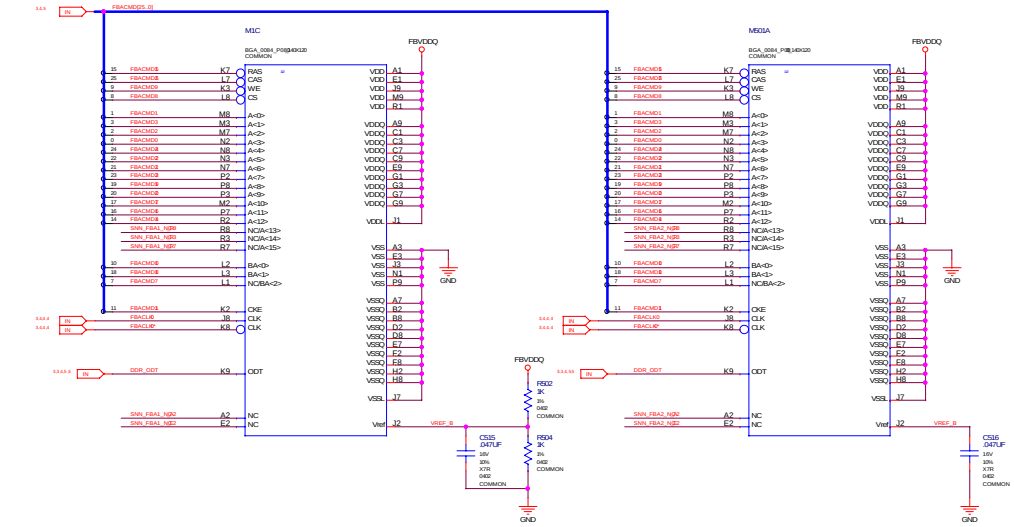
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.

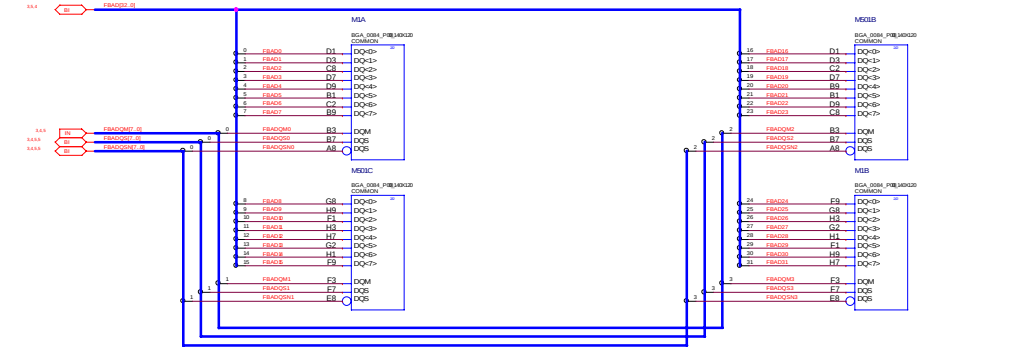
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Frame Buffer Interface

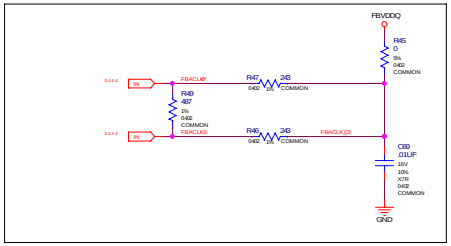
NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

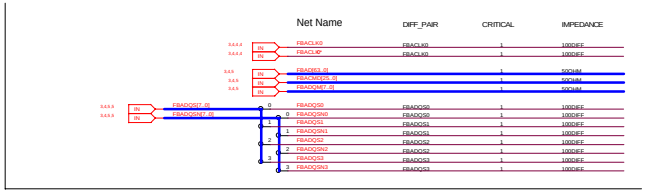
NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

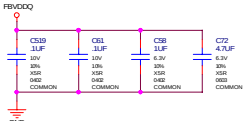
Memory 1st Bank 0..31

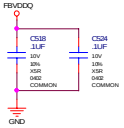


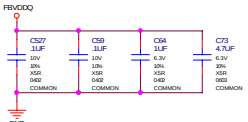


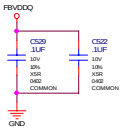




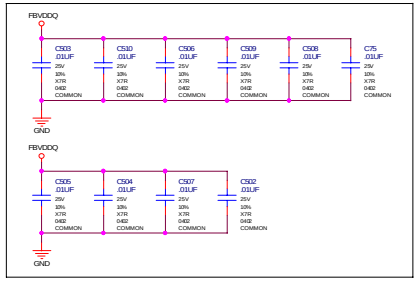




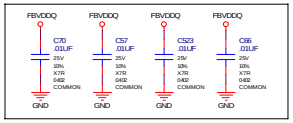




X-cap for CMD



Place these caps next to plane transitions



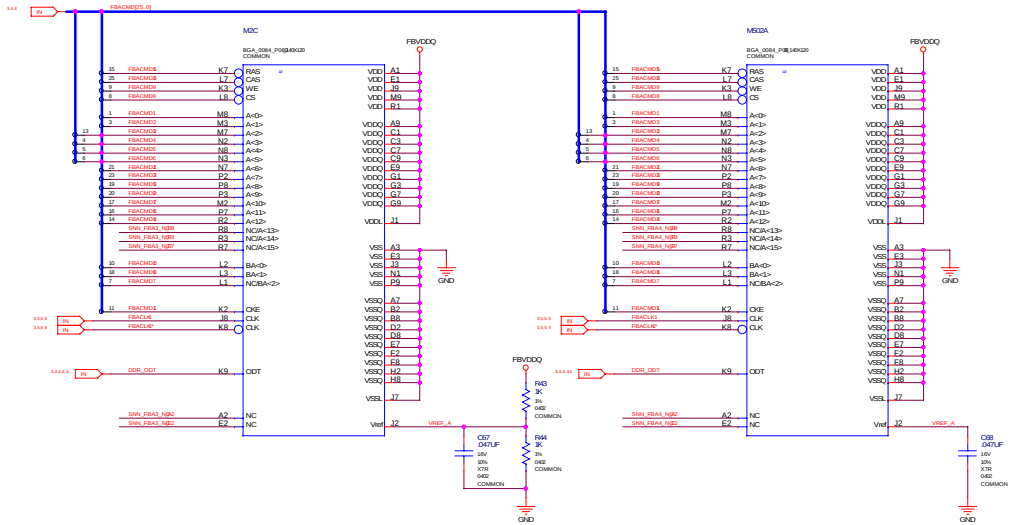
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Memory 1st Bank 0..31

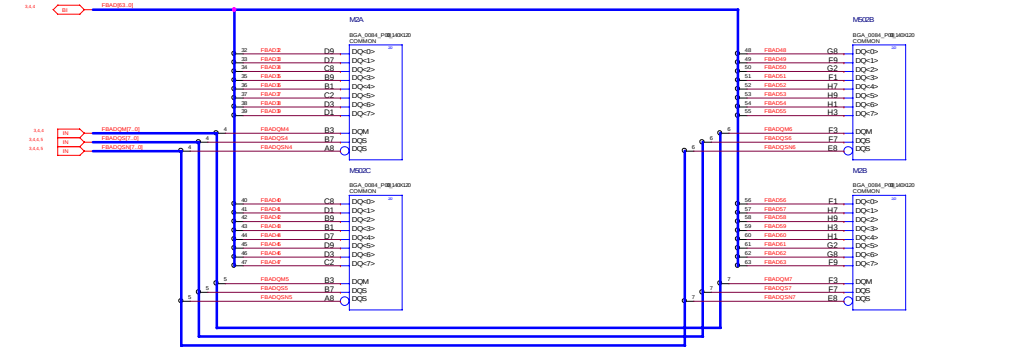
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.

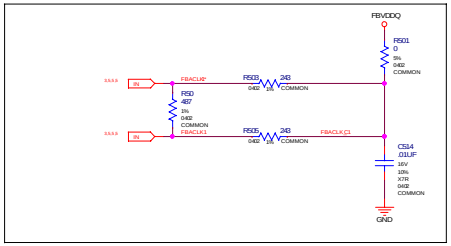
NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050 USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

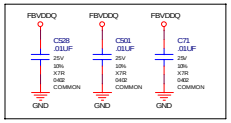
Memory 1st Bank 32..63

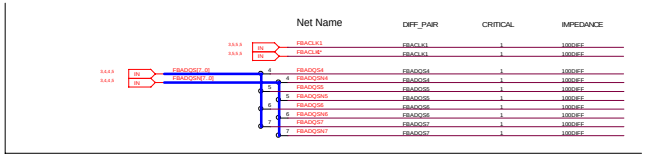


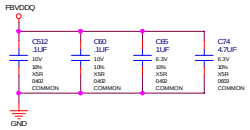


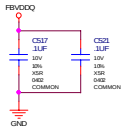


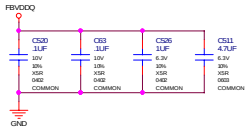
Place near signal transition area

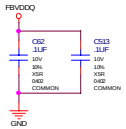












ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Memory 1st Bank 32:63

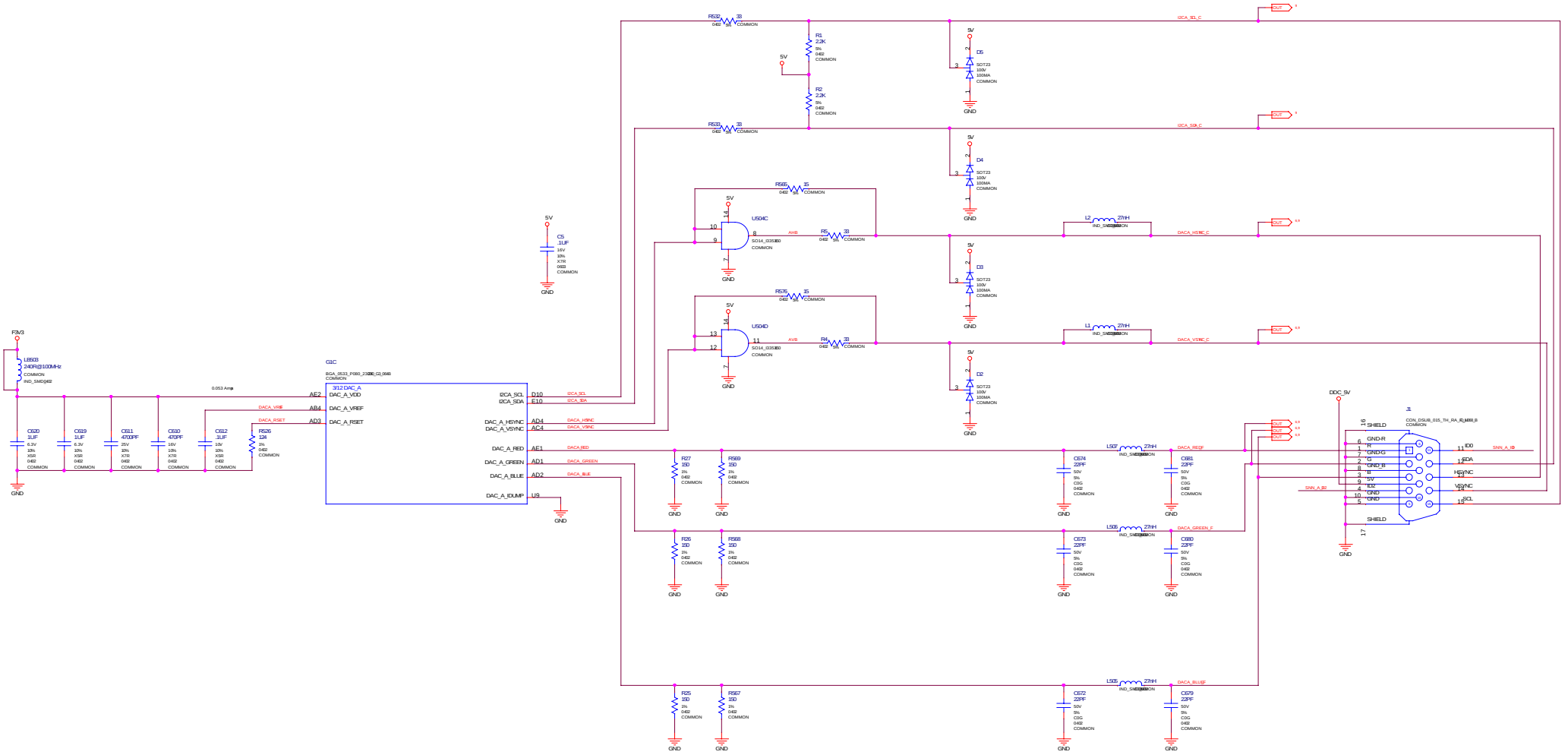
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

DACA, Slim DB15 Connector

Net Name	MIN_LINE_WIDTH	CRITICAL	IMPEDANCE
DACA_VREF	12MIL		
DACA_RSET	12MIL		
DACA_HSYNC	2		50OHM
DACA_VSYNC	2		50OHM
DACA_HSYNC_C	2		50OHM
DACA_VSYNC_C	2		50OHM
DACA_RED	1		50OHM
DACA_GREEN	1		50OHM
DACA_BLUE	1		50OHM
DACA_REDF	1		50OHM
DACA_GREEN_F	1		50OHM
DACA_BLUEF	1		50OHM



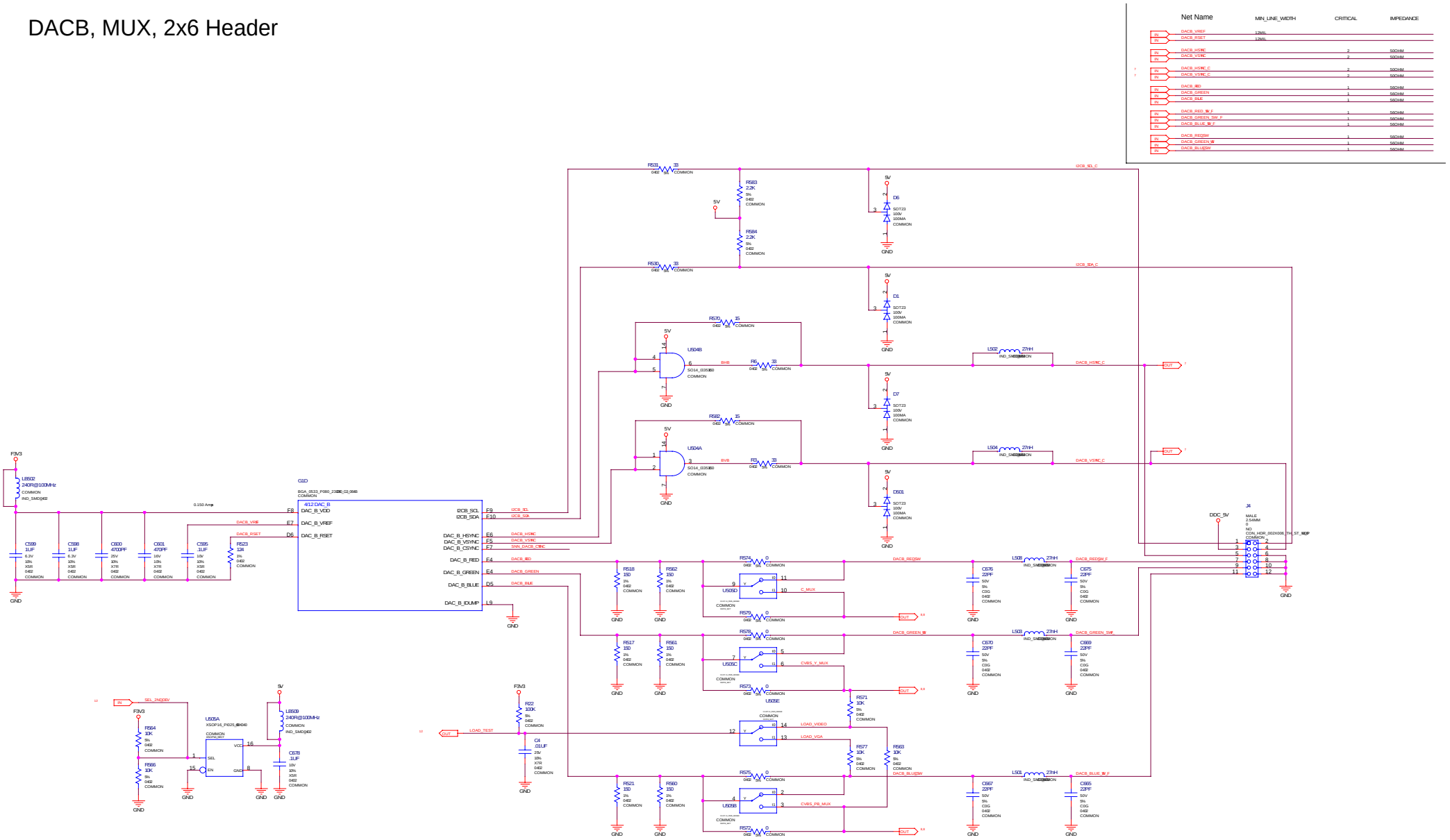
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	DACA_Slim DB15 Connector

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.

NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

DACB, MUX, 2x6 Header



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	DACB_MUX_2x6 Header

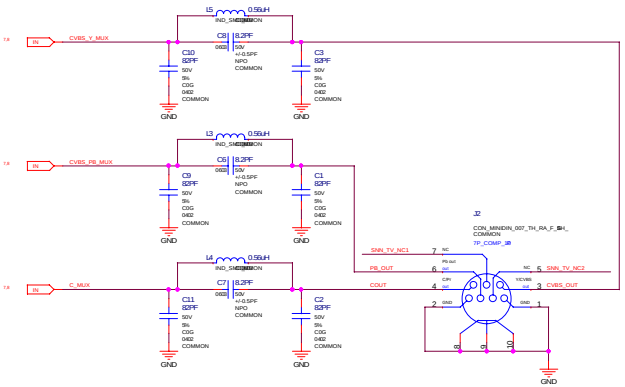
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.

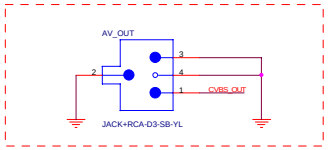
NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

MiniDIN Connector

Net Name	CRITICAL	IMPEDANCE
C_MUX	1	50OHM
CVBS_Y_MUX	1	50OHM
CVBS_PB_MUX	1	50OHM
COUT	1	50OHM
CVBS_OUT	1	50OHM
PB_OUT	1	50OHM





ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MiniDIN Connector

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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050 USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

TMDS Interface

Net Name	DIFF_PAIR	CRITICAL	IMPEDANCE
ATXC	ATXC	1	100DIFF
ATXC*	ATXC	1	100DIFF
ATXD0	ATXD0	1	100DIFF
ATXD0*	ATXD0	1	100DIFF
ATXD1	ATXD1	1	100DIFF
ATXD1*	ATXD1	1	100DIFF
ATXD2	ATXD2	1	100DIFF
ATXD2*	ATXD2	1	100DIFF

Net Name	MIN_LINE_WIDTH	VOLTAGE
IFP_ABPLLVDD	16Mil	3.3V
IFP_ABVDD	16Mil	3.3V
IFP_ABVDD_IN	16Mil	3.3V

FOR EMI

TMDS Backdrive Prevention

Hotplug Detection

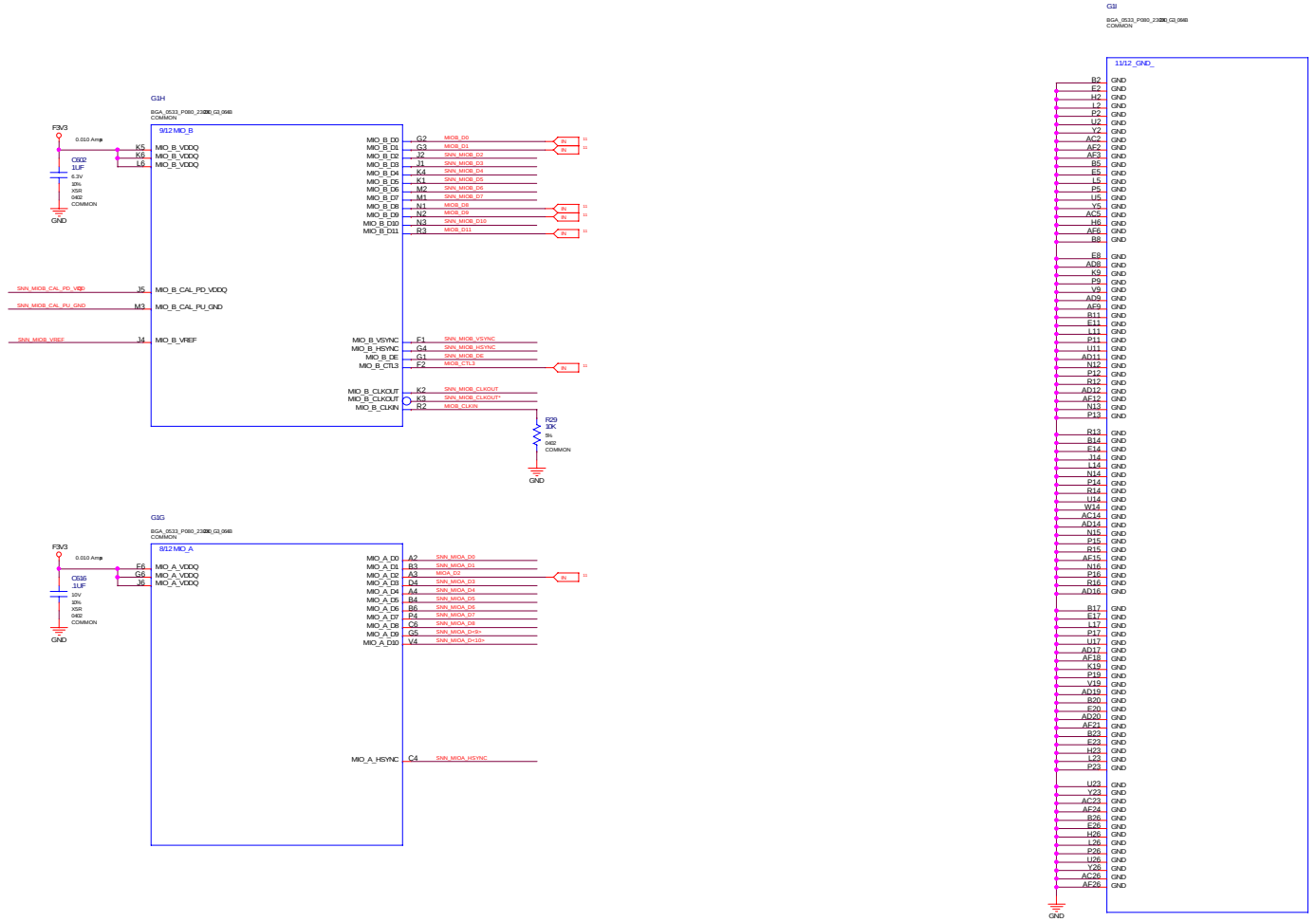
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	TMDS Interface

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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

MIOA, MIOB Interface



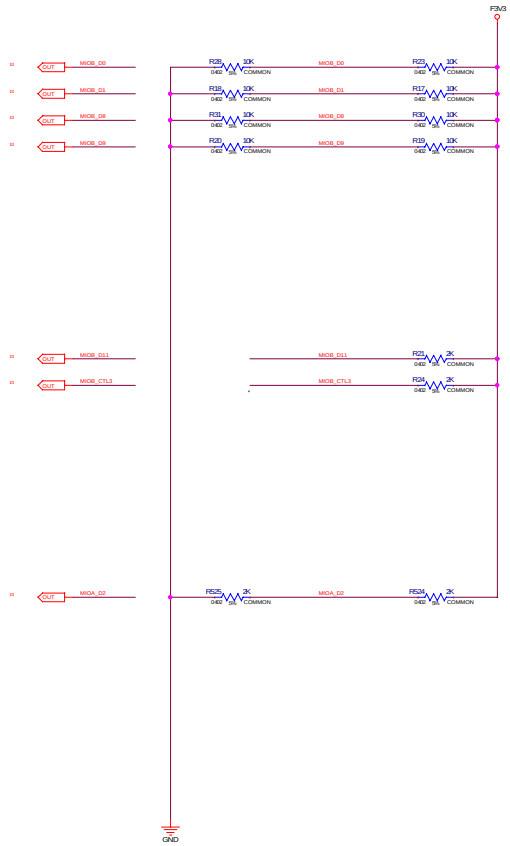
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	MIOA, MIOB Interface

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.

NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

Straps, Mechanical Parts

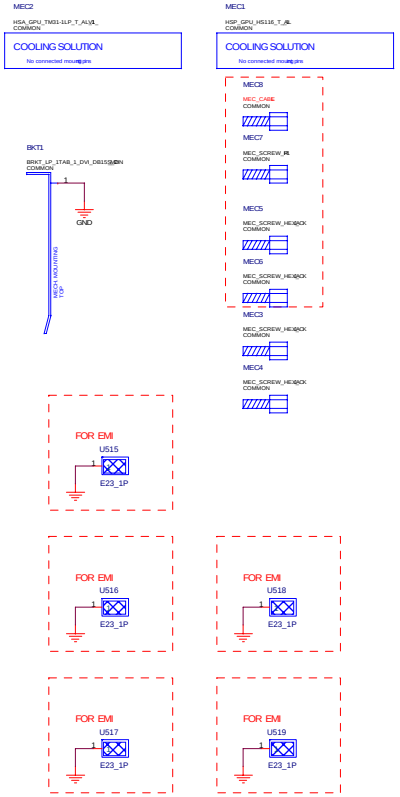


G86 Straps

Bit	Signal	Values		Pin Name
01:	SUB_VENDOR	0 NO_BIOS 1 BIOS		MIOAD1
02:	RAM_CFG_0	0000 16Mx16 DDR2 64bit Elpida 0001 16Mx16 DDR2 64bit Samsung/Micron 0010 16Mx16 DDR2 64bit Infineon 0011 16Mx16 DDR2 64bit Hynix 0100 32Mx16 DDR2 64bit Elpida 0101 32Mx16 DDR2 64bit Samsung 0110 32Mx16 DDR2 64bit Infineon 0111 32Mx16 DDR2 64bit Hynix	1000 RFU 1001 RFU 1010 RFU 1011 RFU 1100 RFU 1101 RFU 1110 RFU 1111 RFU	MIOBD0
03:	RAM_CFG_1			MIOBD1
04:	RAM_CFG_2			MIOBD8
05:	RAM_CFG_3			MIOBD9
06:	CRYSTAL	0 27000K 1 14318K		MIOBD2
07:	TV_MODE_0	000 NTSC_M 001 NTSC_J 010 PAL_M 011 PAL_N 100 PAL_CN 101 PAL_60 110 RESERVED 111 RESERVED		MIOAD7
08:	TV_MODE_1			MIOAD10
09:	TV_MODE_2			MIOBD6
10:	PCI_DEVID_0	0010 (G86-200-A3) 0001 (G78-300-A3)		MIOBD4
11:	PCI_DEVID_1			MIOBD5
12:	PCI_DEVID_2			MIOBD3
13:	PCI_DEVID_3			MIOBD11
	PCI_DEVID_4	G86 Strap		MIOBCTL3
17:	PEX_PLL_EN_TERM	0 EN 1 DIS		MIOAD0
18:	3GIO_PADCFG_LUT_ADR_0	0000 DSKTOP_DEFAULT 0001 MOBILE_DEFAULT 0010 MOBILE_NTHRS_LLAMP 0011 MOBILE_NTHRS_LAMP 0100 MOBILE_NTHRS_HAMP 0101 MOBILE_NTHRS_HHAMP 0110 MOBILE_NTHRS_HHHAMP 0111 MOBILE_NTHRS_HHHHAMP	1000 DSKTOP_HTHRS 1001 MOBILE_HTHRS_NAMP 1010 MOBILE_HTHRS_LLAMP 1011 MOBILE_HTHRS_LAMP 1100 MOBILE_HTHRS_HAMP 1101 MOBILE_HTHRS_HHAMP 1110 MOBILE_HTHRS_HHHAMP 1111 MOBILE_HTHRS_HHHHAMP	MIOAD6
19:	3GIO_PADCFG_LUT_ADR_1			MIOAD8
20:	3GIO_PADCFG_LUT_ADR_2			MIOAD9
21:	3GIO_PADCFG_LUT_ADR_3			MIOB_HSYNC
22:	ROMTYPE_0	00 PARALEL 01 SERIAL_AT25F 10 SERIAL_SST45VF 11 RESERVED		MIOBD10
23:	ROMTYPE_1			MIOB_VSYNC
24:	USER_0	0000 DEFAULT		MIOAD2
25:	USER_1			MIOAD3
26:	USER_2			MIOAD4
27:	USER_3			MIOAD5
12:	MIO_EN_33V_0	0 DISABLED 1 ENABLED		ROM_SI
13:	MIO_EN_33V_1	0 DISABLED 1 ENABLED		ROM_SCLK
15:	SLOT_CLK_CFG	0 DISABLED 1 ENABLED		MIOA_HSYNC
16:	PCI_IOBAR	0 DISABLED 1 ENABLED		MIOBD7
23:	BAR2_SIZE	0 32MB 1 16MB		MIOB_DE

G78 Straps

Bit	Signal	Values		
01:	SUB_VENDOR	0 NO_BIOS 1 BIOS		
02:	RAM_CFG_0	0000 16Mx16 DDR2 64bit Elpida 0001 16Mx16 DDR2 64bit Samsung/Micron 0010 16Mx16 DDR2 64bit Infineon 0011 16Mx16 DDR2 64bit Hynix 0100 32Mx16 DDR2 64bit Elpida 0101 32Mx16 DDR2 64bit Samsung 0110 32Mx16 DDR2 64bit Infineon 0111 32Mx16 DDR2 64bit Hynix	1000 16Mx16 DDR2 32bit Elpida 1001 16Mx16 DDR2 32bit Samsung/Micron 1010 16Mx16 DDR2 32bit Infineon 1011 16Mx16 DDR2 32bit Hynix 1100 32Mx16 DDR2 32bit Elpida 1101 32Mx16 DDR2 32bit Samsung 1110 32Mx16 DDR2 32bit Infineon 1111 32Mx16 DDR2 32bit Hynix	
03:	RAM_CFG_1			
04:	RAM_CFG_2			
05:	RAM_CFG_3			
06:	CRYSTAL	0 27000K OR 25000K 1 14318K OR UNKNOWN		
07:	TV_MODE_0	00 SECAM 01 NTSC 10 PAL 11 CRT		
08:	TV_MODE_1			
22:	CRYSTAL_1	0 13500K OR 12000K 1 27000K OR UNKNOWN		
12:	PCI_DEVID_0	TBD (G78: 0X???F		
13:	PCI_DEVID_1			
20:	PCI_DEVID_2			
21:	PCI_DEVID_3			
	PCI_DEVID_4			
11:	PEX_PLL_EN_TERM	0 EN 1 DIS		
12:	3GIO_PADCFG_LUT_ADR_0	000 DEFAULT 001 MOBILE 010 MOBILE_LPWR 011 MOBILE_LOWEST_PWR 100 MOBILE_LTHR 101 MOBILE_HTHR 110 MOBILE_LTHR_LPWR 111 MOBILE_HTHR_LPWR		
13:	3GIO_PADCFG_LUT_ADR_1			
14:	3GIO_PADCFG_LUT_ADR_2			
16:	SLOT_CLK_CFG	0 PULLDN 1 INIT		
29:	ROMTYPE_0	00 PARALEL 01 SERIAL_AT25F 10 SERIAL_SST45VF 11 UFC		
30:	ROMTYPE_1			
16:	USER_0	0000 DEFAULT		
17:	USER_1			
18:	USER_2			
19:	USER_3			
25:	BR	0 ENABLED 1 DISABLED		
15:	MOBILE_GPIO	0 PULLDN 1 FLOAT		



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Straps, Mechanical Parts

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.

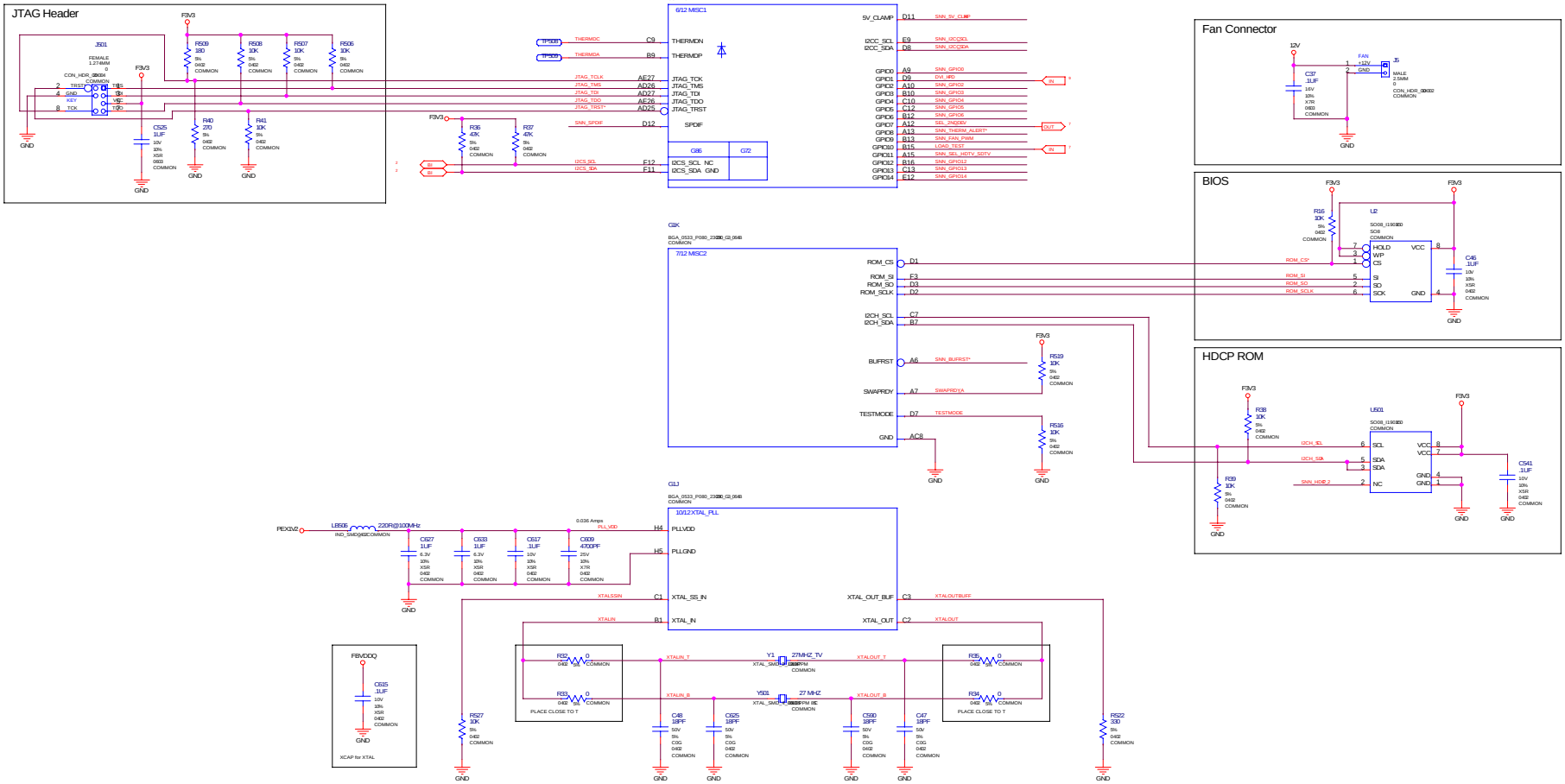
NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050 USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

XTAL, GPIO, BIOS, FAN, JTAG, HDCP

Net Name	CRITICAL	IMPEDANCE
XTALIN	1	50OHM
XTALOUT	1	50OHM
XTALIN_T	1	50OHM
XTALOUT_T	1	50OHM
XTALIN_B	1	50OHM
XTALOUT_B	1	50OHM

Net Name	MIN_LINE_WIDTH	VOLTAGE
PLL_VDD	12MIL	1.2V



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	XTAL, GPIO, BIOS, FAN, JTAG, HDCP

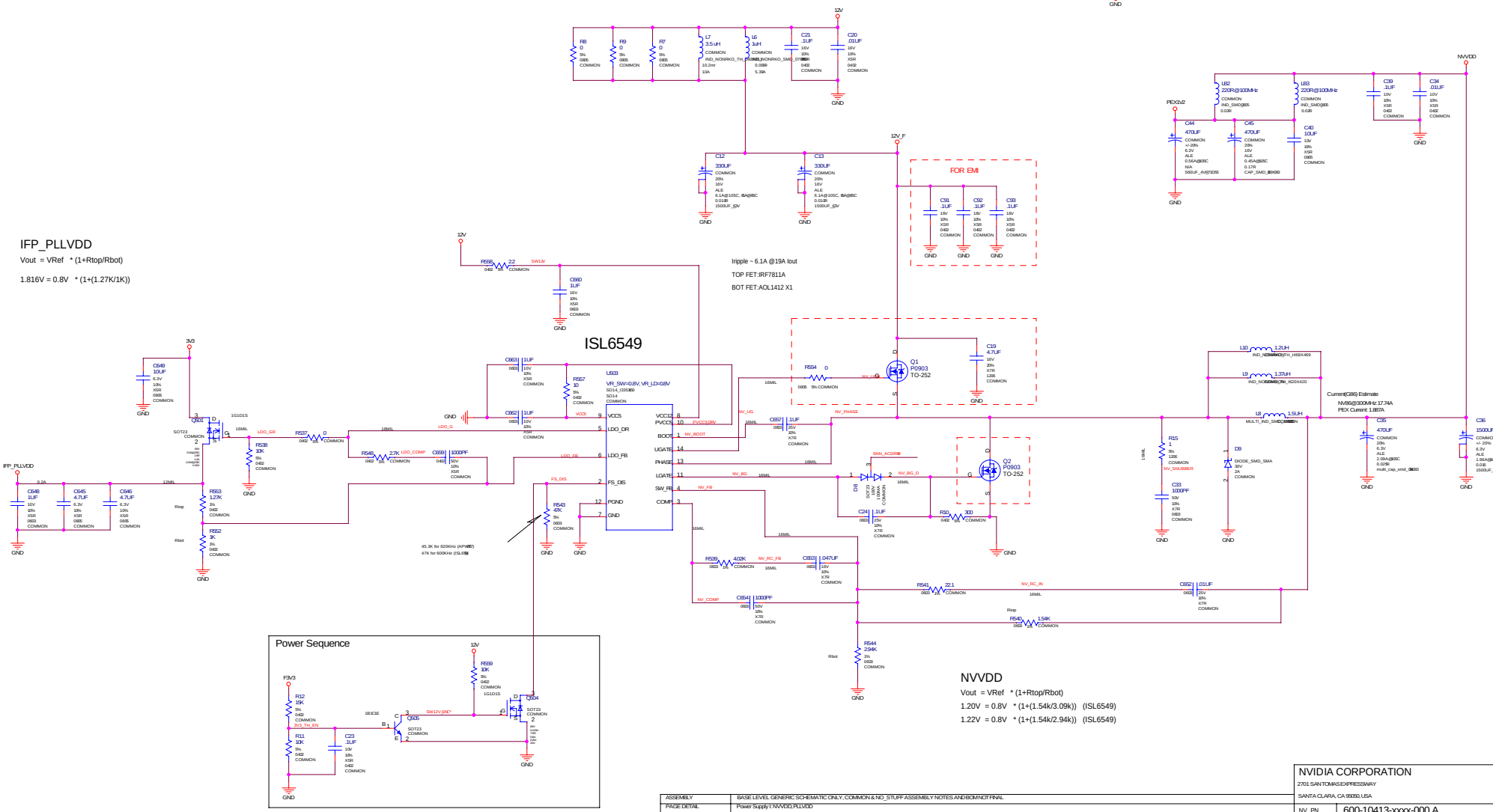
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, 'MATERIALS') ARE BEING PROVIDED 'AS IS'. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

Power Supply I: NVVDD, PLLVDD

Net Name	LINE_WIDTH	Current	Voltage
12V	28MIL	4A	12
12V_F	28MIL	3A	12V
NVVDD	16MIL	20A	1.2V
PEX1V2	24MIL	2A	1.2V
GND	16MIL		0V



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

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.

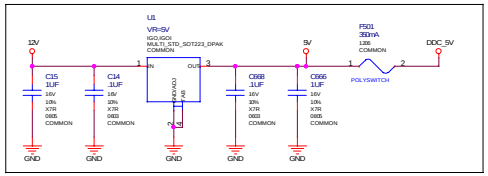
NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

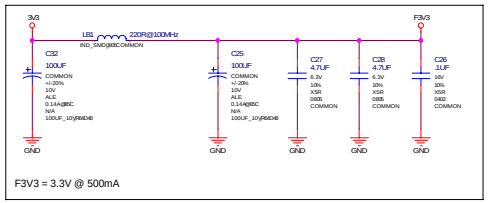
Power Supply II: 5V, DDC5V, F3V3, FBVDDQ

Net Name	MIN_LINE_WIDTH	CURRENT	VOLTAGE
5V	12MIL	0.25A	5V
DDC_5V	12MIL	0.2A	5V
F3V3	12MIL	1A	3.300[B
3V3	36MIL	3A	3.3V
FBVDDQ	36MIL	3A	2.0V

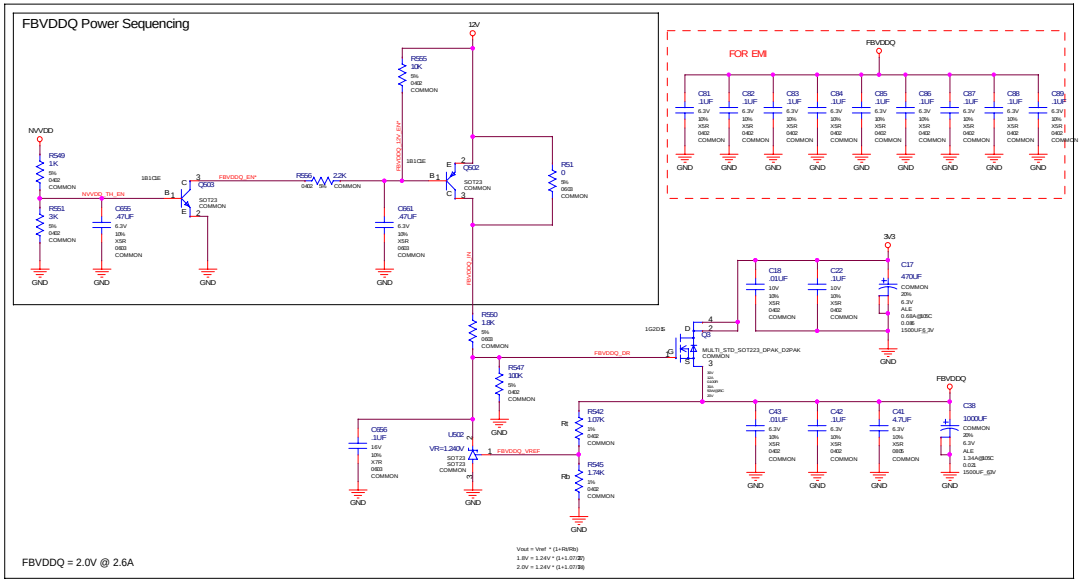
5V, DDC5V



F3V3



FBVDDQ



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	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply II P3V3, 5V, DDC5V, FBVDDQ

NVIDIA CORPORATION
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME		DATE	02-OCT-2006

Title: Basenet Report
Design: p413
Date: Sep 29 14:42:41 2006

Base nets and synonyms for
p413_lib.P413(@p413_lib.p413(sch_1))
Base Signal Location/[Zone](dir))

3V3 14.1G
3V3_TH_EN 13.5B
5V 14.1G
12V 13.1F
12V_F 13.1F
AHB 6.2E
ATXC 9.1G< 9.3E 9.3G
ATXC* 9.1G< 9.3E 9.3G
ATXD0 9.1G< 9.2E 9.2G
ATXD0* 9.1G< 9.2E 9.2G
ATXD1 9.1G< 9.2E 9.2G
ATXD1* 9.1G< 9.2E 9.2G
ATXD2 9.1G< 9.2E 9.2G
ATXD2* 9.1G< 9.2E 9.2G
AVB 6.3E
BACKDRIVE_TH 9.4B
BHB 7.2E
BVB 7.3E
COUT 8.1G< 8.3E
CVBS_OUT 8.1G< 8.3E
CVBS_PB_MUX 7.5F> 8.1G< 8.3C<
CVBS_Y_MUX 7.4F> 8.1G< 8.2C<
C_MUX 7.4F> 8.1G< 8.3C<
DACA_BLUE 6.1G< 6.4C
DACA_BLUE_F 6.4G> 6.1G< 9.3G<
DACA_GREEN 6.1G< 6.4C
DACA_GREEN_F 6.3G> 6.1G< 9.3G<
DACA_HSYNC 6.1G< 6.3C
DACA_HSYNC_C 6.2G> 6.1G< 9.3G<
DACA_RED 6.1G< 6.4C
DACA_RED_F 6.3G> 6.1G< 9.3G<
DACA_RSET 6.1G< 6.3B
DACA_VREF 6.1G< 6.3B
DACA_VSYNC 6.1G< 6.3C
DACA_VSYNC_C 6.3G> 6.1G< 9.3G<
DACB_BLUE 7.1G< 7.4C
DACB_BLUE_SW 7.1G< 7.5E
DACB_BLUE_SW_F 7.1G< 7.5F
DACB_GREEN 7.1G< 7.4C
DACB_GREEN_SW 7.1G< 7.4E
DACB_GREEN_SW_F 7.1G< 7.4F
DACB_HSYNC 7.1G< 7.3C
DACB_HSYNC_C 7.3G> 7.1G<
DACB_RED 7.1G< 7.4C
DACB_RED_SW 7.1G< 7.4E
DACB_RED_SW_F 7.1G< 7.4F
DACB_RSET 7.1G< 7.3B
DACB_VREF 7.1G< 7.3B
DACB_VSYNC 7.1G< 7.3C
DACB_VSYNC_C 7.3G> 7.1G<
DDC_5V 14.1G
DDR_ODT 3.4F> 3.1G< 4.2A<
4.2C< 5.2A< 5.2C<
DVI_HPD 9.3E> 12.2F<
DVI_HPD_F 9.3F
F3V3 14.1G
FBACLK0 3.4D> 3.3D 4.1G<
4.2A< 4.2C< 4.5B<
FBACLK0* 3.4D> 3.3D 4.1G<
4.2A< 4.2C< 4.5B<
FBACLK1 3.4D> 3.3D 5.1G<
5.2A< 5.2C< 5.5B<
FBACLK1* 3.4D> 3.3D 5.1G<
5.2A< 5.2C< 5.5B<
FBACLK_C0 4.5B
FBACLK_C1 5.5B
FBACMD<0> 3.2F 3.3C 4.2B 4.2C
FBACMD<25..0> 3.3D> 4.1A< 4.1G<
5.1A<
FBACMD<1> 3.3F 3.3C 4.1B 4.1C
5.1B 5.1C
FBACMD<2> 3.2G 3.3C 4.1B 4.1C
FBACMD<3> 3.2G 3.3C 4.1B 4.1C
5.1B 5.1C
FBACMD<4> 3.2F 3.3C 5.2B 5.2C
FBACMD<5> 3.2F 3.3C 5.2B 5.2C
FBACMD<6> 3.2G 3.3C 5.2B 5.2C
FBACMD<7> 3.3C 3.4G 4.2B 4.2C
5.2B 5.2C
FBACMD<8> 3.2G 3.3C 4.1B 4.1C
5.1B 5.1C
FBACMD<9> 3.2F 3.3C 4.1B 4.1C
5.1B 5.1C
FBACMD<10> 3.3C 3.3F 4.2B 4.2C
5.2B 5.2C
FBACMD<11> 3.3C 3.3D 4.2B 4.2C
5.2B 5.2C
FBACMD<12> 3.3C 3.4E
FBACMD<13> 3.2G 3.3C 5.1B 5.1C
FBACMD<14> 3.3C 3.3G 4.2B 4.2C
5.2B 5.2C
FBACMD<15> 3.3C 3.3F 4.1B 4.1C
5.1B 5.1C
FBACMD<16> 3.3C 3.3F 4.2B 4.2C
5.2B 5.2C
FBACMD<17> 3.3C 3.3G 4.2B 4.2C
5.2B 5.2C
FBACMD<18> 3.3C 3.3G 4.2B 4.2C
5.2B 5.2C
FBACMD<19> 3.3C 3.3F 4.2B 4.2C
5.2B 5.2C
FBACMD<20> 3.3C 3.3F 4.2B 4.2C
5.2B 5.2C
FBACMD<21> 3.3C 3.3G 4.2B 4.2C
5.2B 5.2C
FBACMD<22> 3.3C 3.3G 4.2B 4.2C
FBACMD<23> 3.4C 3.4F 4.2B 4.2C
5.2B 5.2C
FBACMD<24> 3.4C 3.4F 4.2B 4.2C
FBACMD<25> 3.4C 3.4G 4.1B 4.1C
5.1B 5.1C
FBADQ<0> 3.1B 4.3B
FBADQ<32..0> 4.3A<>
3.1A<> 5.3A<> 4.1G<
FBADQ<63..0> 3.1A<> 5.3A<> 4.1G<
FBADQ<1> 3.1B 4.3B
FBADQ<2> 3.1B 4.3B
FBADQ<3> 3.1B 4.3B
FBADQ<4> 3.1B 4.3B
FBADQ<5> 3.1B 4.3B
FBADQ<6> 3.1B 4.3B
FBADQ<7> 3.1B 4.3B
FBADQ<8> 3.1B 4.4B
FBADQ<9> 3.1B 4.4B
FBADQ<10> 3.2B 4.4B
FBADQ<11> 3.1B 4.4B
FBADQ<12> 3.1B 4.4B
FBADQ<13> 3.1B 4.4B
FBADQ<14> 3.1B 4.4B
FBADQ<15> 3.2B 4.4B
FBADQ<16> 3.2B 4.3D
FBADQ<17> 3.2B 4.3D
FBADQ<18> 3.2B 4.3D
FBADQ<19> 3.2B 4.3D
FBADQ<20> 3.2B 4.3D
FBADQ<21> 3.2B 4.3D
FBADQ<22> 3.2B 4.3D
FBADQ<23> 3.2B 4.3D
FBADQ<24> 3.2B 4.4D
FBADQ<25> 3.2B 4.4D
FBADQ<26> 3.2B 4.4D
FBADQ<27> 3.2B 4.4D
FBADQ<28> 3.2B 4.4D
FBADQ<29> 3.2B 4.4D
FBADQ<30> 3.2B 4.4D
FBADQ<31> 3.2B 4.4D
FBADQ<32> 3.2B 5.3B
FBADQ<33> 3.2B 5.3B
FBADQ<34> 3.2B 5.3B
FBADQ<35> 3.2B 5.3B
FBADQ<36> 3.2B 5.3B
FBADQ<37> 3.2B 5.3B
FBADQ<38> 3.2B 5.3B
FBADQ<39> 3.2B 5.3B
FBADQ<40> 3.2B 5.4B
FBADQ<41> 3.2B 5.4B
FBADQ<42> 3.2B 5.4B
FBADQ<43> 3.2B 5.4B
FBADQ<44> 3.2B 5.4B
FBADQ<45> 3.3B 5.4B
FBADQ<46> 3.3B 5.4B
FBADQ<47> 3.3B 5.4B
FBADQ<48> 3.3B 5.3D
FBADQ<49> 3.3B 5.3D
FBADQ<50> 3.3B 5.3D
FBADQ<51> 3.3B 5.3D
FBADQ<52> 3.3B 5.3D
FBADQ<53> 3.3B 5.3D
FBADQ<54> 3.3B 5.3D
FBADQ<55> 3.3B 5.3D
FBADQ<56> 3.3B 5.4D
FBADQ<57> 3.3B 5.4D
FBADQ<58> 3.3B 5.4D
FBADQ<59> 3.3B 5.4D
FBADQ<60> 3.3B 5.4D
FBADQ<61> 3.3B 5.4D
FBADQ<62> 3.3B 5.4D
FBADQ<63> 3.3B 5.4D
FBADQM<0> 3.3B 4.3B
FBADQM<7..0> 3.3A> 4.1G< 4.4A<
5.4A<
FBADQM<1> 3.3B 4.4B
FBADQM<2> 3.3B 4.3D
FBADQM<3> 3.3B 4.4D
FBADQM<4> 3.3B 5.3B
FBADQM<5> 3.3B 5.4B
FBADQM<6> 3.3B 5.3D
FBADQM<7> 3.3B 5.4D
FBADQS<0> 3.4B 4.1G 4.4B
FBADQS<7..0> 3.4A<> 4.4A<> 4.1G<
5.1G< 5.4A<
FBADQS<1> 3.3D 3.4B 4.1G 4.4B
FBADQS<2> 3.4B 4.1G 4.4D
FBADQS<3> 3.4B 4.1G 4.4D
FBADQS<4> 3.4B 5.1G 5.4B
FBADQS<5> 3.4B 5.1G 5.4B
FBADQS<6> 3.4B 5.1G 5.4D
FBADQS<7> 3.4B 5.1G 5.4D
FBADQSN<0> 3.4B 4.1G 4.4B
FBADQSN<7..0> 3.4A<> 4.4A<> 4.1G<
5.1G< 5.4A<
FBADQSN<1> 3.3D 3.4B 4.1G 4.4B
FBADQSN<2> 3.4B 4.1G 4.4D
FBADQSN<3> 3.4B 4.1G 4.4D
FBADQSN<4> 3.4B 5.1G 5.4B
FBADQSN<5> 3.4B 5.1G 5.4B
FBADQSN<6> 3.4B 5.1G 5.4D
FBADQSN<7> 3.4B 5.1G 5.4D
FBA_DEBUG 3.1G< 3.4C 3.4E
FBA_PLLAVDD 3.5C
FBCAL_PD_VDDQ 3.4C
FBCAL_PU_GND 3.4C
FBCAL_TERM_GND 3.4C
FBVDDQ 14.1G
FBVDDQ_12V_EN* 14.3E
FBVDDQ_DR 14.3F
FBVDDQ_EN* 14.3E
FBVDDQ_IN 14.3F
FBVDDQ_VREF 14.4F
FBVREF 3.5B
FS_DIS 13.4C
HPD 9.3G
I2CA_SCL 6.3C
I2CA_SCL_C 6.1G> 9.2G<
I2CA_SDA 6.3C
I2CA_SDA_C 6.2G> 9.3G<
I2CB_SCL 7.3C
I2CB_SCL_C 7.1F
I2CB_SDA 7.3C
I2CB_SDA_C 7.2F
I2CH_SCL 12.3E 12.3G
I2CH_SDA 12.3E 12.4G
I2CS_SCL 2.1E<> 12.2C<>
I2CS_SDA 2.1E<> 12.2C<>
IFP_ABPLLVDD 9.1G< 9.2C
IFP_ABRSET 9.2C
IFP_ABVDD 9.1G< 9.3C
IFP_ABVDD_IN 9.1G<
IFP_ABVPROBE 9.2C
IFP_AB_VDD_IN 9.4A
IFP_CPLLVDD 9.4C
IFP_CRSET 9.4C
JTAG_TCLK 12.2C
JTAG_TDI 12.2C
JTAG_TDO 12.2C
JTAG_TMS 12.2C
JTAG_TRST* 12.2C
LDO_COMP 13.4C
LDO_FB 13.4C
LDO_G 13.3C
LDO_GR 13.3B
LOAD_TEST 7.5C> 12.2F<
LOAD_VGA 7.5E
LOAD_VIDEO 7.4E
MIOA_D2 11.4A> 10.3D< 11.4B
MIOB_CLKIN 10.3C
MIOB_CTL3 11.3A> 10.2D< 11.3B
MIOB_D0 11.2A> 10.2D< 11.2B
MIOB_D1 11.2A> 10.2D< 11.2B
MIOB_D8 11.2A> 10.2D< 11.2B
MIOB_D9 11.2A> 10.2D< 11.2B
MIOB_D11 11.3A> 10.2D< 11.3B
NVDD 13.1F
NVVDD_TH_EN 14.3D
NV_BG 13.4D
NV_BG_D 13.4E
NV_BOOT 13.3D
NV_COMP 13.4D
NV_FB 13.4D
NV_PHASE 13.3E
NV_RC_FB 13.4D
NV_RC_IN 13.4F
NV_SNUBBER 13.4G
NV_UG 13.3E
NV_UGR 13.3E
PB_OUT 8.1G< 8.3E
PEX1V2 13.1F
PEX_JTAGE_TDIO 2.1C
PEX_PLL_DVDD 2.5F
PEX_PWRGD* 2.2C
PEX_REFCLK 2.2C 2.5A<
PEX_REFCLK* 2.2C 2.5A<
PEX_RX0 2.2C 2.4A<
PEX_RX0* 2.2C 2.4A<
PEX_RX1 2.2C 2.4A<
PEX_RX1* 2.2C 2.4A<
PEX_RX2 2.2C 2.4A<
PEX_RX2* 2.2C 2.4A<
PEX_RX3 2.3C 2.4A<
PEX_RX3* 2.3C 2.4A<
PEX_RX4 2.3C 2.4A<
PEX_RX4* 2.3C 2.4A<
PEX_RX5 2.3C 2.5A<
PEX_RX5* 2.3C 2.5A<
PEX_RX6 2.3C 2.5A<
PEX_RX6* 2.3C 2.5A<
PEX_RX7 2.3C 2.5A<
PEX_RX7* 2.3C 2.5A<
PEX_RX8 2.4C 2.5A<
PEX_RX8* 2.4C 2.5A<
PEX_RX9 2.4C 2.5A<
PEX_RX9* 2.4C 2.5A<
PEX_RX10 2.4C 2.5A<
PEX_RX10* 2.4C 2.5A<
PEX_RX11 2.4C 2.5A<
PEX_RX11* 2.4C 2.5A<
PEX_RX12 2.4C 2.5A<
PEX_RX12* 2.4C 2.5A<
PEX_RX13 2.5A< 2.5C
PEX_RX13* 2.5A< 2.5C
PEX_RX14 2.5A< 2.5C
PEX_RX14* 2.5A< 2.5C
PEX_RX15 2.5A< 2.5C
PEX_RX15* 2.5A< 2.5C
PEX_SMCLK 2.1C
PEX_SMDAT 2.1C
PEX_TSTCLK 2.2A< 2.2E
PEX_TSTCLK* 2.2A< 2.2E
PEX_TX0 2.2A< 2.2E
PEX_TX0* 2.2A< 2.2E
PEX_TX1 2.2A< 2.2E
PEX_TX1* 2.2A< 2.2E
PEX_TX2 2.2A< 2.2E
PEX_TX2* 2.2A< 2.2E
PEX_TX3 2.2A< 2.3E
PEX_TX3* 2.2A< 2.3E
PEX_TX4 2.2A< 2.3E
PEX_TX4* 2.2A< 2.3E
PEX_TX5 2.2A< 2.3E
PEX_TX5* 2.2A< 2.3E
PEX_TX6 2.2A< 2.3E
PEX_TX6* 2.2A< 2.3E
PEX_TX7 2.2A< 2.3E
PEX_TX7* 2.2A< 2.3E
PEX_TX8 2.3A< 2.4E
PEX_TX8* 2.3A< 2.4E
PEX_TX9 2.3A< 2.4E
PEX_TX9* 2.3A< 2.4E
PEX_TX10 2.3A< 2.4E
PEX_TX10* 2.3A< 2.4E
PEX_TX11 2.3A< 2.4E
PEX_TX11* 2.3A< 2.4E
PEX_TX12 2.3A< 2.4E
PEX_TX12* 2.3A< 2.4E
PEX_TX13 2.3A< 2.5E
PEX_TX13* 2.3A< 2.5E
PEX_TX14 2.3A< 2.5E
PEX_TX14* 2.3A< 2.5E
PEX_TX15 2.3A< 2.5E
PEX_TX15* 2.3A< 2.5E
PEX_TX0I 2.2C 2.3A<
PEX_TX0I* 2.2C 2.3A<
PEX_TX1I 2.2C 2.3A<
PEX_TX1I* 2.2C 2.3A<
PEX_TX2I 2.2C 2.3A<
PEX_TX2I* 2.2C 2.3A<
PEX_TX3I 2.3A< 2.3C
PEX_TX3I* 2.3A< 2.3C
PEX_TX4I 2.3A< 2.3C
PEX_TX4I* 2.3A< 2.3C
PEX_TX5I 2.3A< 2.3C
PEX_TX5I* 2.3A< 2.3C
PEX_TX6I 2.3A< 2.3C
PEX_TX6I* 2.3C 2.4A<
PEX_TX7I 2.3C 2.4A<
PEX_TX7I* 2.3C 2.4A<
PEX_TX8I 2.4A< 2.4C
PEX_TX8I* 2.4A< 2.4C
PEX_TX9I 2.4A< 2.4C
PEX_TX9I* 2.4A< 2.4C
PEX_TX10I 2.4A< 2.4C
PEX_TX10I* 2.4A< 2.4C
PEX_TX11I 2.4A< 2.4C
PEX_TX11I* 2.4A< 2.4C
PEX_TX12I 2.4A< 2.4C
PEX_TX12I* 2.4A< 2.4C
PEX_TXX13 2.4A< 2.5C
PEX_TXX13* 2.4A< 2.5C
PEX_TXX14 2.4A< 2.5C
PEX_TXX14* 2.4A< 2.5C
PEX_TXX15 2.4A< 2.5C
PEX_TXX15* 2.4A< 2.5C
PLL_VDD 12.1G< 12.4C
PRSNT 2.1B
PVCCS_DRV 13.3D
ROM_CS* 12.3E 12.3F
ROM_SCLK 12.3E 12.3F
ROM_SI 12.3E 12.3F
ROM_SO 12.3E 12.3F
SEL_2ND_DEV 12.2F> 7.4A<
SNN_3V3AUX 2.1B
SNN_5V_CLAMP 12.2E
SNN_ACDRIVE 13.4E
SNN_ATXD3 9.2E
SNN_ATXD3* 9.2E
SNN_A_ID0 6.4H
SNN_A_ID2 6.4G
SNN_A_TX3 9.2G
SNN_A_TX3* 9.2G
SNN_A_TX4 9.2G
SNN_A_TX4* 9.2G
SNN_A_TX5 9.2G
SNN_A_TX5* 9.2G
SNN_BTXC 9.3E
SNN_BTXC* 9.3E
SNN_BTXD4 9.3E
SNN_BTXD4* 9.2E
SNN_BTXD5 9.3E
SNN_BTXD5* 9.3E
SNN_BTXD6 9.3E
SNN_BTXD6* 9.3E
SNN_BTXD7 9.3E
SNN_BTXD7* 9.3E
SNN_BUFRST* 12.3E
SNN_DACB_CSYNC 7.3C
SNN_FAN_PWM 12.2E
SNN_FBA1_NC_A2 4.3B
SNN_FBA1_NC_E2 4.3B
SNN_FBA1_NC_R3 4.2B
SNN_FBA1_NC_R7 4.2B
SNN_FBA1_NC_R8 4.2B
SNN_FBA2_NC_A2 4.3C
SNN_FBA2_NC_E2 4.3C
SNN_FBA2_NC_R3 4.2C
SNN_FBA2_NC_R7 4.2C
SNN_FBA2_NC_R8 4.2C
SNN_FBA3_NC_A2 5.3B
SNN_FBA3_NC_E2 5.3B
SNN_FBA3_NC_R3 5.2B
SNN_FBA3_NC_R7 5.2B
SNN_FBA3_NC_R8 5.2B
SNN_FBA4_NC_A2 5.3C
SNN_FBA4_NC_E2 5.3C
SNN_FBA4_NC_R3 5.2C
SNN_FBA4_NC_R7 5.2C
SNN_FBA4_NC_R8 5.2C
SNN_FBA_CMD26 3.4C
SNN_FBA_CMD27 3.4C
SNN_FBA_CMD28 3.4C
SNN_GPIO0 12.2E
SNN_GPIO2 12.2E
SNN_GPIO3 12.2E
SNN_GPIO4 12.2E
SNN_GPIO5 12.2E
SNN_GPIO6 12.2E
SNN_GPIO12 12.2E
SNN_GPIO13 12.2E
SNN_GPIO14 12.2E
SNN_HDCP_2 12.4G
SNN_I2CC_SCL 12.2E
SNN_I2CC_SDA 12.2E
SNN_IFPC_TXC 9.4E
SNN_IFPC_TXC* 9.4E
SNN_IFPC_TXD0 9.4E
SNN_IFPC_TXD0* 9.4E
SNN_IFPC_TXD1 9.4E
SNN_IFPC_TXD1* 9.4E
SNN_IFPC_TXD2 9.4E
SNN_IFPC_TXD2* 9.4E
SNN_IFP_CVPROBE 9.4C
SNN_MIOA_D0 10.3C
SNN_MIOA_D1 10.3C
SNN_MIOA_D3 10.3C
SNN_MIOA_D4 10.3C
SNN_MIOA_D5 10.3C
SNN_MIOA_D6 10.3C
SNN_MIOA_D7 10.3C
SNN_MIOA_D8 10.3C
SNN_MIOA_D<9> 10.3C
SNN_MIOA_D<10> 10.4C
SNN_MIOA_HSYNC 10.4C
SNN_MIOB_CAL_PD_VD 10.2B
DQ
SNN_MIOB_CAL_PU_GN 10.2B
D
SNN_MIOB_CLKOUT 10.3C
SNN_MIOB_CLKOUT* 10.3C
SNN_MIOB_D2 10.2C
SNN_MIOB_D3 10.2C
SNN_MIOB_D4 10.2C
SNN_MIOB_D5 10.2C
SNN_MIOB_D6 10.2C
SNN_MIOB_D7 10.2C
SNN_MIOB_D10 10.2C
SNN_MIOB_DE 10.2C
SNN_MIOB_HSYNC 10.2C
SNN_MIOB_VREF 10.2B
SNN_MIOB_VSYNC 10.2C
SNN_PEX_JTAGE_TCLK 2.1C
SNN_PEX_JTAGE_TMS 2.1C
SNN_PEX_JTAGE_TRST 2.1C
*
SNN_PEX_WAKE* 2.2C
SNN_PE_PRSNT2_A 2.1B
SNN_PE_PRSNT2_B 2.2B
SNN_PE_PRSNT2_C 2.3B
SNN_PE_RSVD2 2.2B
SNN_PE_RSVD3 2.2B
SNN_PE_RSVD4 2.2B
SNN_PE_RSVD5 2.2B
SNN_PE_RSVD6 2.3B
SNN_PE_RSVD7 2.4B
SNN_PE_RSVD8 2.4B
SNN_SEL_HDTV_SDTV 12.2E
SNN_SPDIF 12.2C
SNN_THERM_ALERT* 12.2E
SNN_TV_NC1 8.3E
SNN_TV_NC2 8.3E
SW12V 13.3C
SW12V_ENC* 13.5C
SWAPRDY_A 12.3E
TESTMODE 12.3E
THERMDA 12.2C
THERMDC 12.2C
VCC5 13.3D
VREF_A 5.3C 5.3E
VREF_B 4.3C 4.3E
XTALIN 12.1G< 12.4C
XTALIN_B 12.1G< 12.5D
XTALIN_T 12.1G< 12.4D
XTALOUT 12.1G< 12.4E
XTALOUTBUFF 12.4E
XTALOUT_B 12.1G< 12.5E
XTALOUT_T 12.1G< 12.4E
XTALSSIN 12.4C

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	<edit here to insert page detail>

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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME	<ENGINEER>	DATE	02-OCT-2006

Title: Cref Part Report
Design: p413
Date: Sep 29 14:42:41 2006

BKT1 [11.3G]
C1 [8.3D]
C2 [8.3D]
C3 [8.2D]
C4 [7.5C]
C5 [6.3C]
C6 [8.3D]
C7 [8.3D]
C8 [8.3D]
C9 [8.3D]
C10 [8.2D]
C11 [8.3D]
C12 [13.2D]
C13 [13.2E]
C14 [14.3B]
C15 [14.1A]
C16 [2.1B]
C17 [14.3G]
C18 [14.3G]
C19 [13.3F]
C20 [13.2E]
C21 [13.2E]
C22 [14.3G]
C23 [13.5B]
C24 [13.4E]
C25 [14.3B]
C26 [14.3C]
C27 [14.3B]
C28 [14.3C]
C29 [2.1A]
C30 [2.1A]
C31 [2.1A]
C32 [14.3A]
C33 [13.4G]
C34 [13.2H]
C35 [13.3H]
C36 [13.3H]
C37 [12.2G]
C38 [14.4G]
C39 [13.2H]
C40 [13.2G]
C41 [14.4G]
C42 [14.4G]
C43 [14.4G]
C44 [13.2G]
C45 [13.2G]
C46 [12.3G]
C47 [12.5E]
C48 [12.5D]
C49 [2.3G]
C50 [2.3G]
C51 [9.2A]
C52 [9.3B]
C53 [2.4G]
C54 [3.1E]
C55 [2.4G]
C56 [3.1D]
C57 [4.5E]
C58 [4.2G]
C59 [4.3G]
C60 [5.2G]
C61 [4.2G]
C62 [5.3F]
C63 [5.3G]
C64 [4.3G]
C65 [5.2G]
C66 [4.5F]
C67 [5.3C]
C68 [5.3E]
C69 [4.5C]
C70 [4.5E]
C71 [5.5E]
C72 [4.2G]
C73 [4.3G]
C74 [5.2G]
C75 [4.4H]
C501 [5.5E]
C502 [4.5G]
C503 [4.4F]
C504 [4.5G]
C505 [4.5F]
C506 [4.4G]
C507 [4.5G]
C508 [4.4G]
C509 [4.4G]
C510 [4.4G]
C511 [5.3G]
C512 [5.2F]
C513 [5.3G]
C514 [5.5C]
C515 [4.3C]
C516 [4.3E]
C517 [5.2F]
C518 [4.2F]
C519 [4.2F]
C520 [5.3F]
C521 [5.2G]
C522 [4.3G]
C523 [4.5E]
C524 [4.2G]
C525 [12.2A]
C526 [5.3G]
C527 [4.3F]
C528 [5.5E]
C529 [4.3F]
C530 [2.5D]
C531 [2.5D]
C532 [2.5D]
C533 [2.5D]
C534 [3.2D]
C535 [3.2D]
C536 [3.2E]
C537 [3.2D]
C538 [3.2D]
C539 [3.2D]
C540 [2.5D]
C541 [12.4G]
C542 [2.5D]
C543 [3.2D]
C544 [3.2E]
C545 [3.2D]
C546 [3.1D]
C547 [3.1D]
C548 [3.1D]
C549 [3.2E]
C550 [2.4D]
C551 [2.2G]
C552 [2.2F]
C553 [3.2D]
C554 [3.2D]
C555 [3.2E]
C556 [2.4D]
C557 [2.2G]
C558 [2.2G]
C559 [2.1G]
C560 [3.2D]
C561 [3.1D]
C562 [2.2G]
C563 [2.3G]
C564 [3.5A]
C565 [2.4D]
C566 [2.1G]
C567 [2.2G]
C568 [2.4D]
C569 [2.4G]
C570 [2.4F]
C571 [2.1G]
C572 [3.5D]
C573 [3.5D]
C574 [3.5C]
C575 [2.3G]
C576 [2.2G]
C577 [2.4D]
C578 [2.4G]
C579 [2.3G]
C580 [2.1F]
C581 [2.3G]
C582 [2.2F]
C583 [2.4D]
C584 [2.2G]
C585 [2.4G]
C586 [2.3G]
C587 [2.3G]
C588 [2.3G]
C589 [2.3G]
C590 [12.5E]
C591 [2.4D]
C592 [2.5G]
C593 [2.2G]
C594 [2.3G]
C595 [7.4B]
C596 [2.4D]
C597 [9.3C]
C598 [7.4A]
C599 [7.4A]
C600 [7.4A]
C601 [7.4A]
C602 [10.2B]
C603 [2.4D]
C604 [9.2C]
C605 [2.4D]
C606 [2.5F]
C607 [2.3D]
C608 [9.3C]
C609 [12.4C]
C610 [6.4A]
C611 [6.4A]
C612 [6.4B]
C613 [2.3D]
C614 [9.3B]
C615 [12.5B]
C616 [10.3B]
C617 [12.4C]
C618 [9.3B]
C619 [6.4A]
C620 [6.4A]
C621 [2.3D]
C622 [9.2B]
C623 [2.5G]
C624 [2.3D]
C625 [12.5D]
C626 [2.5H]
C627 [12.4C]
C628 [2.5G]
C629 [9.2B]
C630 [2.3D]
C631 [2.3D]
C632 [2.3G]
C633 [12.4C]
C634 [9.2B]
C635 [2.1H]
C636 [2.3D]
C637 [2.3D]
C638 [2.2H]
C639 [2.3D]
C640 [2.3D]
C641 [9.3A]
C642 [2.2D]
C643 [2.2D]
C644 [2.2D]
C645 [13.4A]
C646 [13.4A]
C647 [2.2D]
C648 [13.4A]
C649 [13.3A]
C650 [2.2D]
C651 [2.2D]
C652 [13.4G]
C653 [13.4E]
C654 [13.4D]
C655 [14.3D]
C656 [14.4E]
C657 [13.3E]
C658 [2.1B]
C659 [13.4C]
C660 [13.3D]
C661 [14.3E]
C662 [13.3C]
C663 [13.3C]
C664 [2.1B]
C665 [7.5F]
C666 [14.3B]
C667 [7.5F]
C668 [14.3B]
C669 [7.4F]
C670 [7.4F]
C671 [9.3F]
C672 [6.5F]
C673 [6.4F]
C674 [6.4F]
C675 [7.4F]
C676 [7.4F]
C677 [9.3G]
C678 [7.5B]
C679 [6.5F]
C680 [6.4F]
C681 [6.4F]
CN1 [2.3C]
D1 [7.2E]
D2 [6.3E]
D3 [6.3E]
D4 [6.2E]
D5 [6.2E]
D6 [7.3E]
D7 [7.3E]
D8 [13.4E]
D9 [13.4G]
D501 [7.3E]
D502 [9.3F]
FS01 [14.3C]
G1 [2.3F]
G1 [3.3C]
G1 [6.4C]
G1 [7.4C]
G1 [9.4D 9.3D]
G1 [10.3F 10.2C 10.4C]
G1 [12.4D 12.2D 12.3D]
J1 [6.4H]
J2 [8.3E]
J3 [9.2H]
J4 [7.3G]
J5 [12.2G]
J501 [12.2A]
L1 [6.3F]
L2 [6.2F]
L3 [8.3D]
L4 [8.3D]
L5 [8.2D]
L6 [13.2D]
L7 [13.2D]
L8 [13.3G]
L9 [13.3G]
L10 [13.3G]
L501 [7.5F]
L502 [7.2F]
L503 [7.4F]
L504 [7.3F]
L505 [6.5F]
L506 [6.4F]
L507 [6.4F]
L508 [7.4F]
LB1 [14.3B]
LB2 [13.2G]
LB3 [13.2G]
LB4 [9.2B]
LB501 [3.5E]
LB502 [7.3A]
LB503 [6.3A]
LB504 [2.5H]
LB505 [9.2B]
LB506 [12.4B]
LB507 [9.3B]
LB508 [9.3F]
LB509 [7.4B]
M1 [4.2B 4.4D 4.3C]
M2 [5.2B 5.4D 5.3C]
M501 [4.4C 4.2D 4.3D]
M502 [5.4C 5.3D 5.2D]
MEC1 [11.2H]
MEC2 [11.2G]
MEC3 [11.3H]
MEC4 [11.3H]
MEC5 [11.3H]
MEC6 [11.3H]
MEC7 [11.2H]
Q1 [13.4F]
Q2 [13.3E]
Q3 [14.3F]
Q4 [13.4F]
Q5 [9.4B]
Q6 [9.4B]
Q501 [13.3B]
Q502 [14.3E]
Q503 [14.3D]
Q504 [13.5C]
Q505 [13.5C]
R1 [6.2E]
R2 [6.2E]
R3 [7.3E]
R4 [6.3E]
R5 [6.3E]
R6 [7.3E]
R7 [13.2D]
R8 [13.2D]
R9 [13.2D]
R10 [13.4F]
R11 [13.5B]
R12 [13.5B]
R13 [2.1D]
R14 [2.1D]
R15 [13.4G]
R16 [12.3G]
R17 [11.2B]
R18 [11.2A]
R19 [11.2B]
R20 [11.2A]
R21 [11.3B]
R22 [7.4C]
R23 [11.2B]
R24 [11.3B]
R25 [6.5D]
R26 [6.4D]
R27 [6.4D]
R28 [11.2A]
R29 [10.3D]
R30 [11.2B]
R31 [11.2A]
R32 [12.4C]
R33 [12.5C]
R34 [12.5E]
R35 [12.4E]
R36 [12.2C]
R37 [12.2C]
R38 [12.3F]
R39 [12.4F]
R40 [12.2B]
R41 [12.2B]
R42 [3.4F]
R43 [5.3C]
R44 [5.3C]
R45 [4.5C]
R46 [4.5B]
R47 [4.5B]
R48 [3.3D]
R49 [4.5B]
R50 [5.5B]
R51 [14.3F]
R52 [3.4E]
R53 [3.4E]
R54 [3.4E]
R55 [3.4E]
R501 [5.5C]
R502 [4.3C]
R503 [5.5B]
R504 [4.3C]
R505 [5.5B]
R506 [12.2B]
R507 [12.2B]
R508 [12.2B]
R509 [12.2B]
R510 [3.4D]
R511 [3.4D]
R512 [3.5A]
R513 [3.5A]
R514 [3.4D]
R515 [9.2C]
R516 [12.3E]
R517 [7.4D]
R518 [7.4D]
R519 [12.3E]
R520 [9.4C]
R521 [7.5D]
R522 [12.5F]
R523 [7.4B]
R524 [11.4B]
R525 [11.4A]
R526 [6.4B]
R527 [12.5C]
R528 [2.2D]
R529 [9.4C]
R530 [7.2D]
R531 [7.1D]
R532 [8.1D]
R533 [6.2D]
R534 [9.4A]
R535 [9.4B]
R536 [9.4B]
R537 [13.3B]
R538 [13.4B]
R539 [13.4D]
R540 [13.4F]
R541 [13.4E]
R542 [14.4F]
R543 [13.4C]
R544 [13.5E]
R545 [14.4F]
R546 [2.1D]
R547 [14.3F]
R548 [13.4C]
R549 [14.3D]
R550 [14.3F]
R551 [14.3D]
R552 [13.4B]
R553 [13.4B]
R554 [13.3E]
R555 [14.2E]
R556 [14.3E]
R557 [13.3D]
R558 [13.3C]
R559 [13.5C]
R560 [7.5D]
R561 [7.4D]
R562 [7.4D]
R563 [7.5E]
R564 [7.5A]
R565 [6.2E]
R566 [7.5A]
R567 [6.5D]
R568 [6.4D]
R569 [6.4D]
R570 [7.2E]
R571 [7.4E]
R572 [7.5E]
R573 [7.4E]
R574 [7.4E]
R575 [7.5E]
R576 [6.3E]
R577 [7.5E]
R578 [7.4E]
R579 [7.4E]
R580 [9.3E]
R581 [9.3F]
R582 [7.3E]
R583 [7.2E]
R584 [7.2E]
RP1 [3.3G 3.4G 3.4G 3.2G]
RP2 [3.3G 3.3G 3.3G 3.3G]
RP3 [3.2G 3.2G 3.2G 3.2G]
RP4 [3.4G 3.2G 3.2G 3.4G]
RP5 [3.2G 3.2G 3.3G 3.3G]
RP6 [3.3G 3.3G 3.4G 3.3G]
RP7 [3.3G 3.2G 3.2G 3.3G]
RP8 [3.2G 3.3G 3.2G 3.3G]
RP9 [3.2G 3.3G 3.4G 3.2G]
RP10 [3.2G 3.3G 3.2G 3.2G]
RP11 [3.4G 3.4G 3.3G 3.3G]
RP12 [3.3G 3.4G 3.4G 3.3G]
TP501 [3.3D]
TP502 [3.3D]
TP503 [3.3D]
TP504 [3.3D]
TP505 [3.4D]
TP506 [3.3D]
TP508 [12.2C]
TP509 [12.2C]
TP510 [9.2C]
U1 [14.3B]
U2 [12.3G]
U501 [12.4G]
U502 [14.4F]
U503 [13.4D]
U504 [6.3D 6.3D]
U504 [7.3D 7.3D]
U505 [7.5E 7.4E 7.4E 7.5E 7.5B]
Y1 [12.4D]
Y501 [12.5D]

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	<edit here to insert page detail>

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.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-10413-xxxx-000 A		
ID		PAGE	
NAME	<ENGINEER>	DATE	02-OCT-2006