

M38A - DVT

06/22/06

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

REV	ZONE	ECN	DESCRIPTION OF CHANGE	CK APPD	ENG APPD
				DATE	DATE
13		445818	ENGINEERING RELEASED	06/22/06	06/22/04

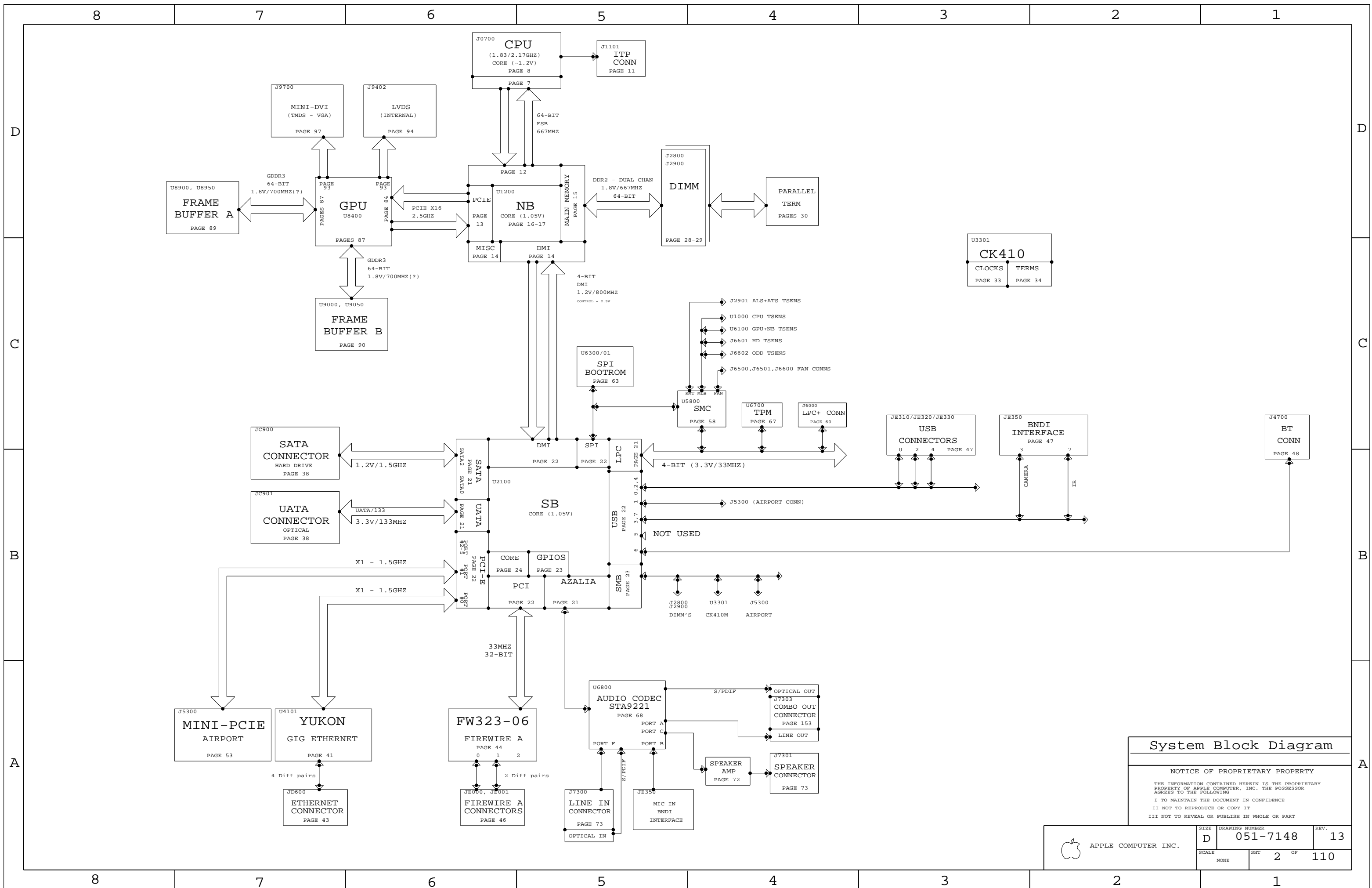
PAGE	DRI	PDF	CIRCUIT
1	JD	JD 1	TABLE OF CONTENTS
2	JD	JD 2	SYSTEM BLOCK DIAGRAM
3	RT	RT 3	POWER BLOCK DIAGRAM
4	JD	JD 4	TABLE ITEMS & REVISION HISTORY
5	JD	JD 5	FUNC TEST
6	RT	RT 6	POWER CONNECTOR / POWER ALIAS
(M42) 7	MS	JD 7	CPU - BUS INTERFACE
(M42) 8	MS	JD 8	CPU - PWR & GND
9	MS	JD 9	CPU - DECAPS
(M42) 10	MS	JD 10	CPU - THERMAL SENSOR
M42 11	MS	JD 11	CPU - ITP CONN
M1 12	PS	JH 12	NB - CPU INTERFACE
M1 13	PS	JH 13	NB - VIDEO INTERFACE
14	PS	JH 14	NB - MISC INTERFACES
M1 15	PS	JH 15	NB - DDR2 INTERFACE
M1 16	PS	JH 16	NB - POWER 1
M1 17	PS	JH 17	NB - POWER 2
M1 18	PS	JH 18	NB - GROUNDS
19	PS	JH 19	NB - DECAPS
M1 20	PS	JH 20	NB - CONFIG STRAPS
21	JD	JD 21	SB - RTC, LAN, AUDIO, ATA, CPU, LPC
22	JD	JD 22	SB - PCIE, SPI, USB, DMI, PCI
23	JD	JD 23	SB - SMB, GPIO, PM, CLKS
24	JD	JD 24	SB - POWERS AND GROUNDS
25	JD	JD 25	SB - DECAPS
26	JD	JD 26	SB - MISC
27	JD	JD 27	SB - SMB BUS CONNECTIONS
28	PS	JD 28	DDR2 - SO-DIMM CONN A
29	PS	JD 29	DDR2 - SO-DIMM CONN B (REVERSED)
30	PS	JD 30	DDR2 - TERMINATION
M1 31	RT	RT 31	DDR2 - VTT SUPPLY
M42 33	JD	JD 32	CLOCKS - GENERATOR
34	JD	JD 33	CLOCKS - TERMINATIONS
38	JD	JD 34	ATA (SATA AND IDE) CONN'S
(M42) 41	JD	JD 35	LAN - YUKON'S PCIE INTERFACE
42	JD	JD 36	LAN - YUKON'S PWR, MISC
43	JD	JD 37	LAN - CONN
44	JD	JD 38	FIREWIRE - FW323-06
45	JD	JD 39	FIREWIRE - DECAPS
46	JD	JD 40	FIREWIRE - CONN'S
47	JD	JD 41	USB - CONN'S

PAGE	DRI	PDF	CIRCUIT
53	JD	JD 43	PCI-E - AIRPORT MINI-PCIE CONN
54	JD	JD 44	PCI-E - UNUSED PORTS
58	MS	MS 45	SMC - H8S2116
59	MS	MS 46	SMC - SMB BUSSES, MISC
60	MS	MS 47	SMC - LPC+ CONN
61	JH	JH 48	SMC - GPU/NB THERMAL SENSOR
RX 63	MS	JD 49	SMC - SPI BOOTROM
65	MS	MS 50	SMC - FANS
66	MS	MS 51	SMC - FANS
67	JD	JD 52	SMC - TPM
SO 68	PT	JD 53	AUDIO - CODEC, VREG, MIC BIAS
SO 72	PT	JD 54	AUDIO - INTERNAL SPEAKER AMP
SO 73	PT	JD 55	AUDIO - I/O CONN'S, EMC
SO 74	PT	JD 56	AUDIO - DETECT TRANSLATORS
RP 75	RT	RT 57	VR - CPU CORE
RP 76	RT	RT 58	VR - CPU I-V SENSE CKT
RP 77	RT	RT 59	VR - "S0" 1.2V & 2.5V (GRAFIX)
RP 78	RT	RT 60	VR - "S0" 1.8V
RP 79	RT	RT 61	VR - "S3" 1.8V
RP 80	RT	RT 62	VR - "S0" 1.5V
RP 81	RT	RT 63	VR - "S0" 1.05V
RP 83	RT	RT 64	VR - "S3" 3.3V AND 5V
JH 84	JH	JH 65	GPU - M56 PCI-E
M1 85	JH	JH 66	GPU - VCORE SUPPLY
M1 86	JH	JH 67	GPU - M56 CORE PWR
M1 87	JH	JH 68	GPU - M56 FRAME BUFFER
M1 88	JH	JH 69	GPU - MISC
M1 89	JH	JH 70	GPU - GDDR SDRAM A
M1 90	JH	JH 71	GPU - GDDR SDRAM B
M1 91	JH	JH 72	GPU - M56 GPIO, DVO, MISC
M1 92	JH	JH 73	GPU - M56 CLOCKS
M1 93	JH	JH 74	GPU - M56 VIDEO INTERFACES
JH 94	JH	JH 75	GPU - INTERNAL DISPLAY CONN'S
JH 95	JH	JH 76	GPU - TP'S
JH 96	JH	JH 77	GPU - TMDS, INVERTER, EXT VGA
JH 97	JH	JH 78	GPU - EXTERNAL DISPLAY CONN'S

<p style="font-size: small;">DIMENSIONS ARE IN MILLIMETERS</p> <p>XX : _____</p> <p>X.XX : _____</p> <p>X.XXX : _____</p> <p>ANGLES : _____</p> <p style="text-align: center;">DO NOT SCALE DRAWING</p> <div style="text-align: center;"> <p style="font-size: x-small;">THIRD ANGLE PROJECTION</p> </div>	<p>METRIC</p>	<p>Apple Computer Inc.</p>
<p>DRAPTER <input type="checkbox"/> DESIGN CK <input type="checkbox"/></p> <p>ENG APPD <input type="checkbox"/> MFG APPD <input type="checkbox"/></p> <p>QA APPD <input type="checkbox"/> DESIGNER <input type="checkbox"/></p> <p>RELEASE <input type="checkbox"/> SCALE <input type="checkbox"/></p> <p style="text-align: center;">MATERIAL/FINISH NOTED AS APPLICABLE</p>		<p>NOTICE OF PROPRIETARY PROPERTY</p> <p>THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING</p> <p>I TO MAINTAIN THE DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART</p>
		<p>TITLE</p> <p style="font-size: large;">SCH, MLB, M38A</p>
		<p>DRAWING NUMBER 051-7148 REV. 13</p> <p style="font-size: x-small;">SHT 1 OF 110</p>

D
C
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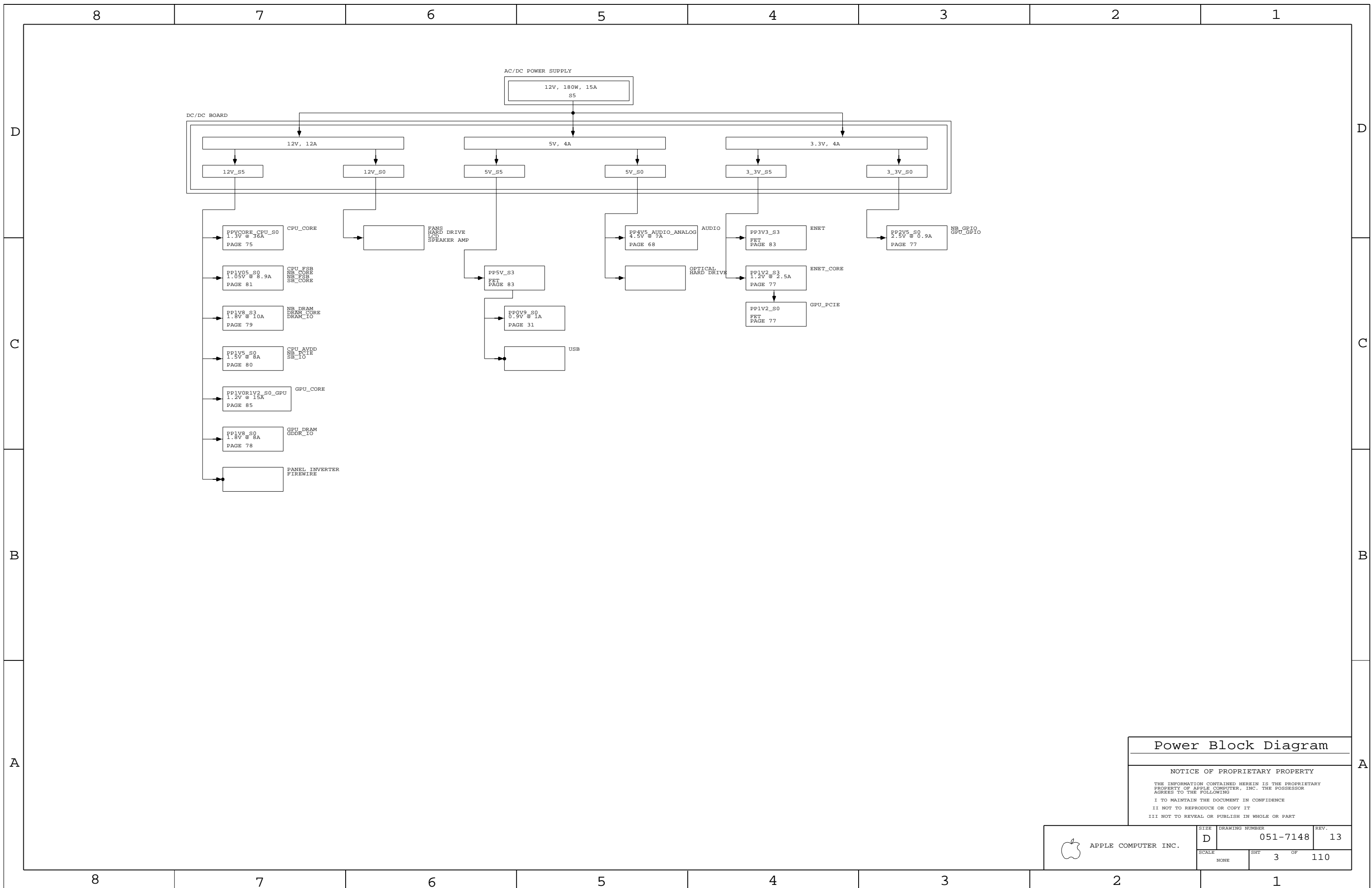
System Block Diagram

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	D	051-7148	13
SCALE	SHT	OF	
NONE	2	110	



Power Block Diagram

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	SCALE NONE	SHEET 3	OF 110

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COMMON

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
511S0025	1	IC,CPU-SKT,479BGA	J0700	CRITICAL	
338S0328	1	IC,945PM,NORTHBRIDGE	U1200	CRITICAL	
343S0385	1	IC,SB,652BGA	U2100	CRITICAL	
338S0344	1	IC,ATI,M56P,GRAFIXCTLR,880BGA,LF	U8400	CRITICAL	
359S0101	1	IC,CY28445-5,CLK GEN,68PIN QFP	U3301	CRITICAL	
338S0270	1	IC,88E8053,GIGABIT ENET XCVR,64P QFN,SMD	U4101	CRITICAL	
(335S0382) 341S1797	1	IC,ENET LAN ROM	U4102	CRITICAL	
338S0279	1	IC,FW32306,1394A LINK,TQFP	U4400	CRITICAL	

341S1789	1	IC,TPM,TSSOP,28P	U6700	CRITICAL	LEMENU
UNSCREENED P/N 353S1465	1	IC,CPU VREG,IMVP,TWO PHASE	U7500	CRITICAL	

128S0078	3	CAP,EL,AL,330UF,20V,16V,10X12.7MM,SMD,LF	C7517,C7518,C7910	CRITICAL	
825-6447	1	MLB LABEL,48.0X4.8	X14	CRITICAL	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
126S0096	126S0076		C7801	SANYO W16CK680EX 680UF 16V LP
126S0086	126S0078		C699,C940,C1900,C1901,C1968	SANYO W6CE330F8 330UF 6.3V LP
128S0080	128S0078		C7517,C7518,C7910	SANYO 16SVV330W 330UF 16V SMD LP
124-0338	124-0333		C7501,C8014	CAP,AL,EL,680UF,16V,RAD,10X12.5MM
138S0580	138S0552			22UF 0805
353S1321	353S1105		U7910	LM339
378S0141	378S0140		LED#01,LED#02,LED#03	SMD
353S1461	353S1465		U7500	CPU REGULATOR - ISL9504

(341S1908 - DEVEL)
(341S1909 - FINAL)
(335S0384 - BLNK)

(341S1907 - PROG)
(338S0274 - BLNK)

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-7148	1	PCB,SCHM,MLB,M38A	SCH1		17_INCH_LCD
820-2052	1	PCB,FAB,MLB,M38A	MLB1		17_INCH_LCD
341T0040	1	EFI ROM,M38A	U6301	CRITICAL	17_INCH_LCD
114S0264	1	3.01K,1%,1/16W,402,MF-LF	R8522		GPU_VCORE_1P2V
341T0039	1	IC,SMC,M38A	U5800	CRITICAL	17_INCH_LCD
338S0315	1	IC,ATI,M56LP,GRAFIX CTLR,880BGA,LF	U8400	CRITICAL	GPU_B26_LP
114S0287	1	5.11K,1%,1/16W,402,MF-LF	R8522		GPU_VCORE_0P953V
114S0281	1	4.53K,1%,1/16W,402,MF-LF	R8522		GPU_VCORE_1P0V
337S3299	1	2.00GHZ MEROM	CPU	CRITICAL	2P00_CPU
337S3293	1	2.16GHZ MEROM	CPU	CRITICAL	2P16_CPU

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
333S0354	4	IC,SURAM,GDDR3,8MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_128M_SAMSUNG
333S0358	4	IC,SURAM,GDDR3,8MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_128M_HYNIX
333S0376	4	IC,SURAM,GDDR3,8MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_128M_INFINEON

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
333S0350	4	IC,SURAM,GDDR3,16MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_256M_SAMSUNG
333S0351	4	IC,SURAM,GDDR3,16MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_256M_HYNIX
333S0377	4	IC,SURAM,GDDR3,16MX32,700MHZ,136FBGA	U8900,U8950,U9000,U9050	CRITICAL	ATI_FB_256M_INFINEON

Table Items

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SIZE	DRAWING NUMBER	REV.
D	051-7148	13
SCALE	SHT	OF
NONE	4	110

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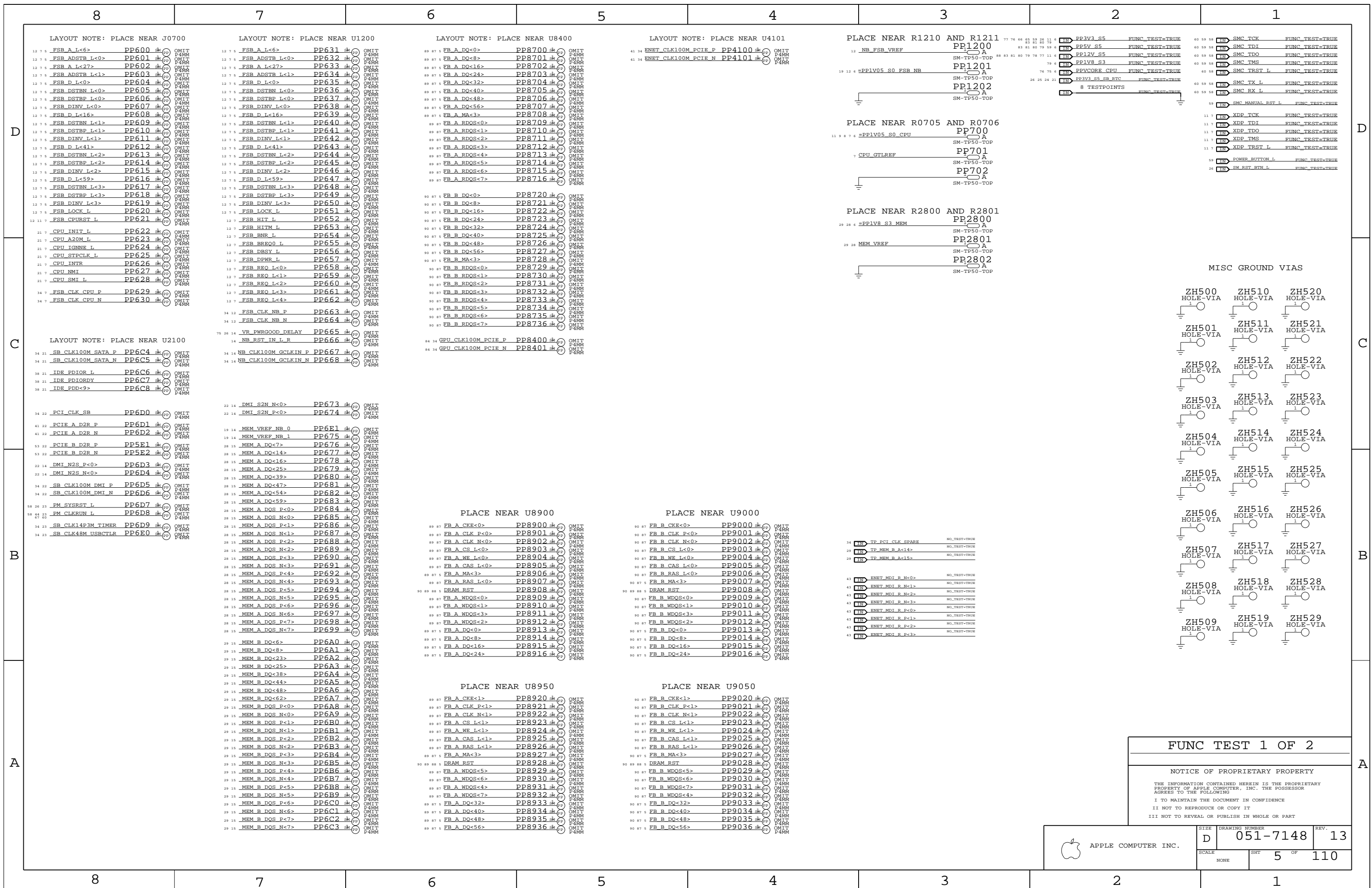
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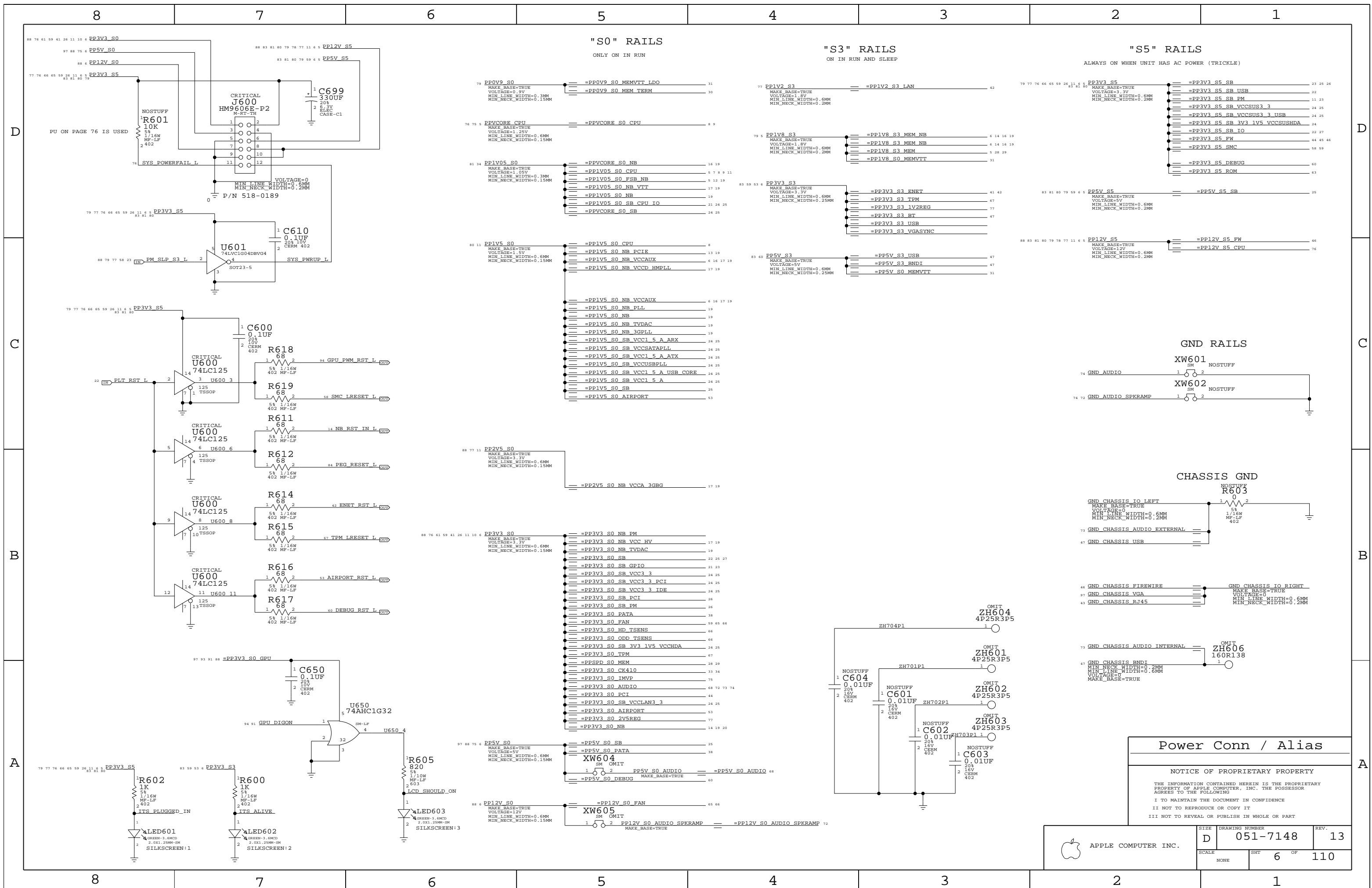


FUNC TEST 1 OF 2

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SCALE	SHEET	OF	
NONE	5	110	



"S0" RAILS

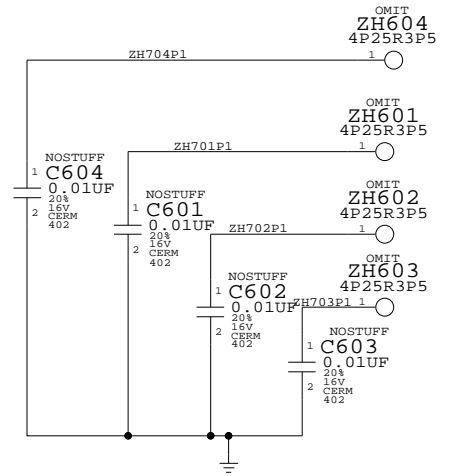
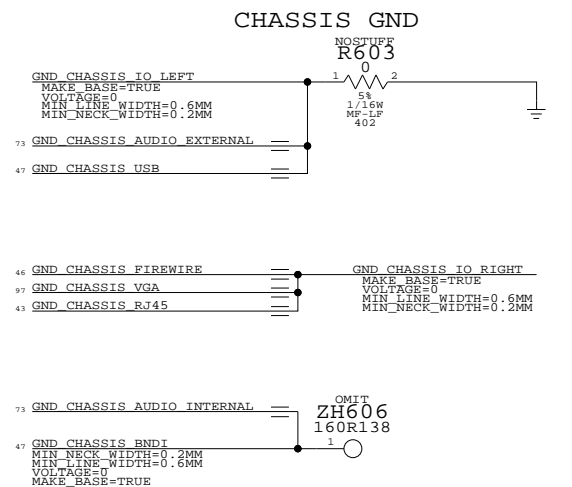
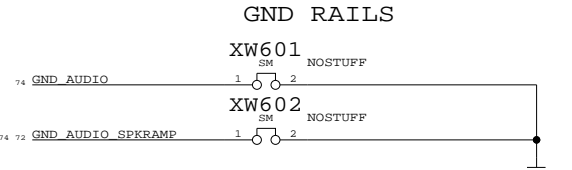
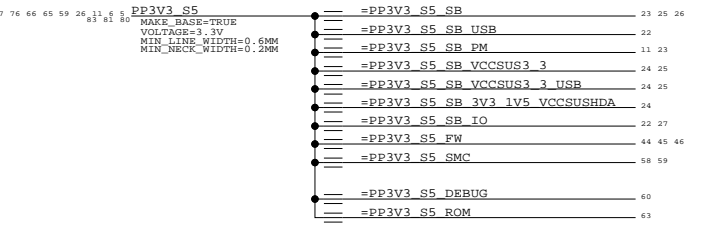
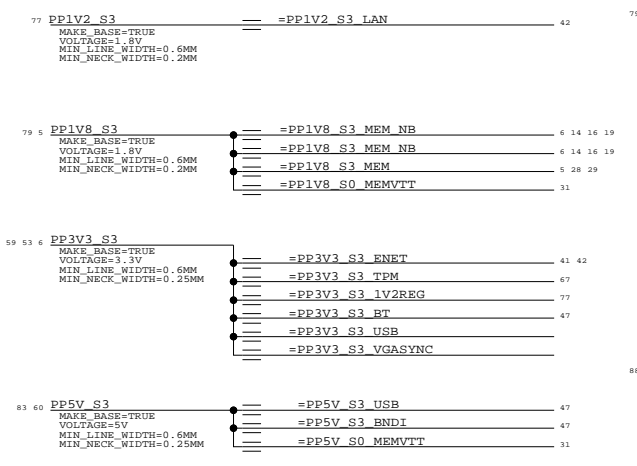
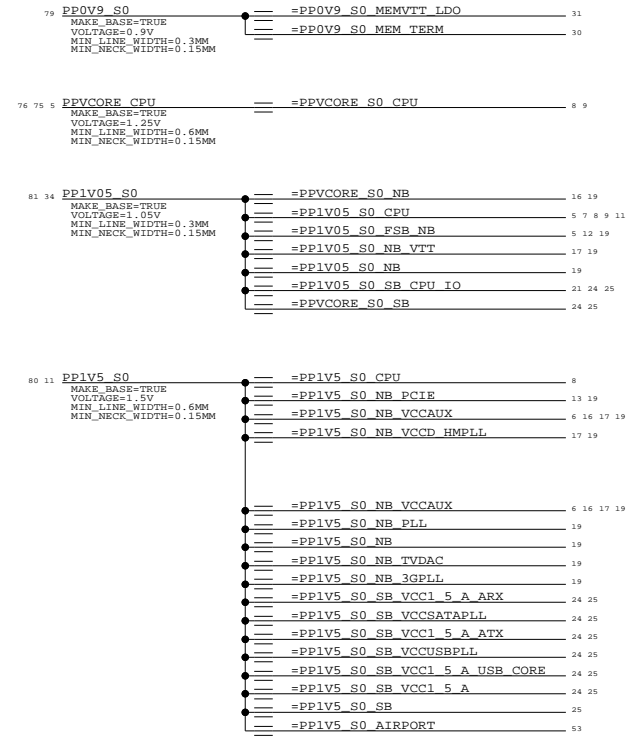
ONLY ON IN RUN

"S3" RAILS

ON IN RUN AND SLEEP

"S5" RAILS

ALWAYS ON WHEN UNIT HAS AC POWER (TRICKLE)



Power Conn / Alias

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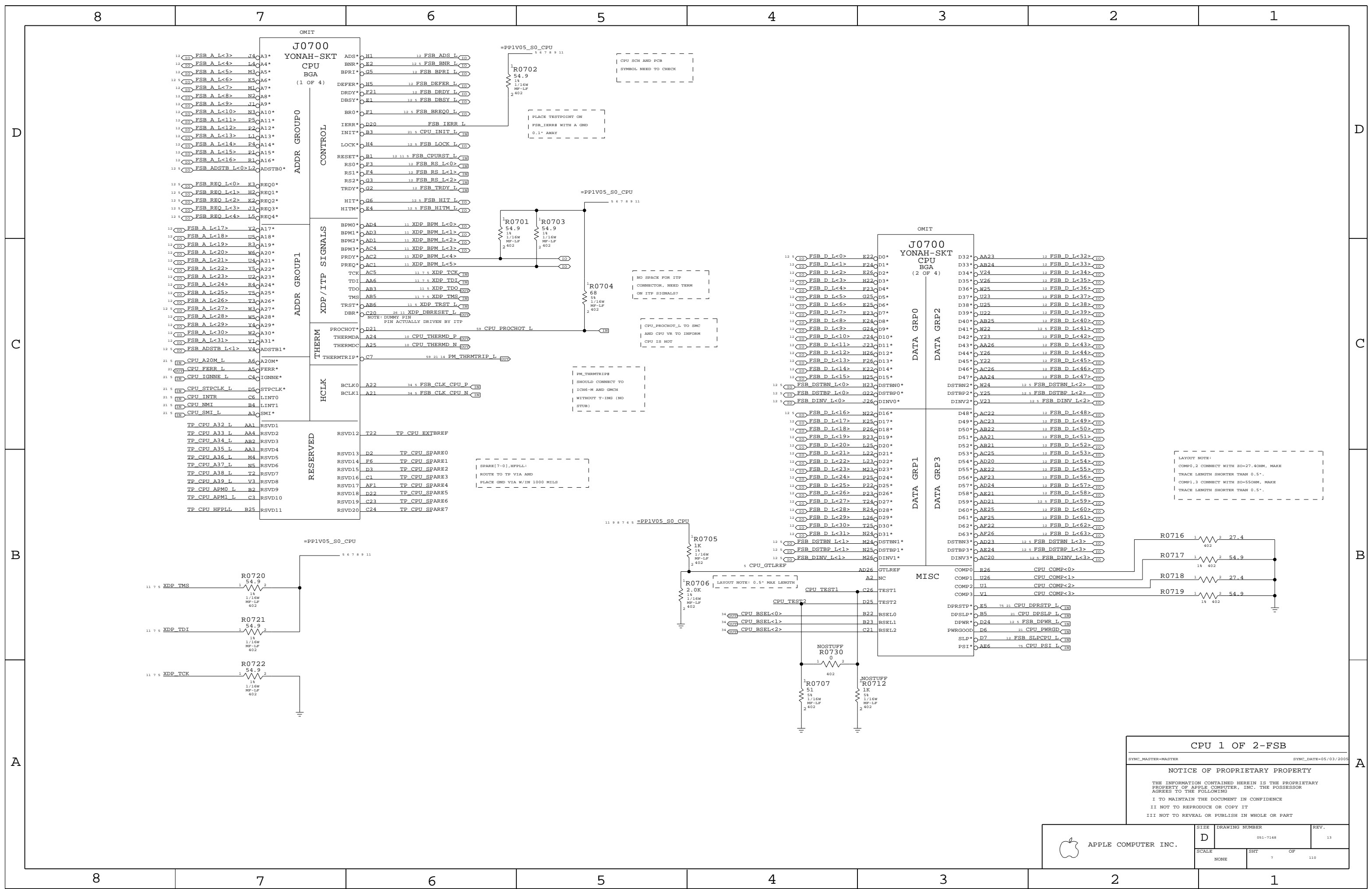
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SCALE	SHT	OF	
NONE	6	110	



CPU 1 OF 2-FSB

SYNC_MASTER=MASTER SYNC_DATE=05/03/2005

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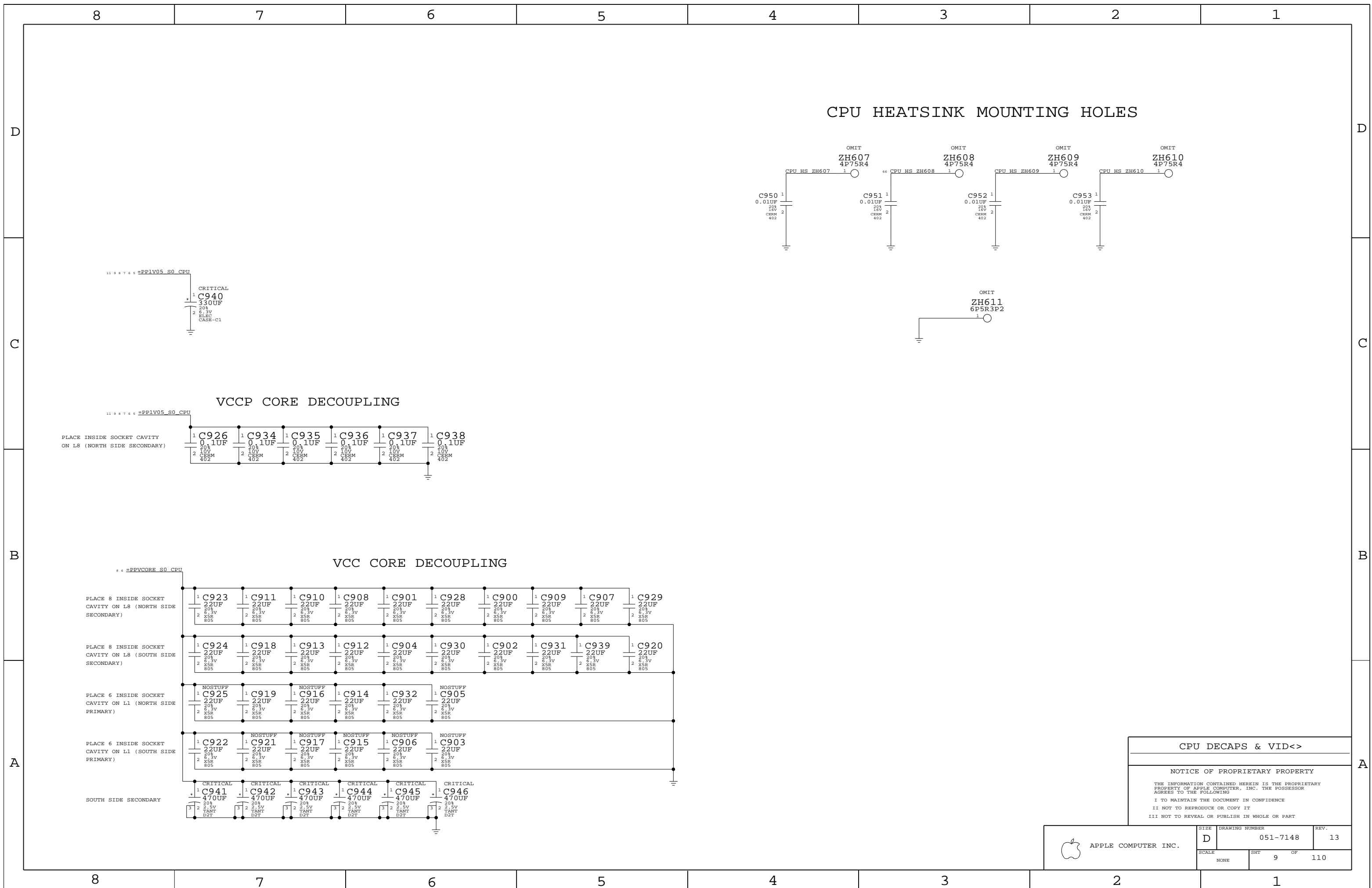
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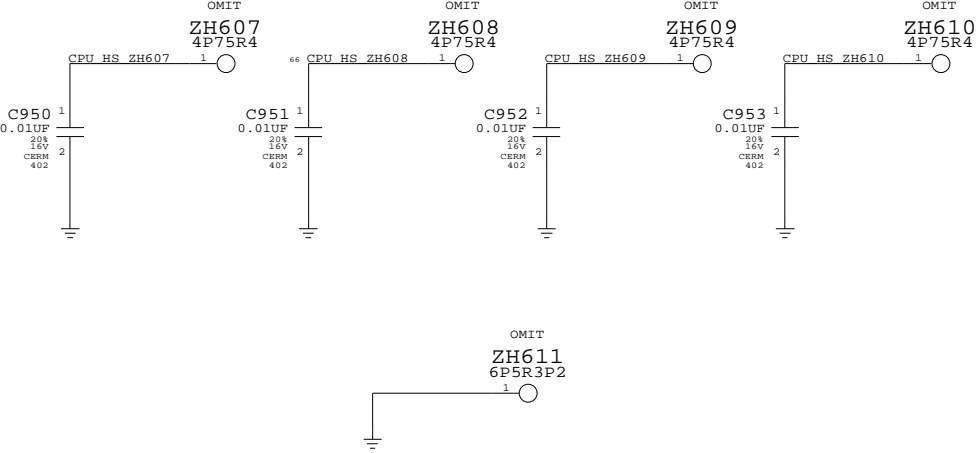
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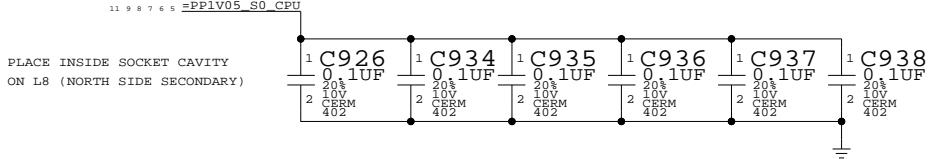
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SCALE		SHT	OF
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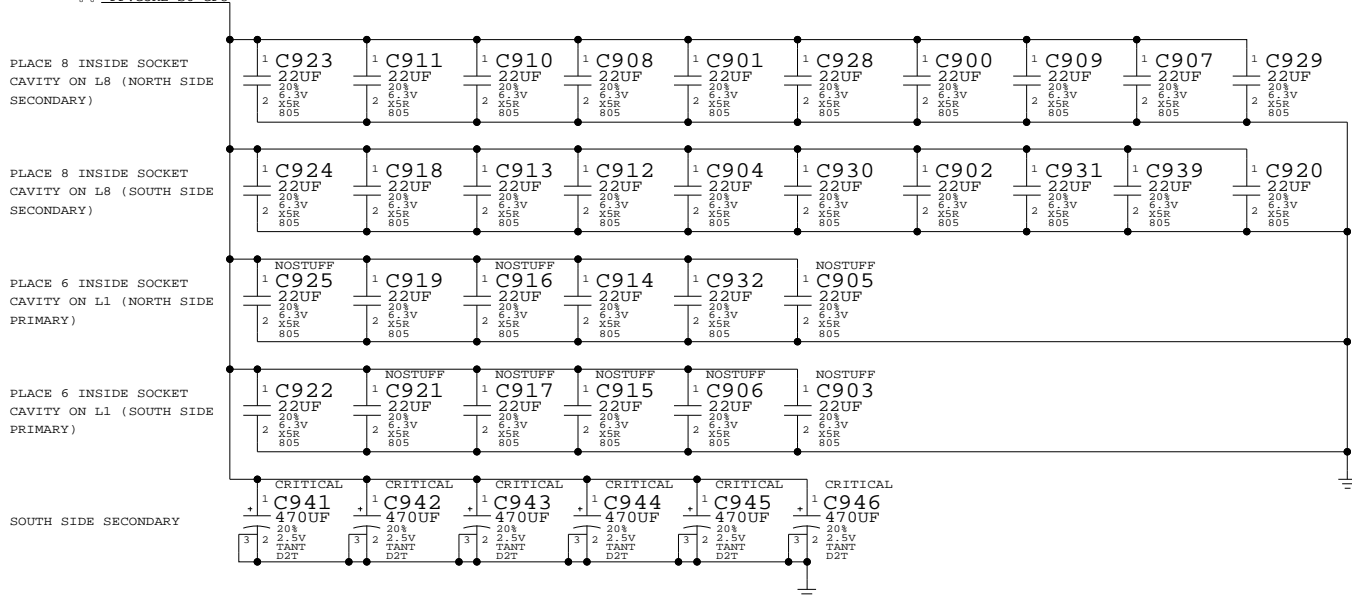
CPU HEATSINK MOUNTING HOLES



VCCP CORE DECOUPLING



VCC CORE DECOUPLING



CPU DECAPS & VID<>

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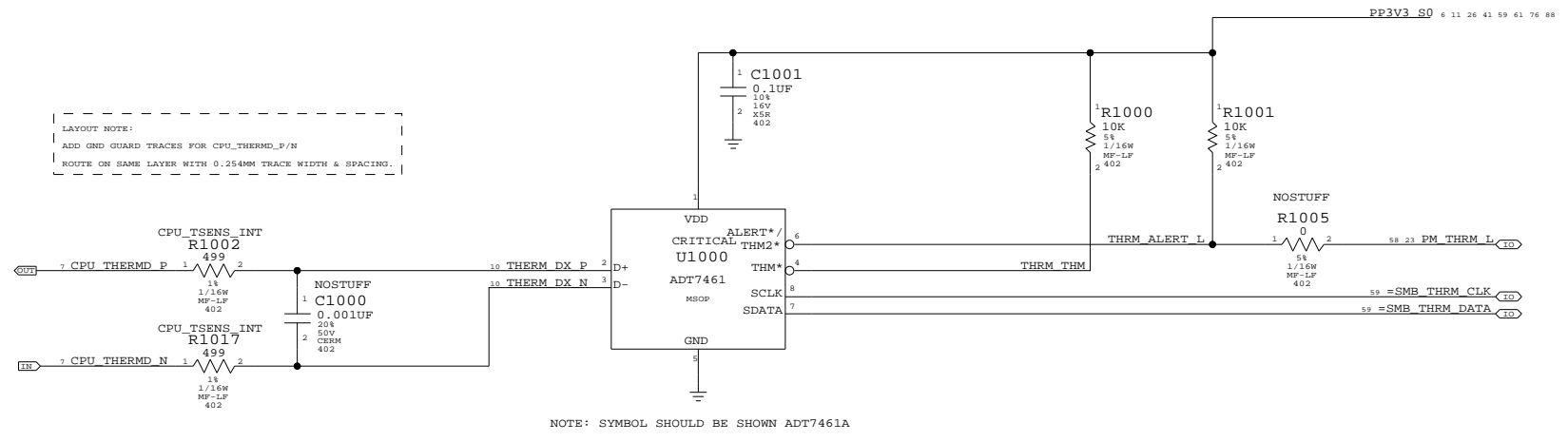
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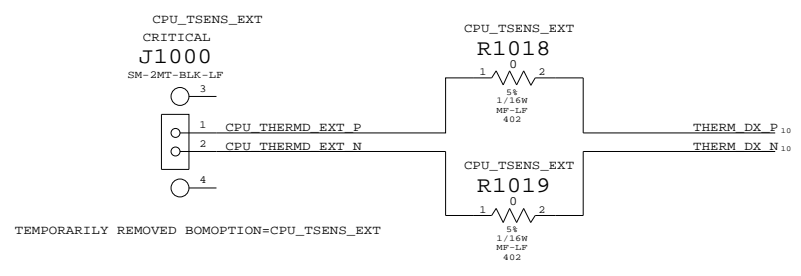
CPU THERMAL SENSOR

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

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



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



CPU TEMP SENSOR

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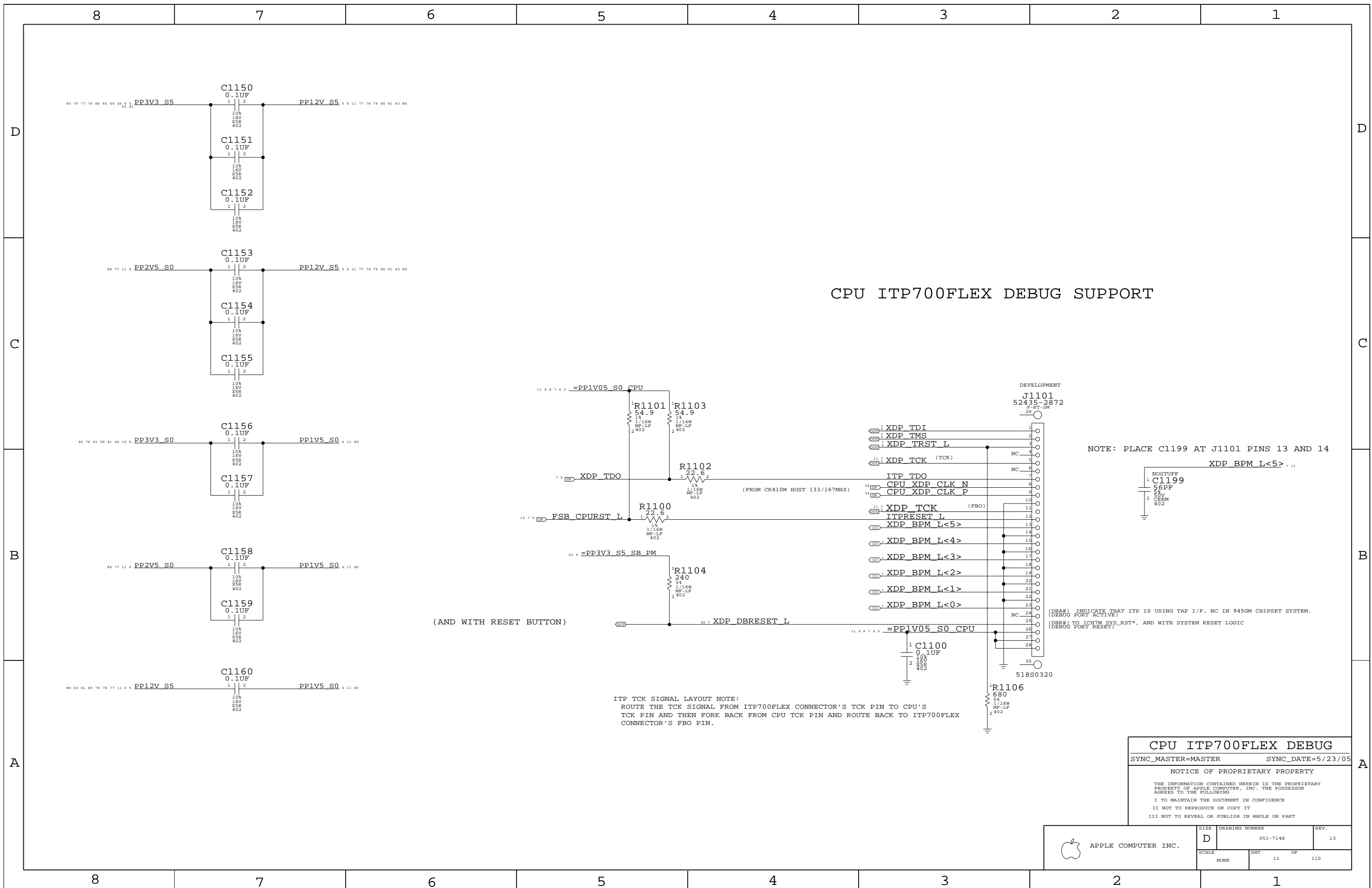
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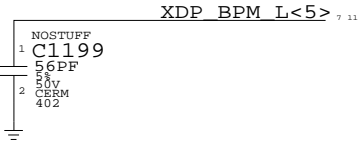
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	D	051-7148	13
SCALE	SHT OF		
NONE	10 OF 110		



CPU ITP700FLEX DEBUG SUPPORT

NOTE: PLACE C1199 AT J1101 PINS 13 AND 14



(DBA#) INDICATE THAT ITP IS USING TAP I/F, NC IN 945GM CHIPSET SYSTEM.
 (DBG#) TO ICH7M SYS_RST*, AND WITH SYSTEM RESET LOGIC
 (DBG#) TO ICH7M SYS_RST*, AND WITH SYSTEM RESET LOGIC
 (DBG#) TO ICH7M SYS_RST*, AND WITH SYSTEM RESET LOGIC

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

(AND WITH RESET BUTTON)

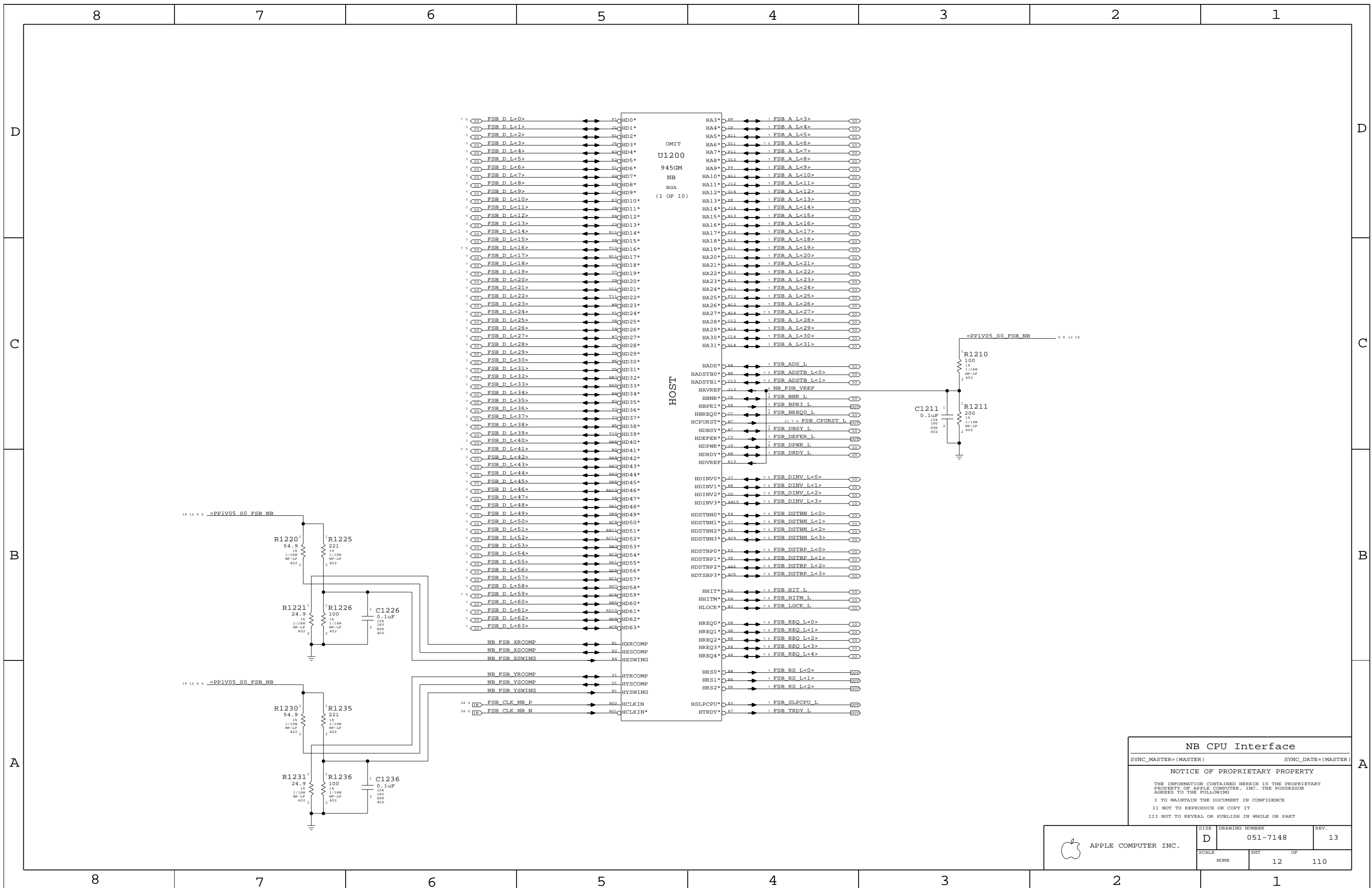
CPU ITP700FLEX DEBUG

SYNC_MASTER=MASTER SYNC_DATE=5/23/05

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SCALE	SHT	OF	110
NONE	11		



NB CPU Interface

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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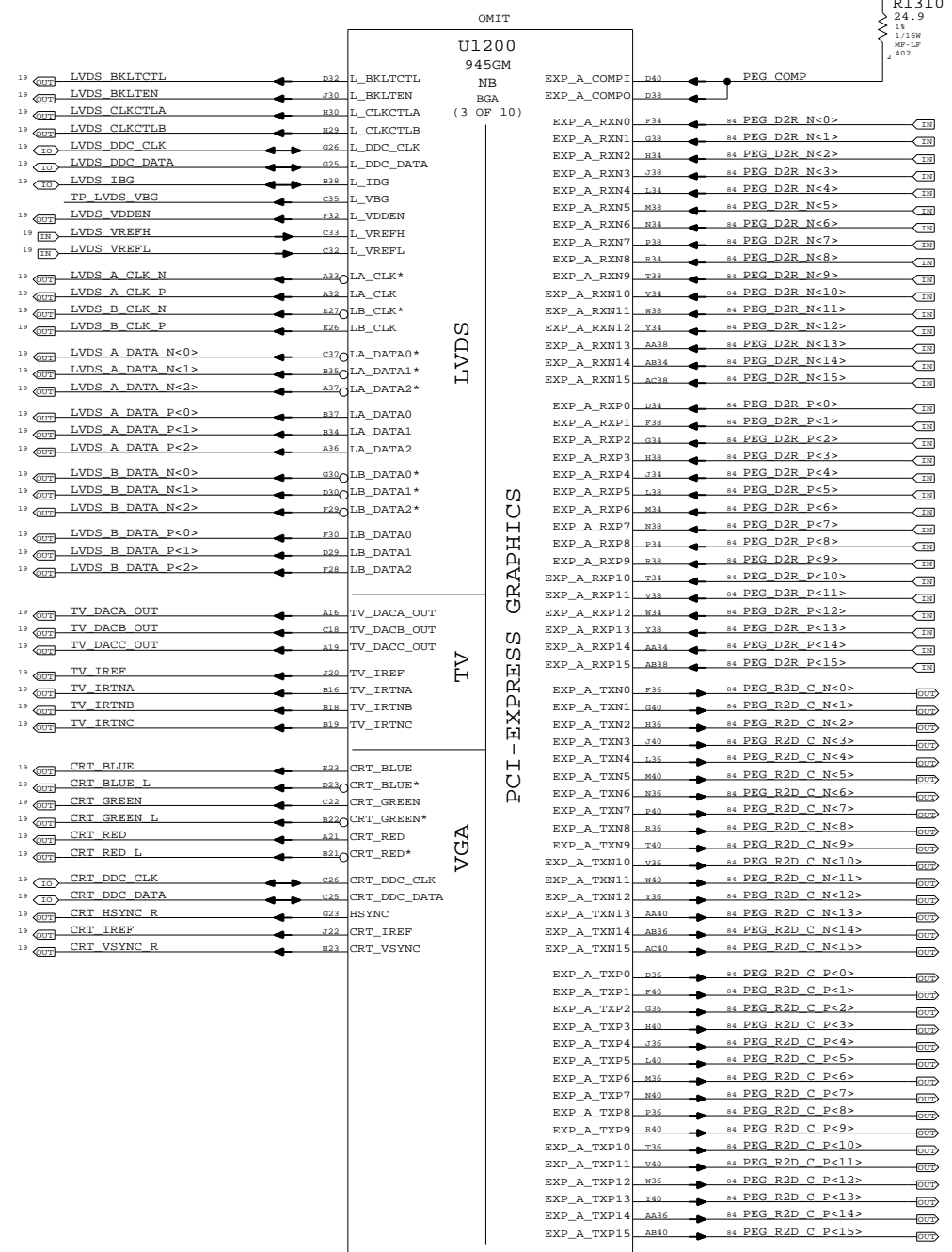
LVDS Disable
 Can leave all signals NC if LVDS is not implemented
 Tie VCC_TXLVDS and VCCA_LVDS to GND. If SDVO is used
 VCCD_LVDS must remain powered with proper decoupling.
 Otherwise, tie VCCD_LVDS to GND also.

TV-Out Signal Usage:
 Composite: DACA only
 S-Video: DACB & DACC only
 Component: DACA, DACB & DACC

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

TV-Out Disable
 Tie DACx_OUT, IRTNx, and IREF to 1.5V power rail.
 Tie VCCD_TVDAC, VCCD_QTVDAC, VCCA_TVDACx, and
 VCCA_TVVBG to 1.5V power rail. Tie VSSA_TVVBG to GND.

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



SDVO Alternate Function

SDVO_TVCLKIN#
 SDVO_INT#
 SDVO_FLDSTALL#

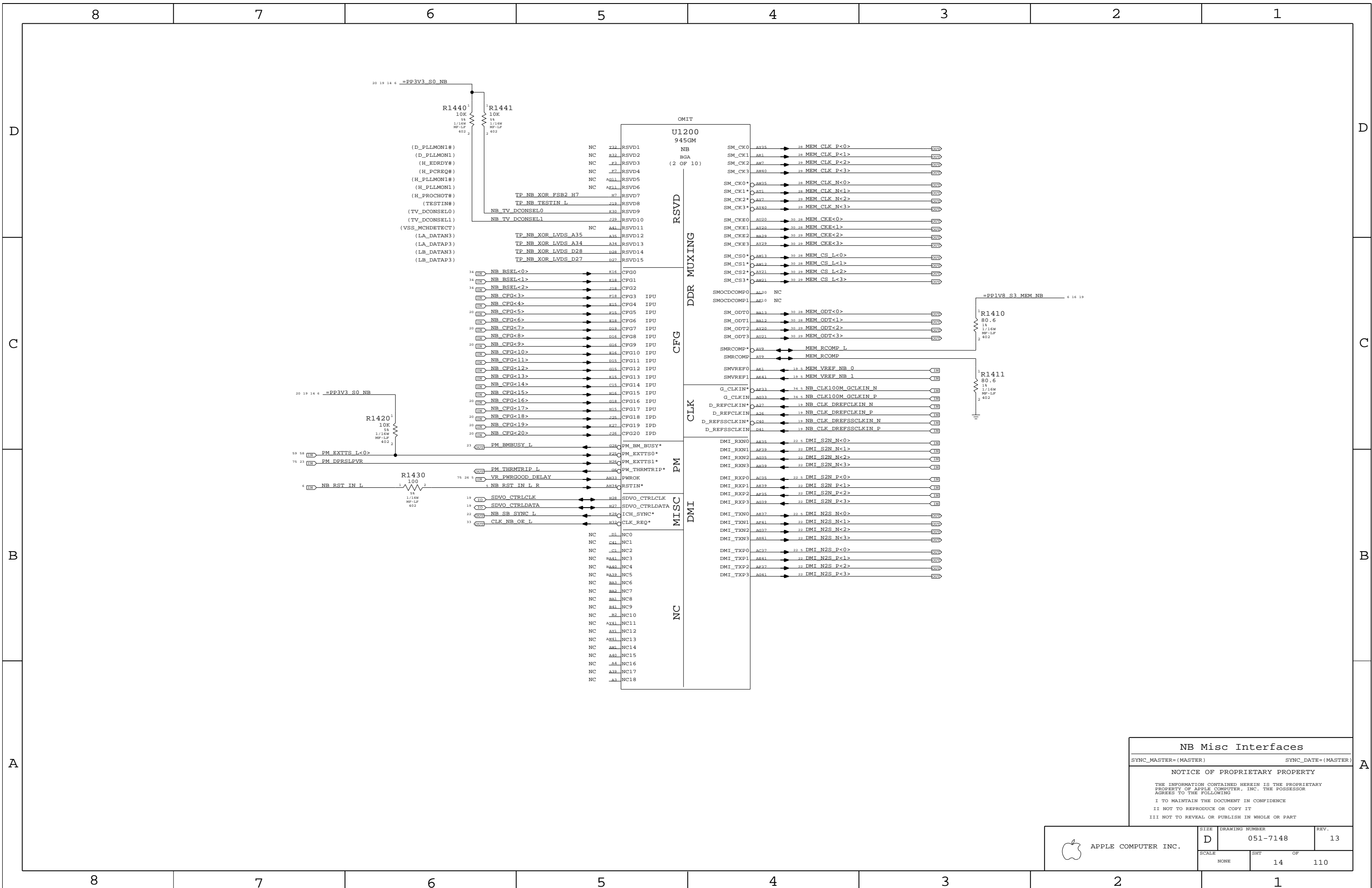
SDVO_TVCLKIN
 SDVO_INT
 SDVO_FLDSTALL

SDVOB_RED#
 SDVOB_GREEN#
 SDVOB_BLUE#
 SDVOB_CLKN
 SDVOC_RED#
 SDVOC_GREEN#
 SDVOC_BLUE#
 SDVOC_CLKN

SDVOB_RED
 SDVOB_GREEN
 SDVOB_BLUE
 SDVOB_CLKP
 SDVOC_RED
 SDVOC_GREEN
 SDVOC_BLUE
 SDVOC_CLKP

NB PEG / Video Interfaces
 SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT OF		
NONE	13		110



NB Misc Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

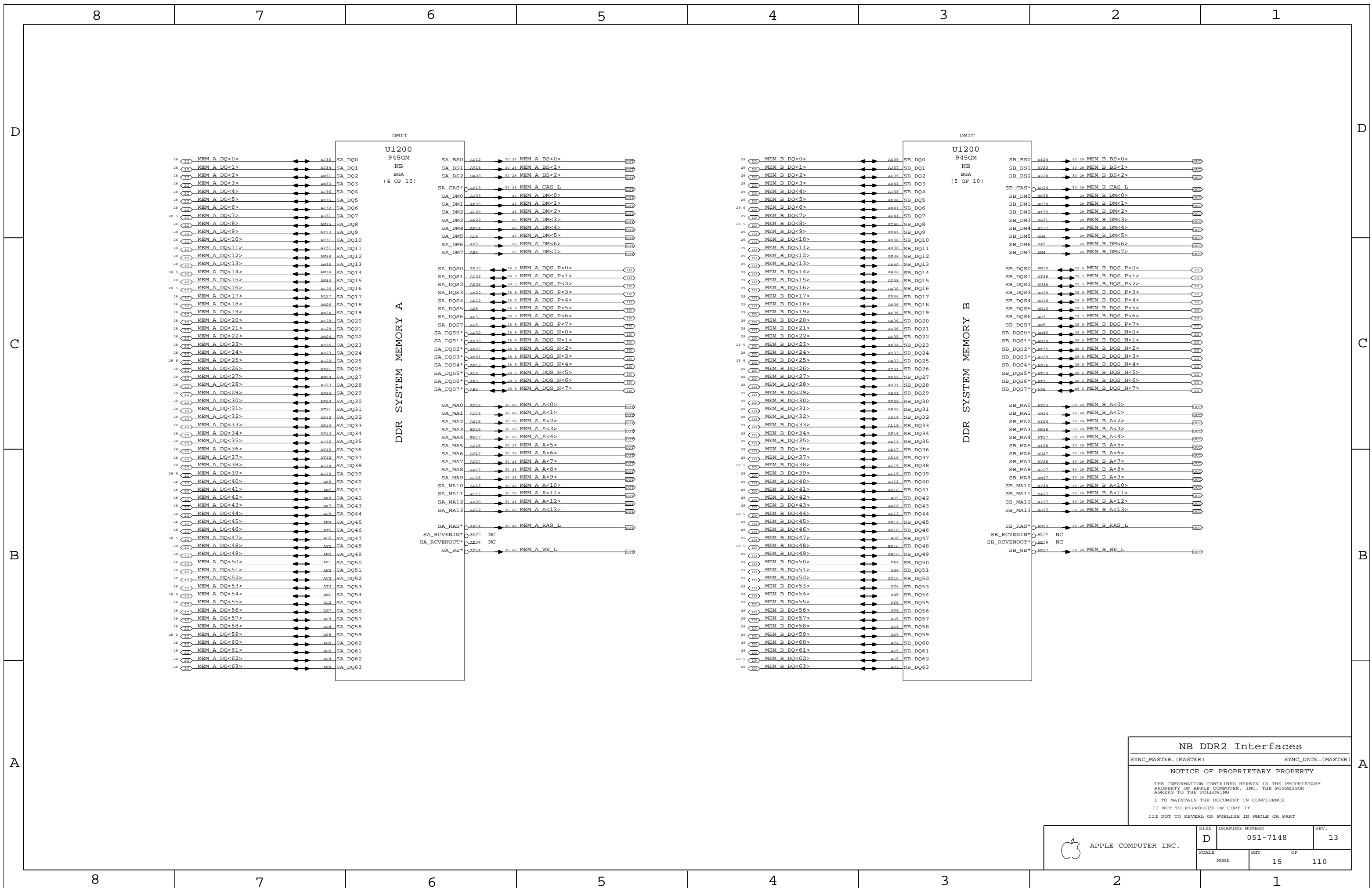
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	SCALE NONE	SHEET 14	OF 110



NB DDR2 Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

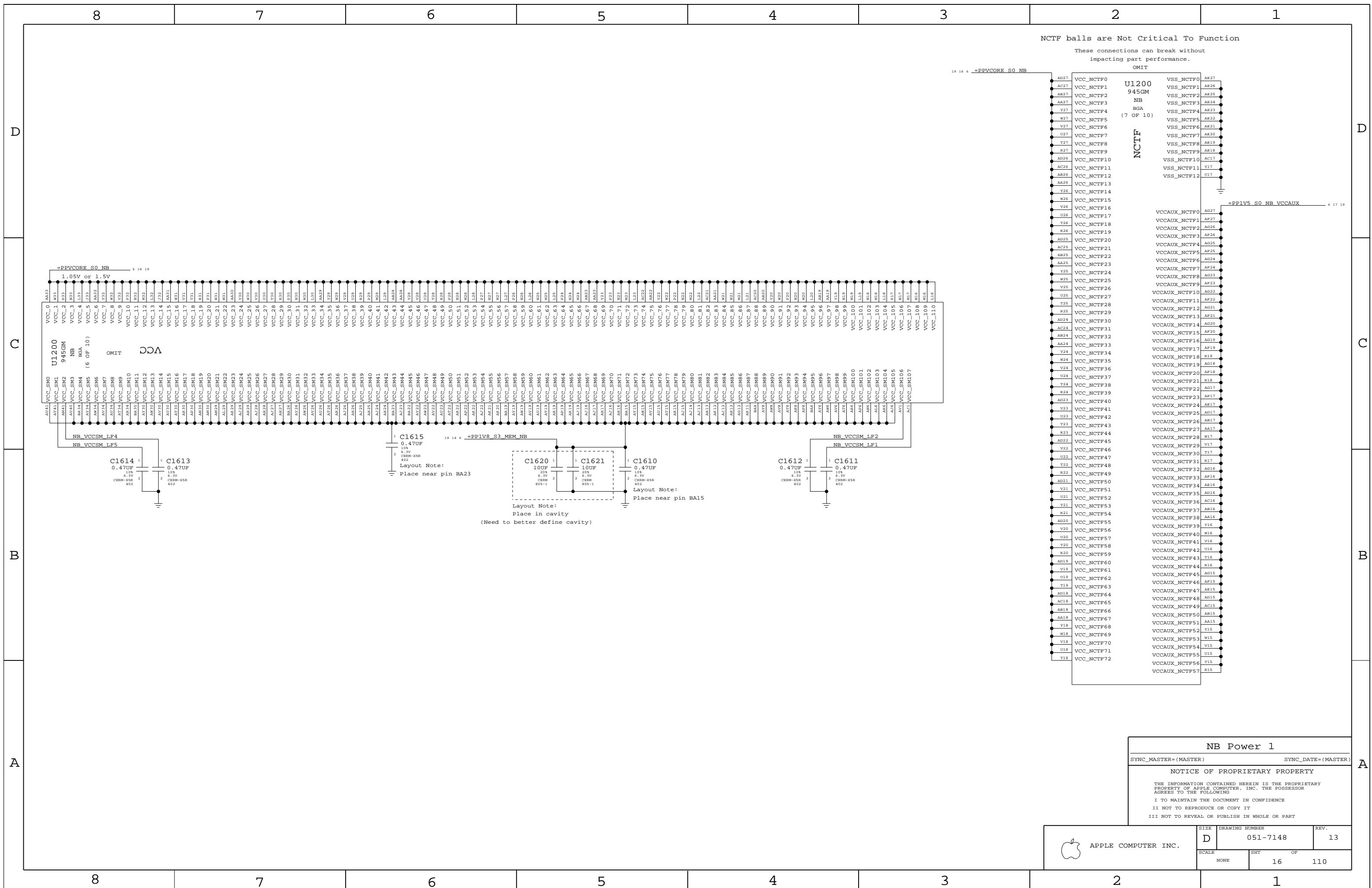
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING

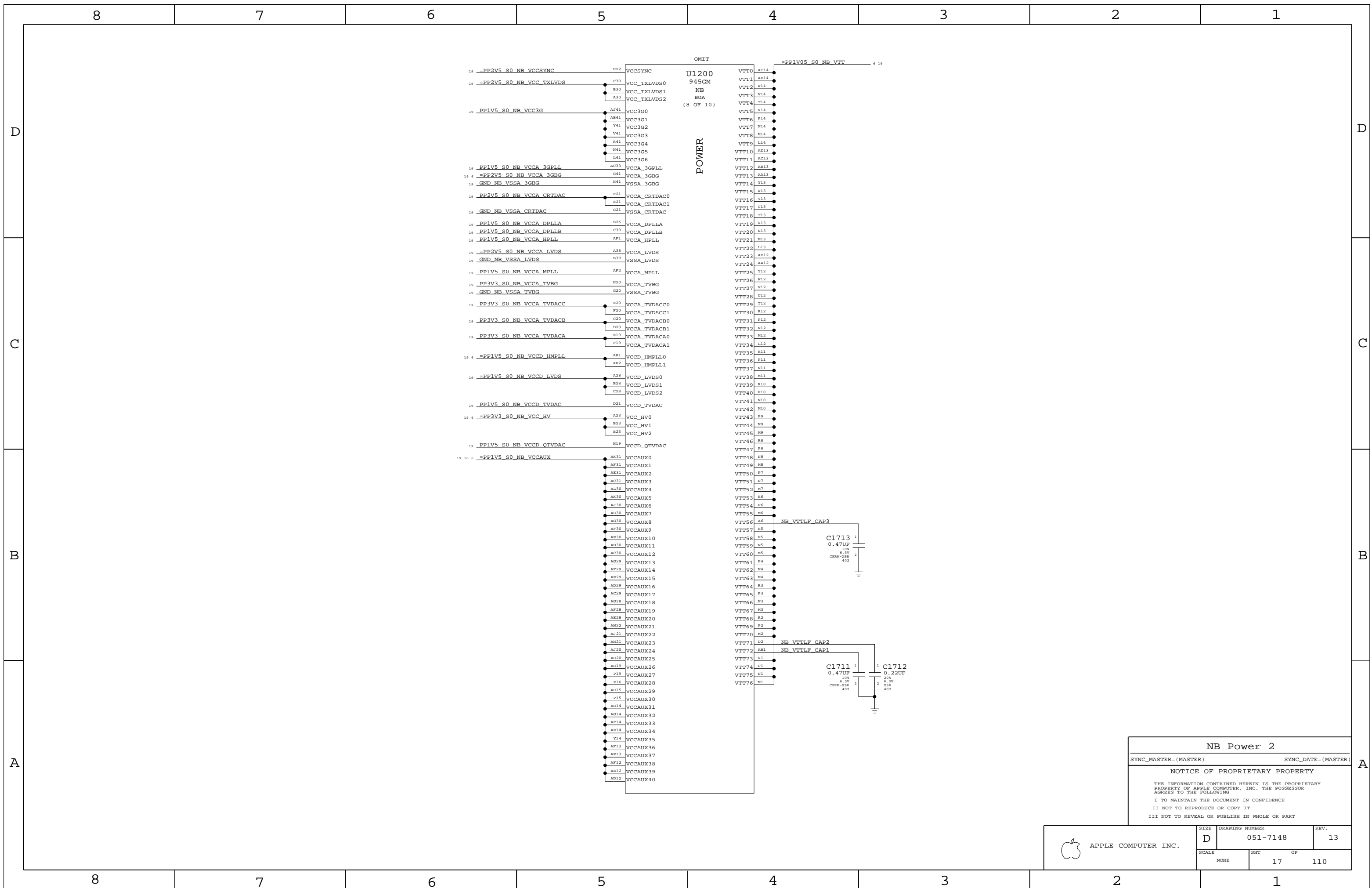
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE

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III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	OF	
NONE	15	110	





NB Power 2

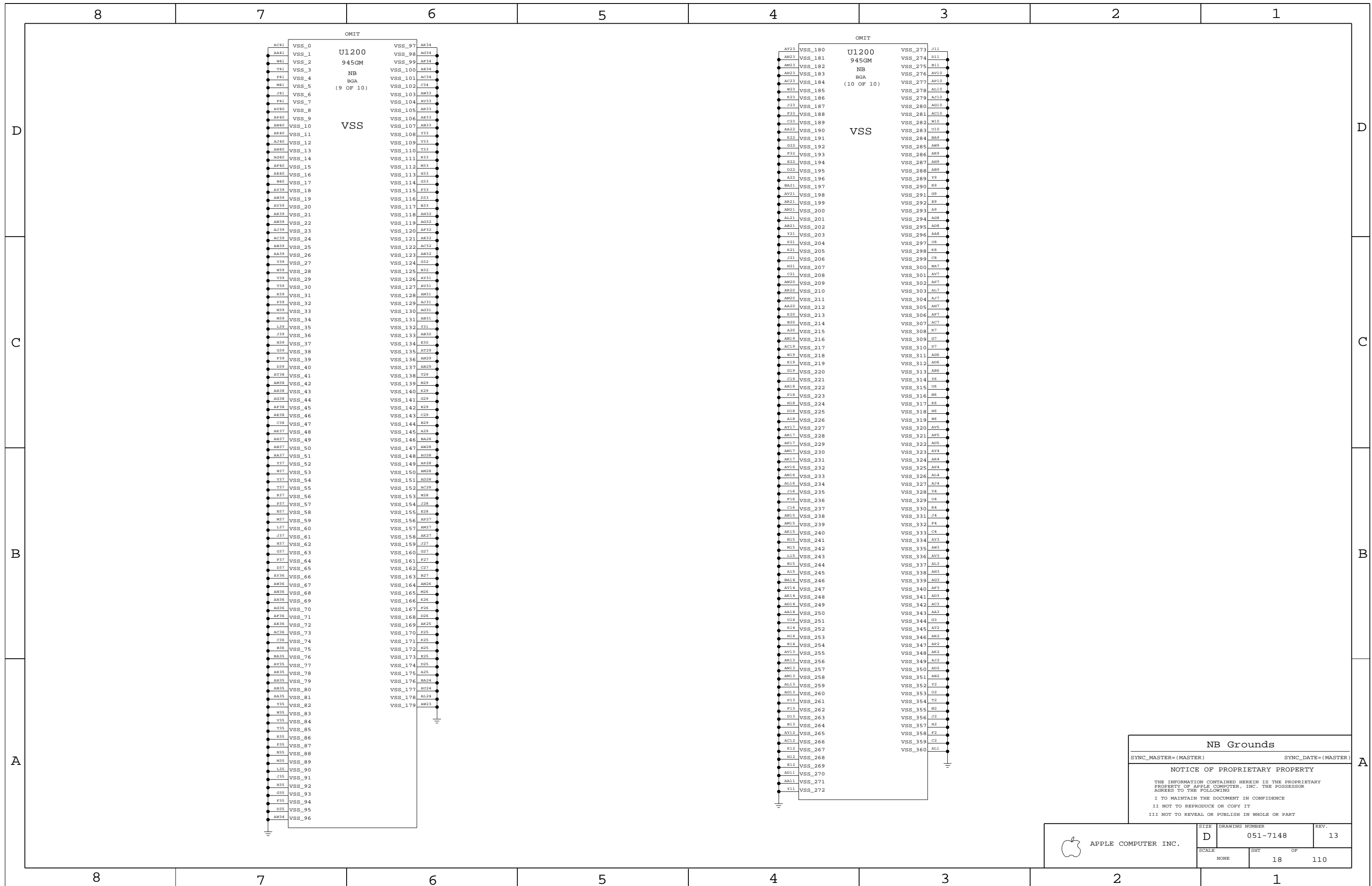
SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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	SCALE NONE	SHEET 17	OF 110



NB Grounds

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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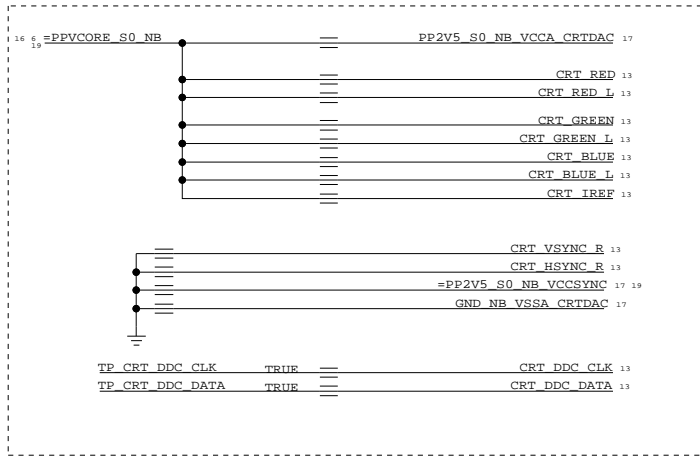
APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHEET 18	OF 110

Power Interface

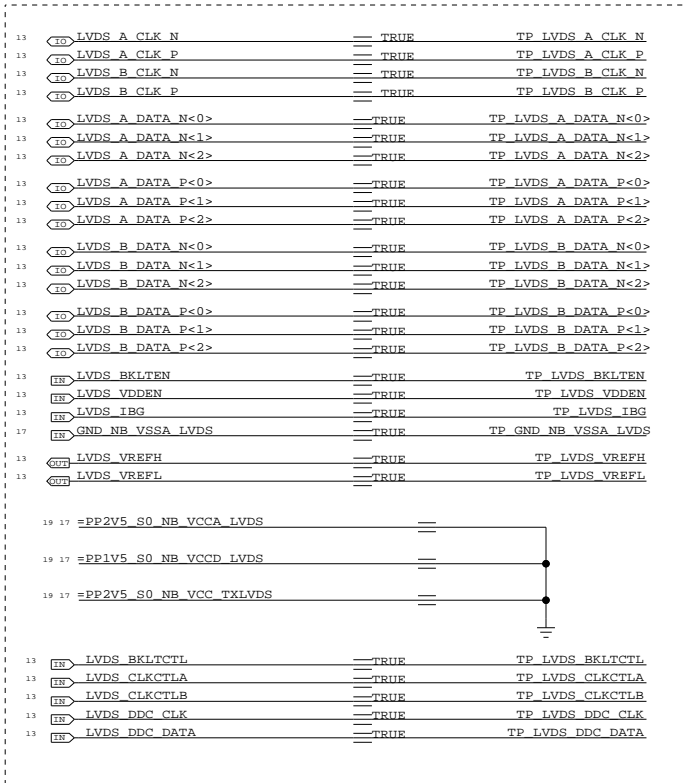
These are the power signals that leave the NB "block"

PP1V05_S0_FSB_NB	5 6 12
PPVCORE_S0_NB	6 16 19
PP1V05_S0_NB	6
PP1V05_S0_NB_VTT	6 17 19
PP1V5_S0_NB	6 19
PP1V5_S0_NB_PCIE	6 13
PP1V5_S0_NB_PLL	6 19
PP1V5_S0_NB_TVDAC	6 19
PP1V5_S0_NB_VCCD_HMPLL	6 19
PP1V5_S0_NB_VCCD_HMPLL	6 17
PP1V5_S0_NB_VCCD_LVDS	17 19
PP1V5_S0_NB_VCCAUX	6 16 17 19
PP1V8_S3_MEM_NB	6 14 16 19
PP2V5_S0_NB_VCCSYNCR	17 19
PP2V5_S0_NB_VCC_TXLVDS	17 19
PP2V5_S0_NB_VCCA_3GBG	6 17 19
PP2V5_S0_NB_VCCA_LVDS	17 19
PP3V3_S0_NB	6 14 20
PP3V3_S0_NB_TVDAC	6
PP3V3_S0_NB_VCC_HV	6 17 19

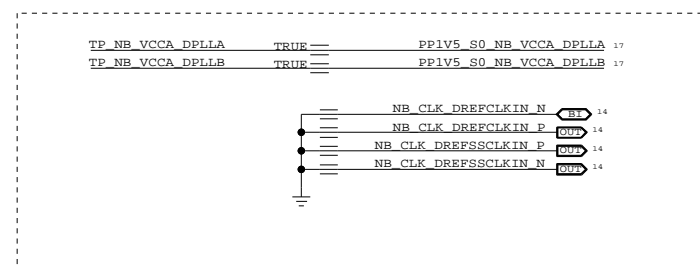
TVOUT DISABLE



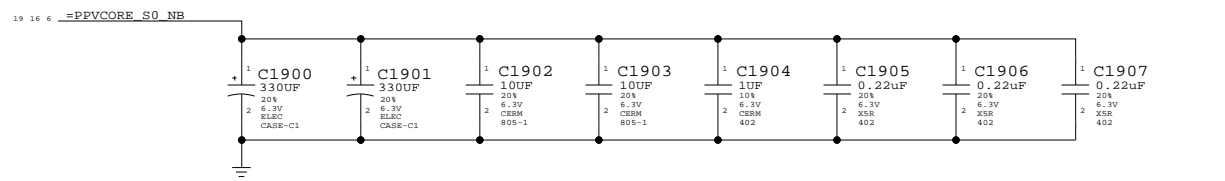
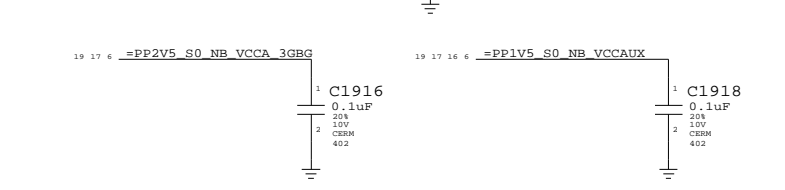
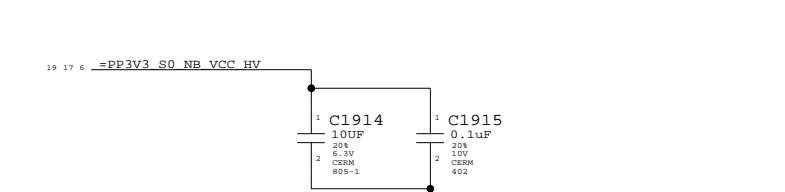
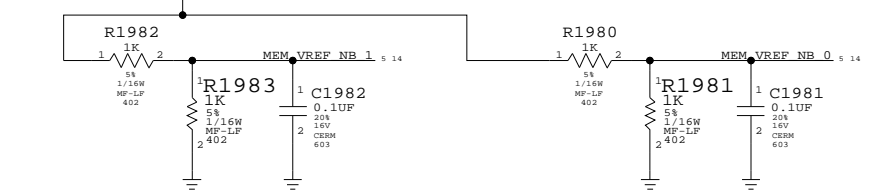
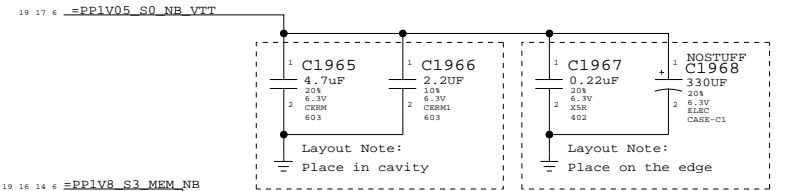
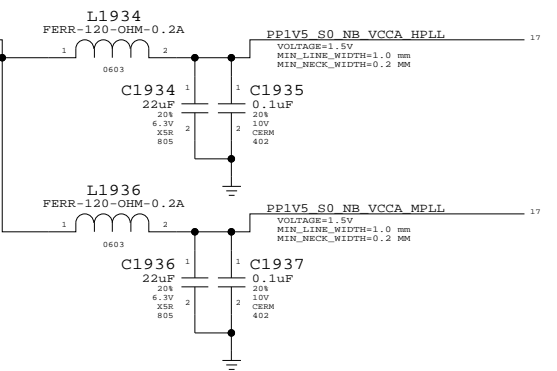
LVDS DISABLE



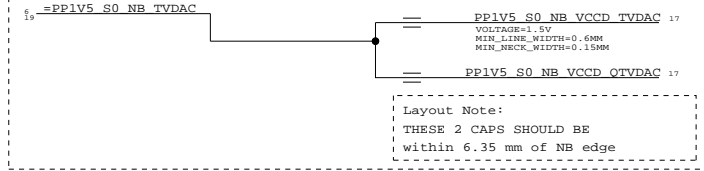
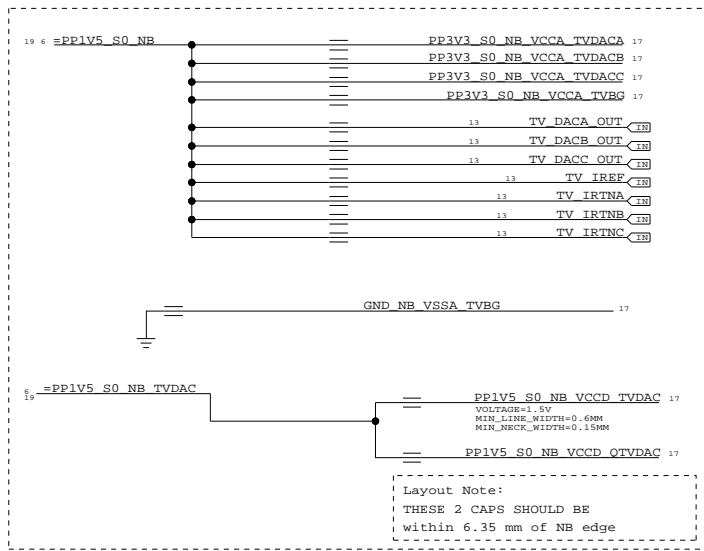
DISPLAY DISABLE



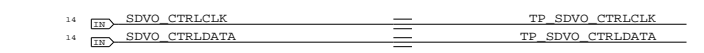
Layout Note:
These 4 0.1uF caps should be within 5 mm of NB edge



TVOUT DISABLE

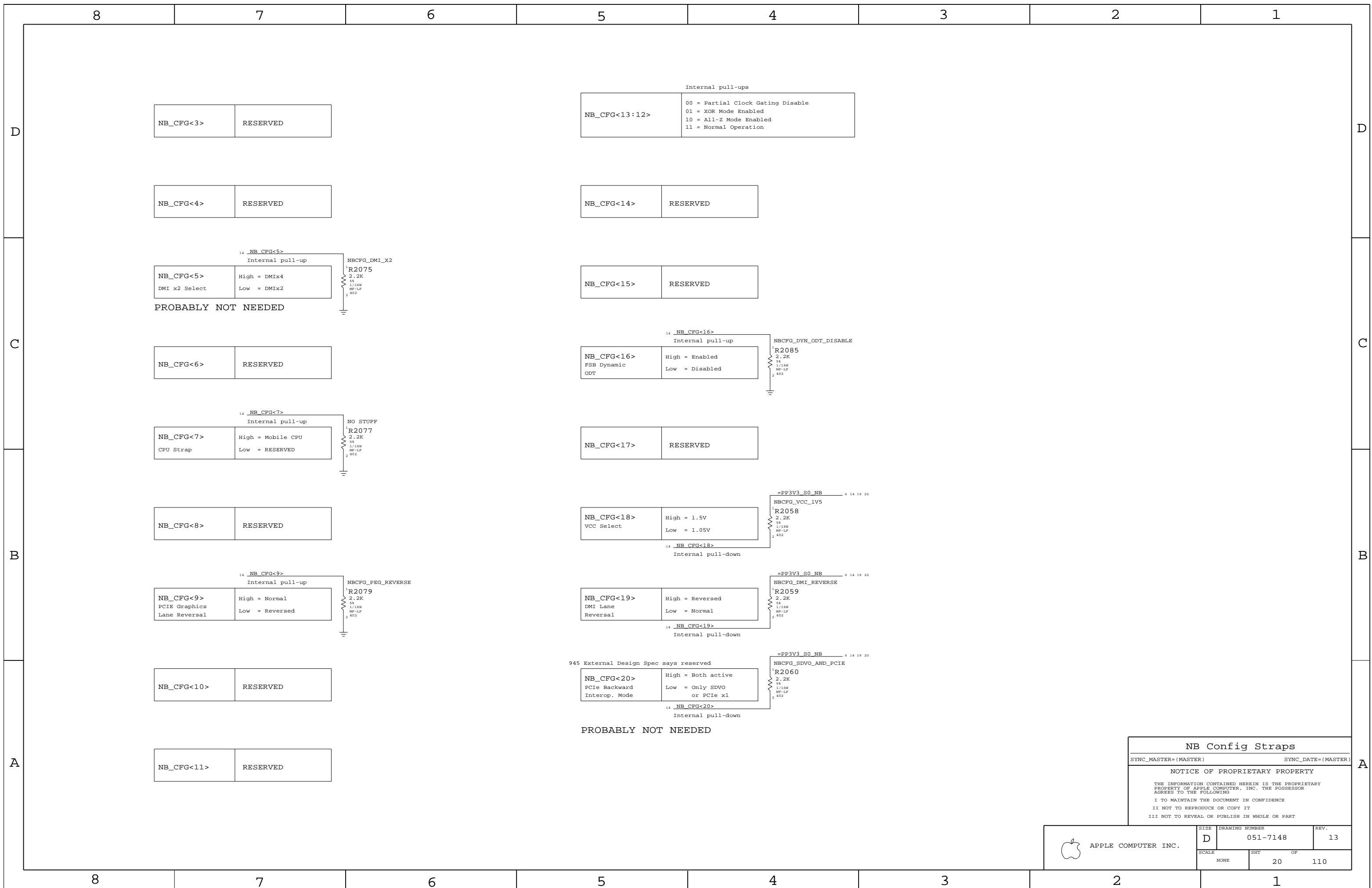


Layout Note:
THESE 2 CAPS SHOULD BE WITHIN 6.35 mm OF NB EDGE



NB (GM) Decoupling
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	D	051-7148	13
SCALE	SHT	OF	
NONE	19	110	



Internal pull-ups

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

NB_CFG<3>	RESERVED
-----------	----------

NB_CFG<14>	RESERVED
------------	----------

NB_CFG<4>	RESERVED
-----------	----------

14 NB_CFG<5>
Internal pull-up

NB_CFG<5>	High = DMIX4 DMI x2 Select Low = DMIX2
-----------	--

PROBABLY NOT NEEDED

NBCFG_DMI_X2
R2075
2.2K
51
1/16W
MF-LP
402

NB_CFG<15>	RESERVED
------------	----------

NB_CFG<6>	RESERVED
-----------	----------

14 NB_CFG<16>
Internal pull-up

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

NBCFG_DYN_ODT_DISABLE
R2085
2.2K
51
1/16W
MF-LP
402

14 NB_CFG<7>
Internal pull-up

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

NO STUFF
R2077
2.2K
51
1/16W
MF-LP
402

NB_CFG<17>	RESERVED
------------	----------

NB_CFG<8>	RESERVED
-----------	----------

=PP3V3_S0_NB 6 14 19 20
NBCFG_VCC_LV5
R2058
2.2K
51
1/16W
MF-LP
402

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

14 NB_CFG<18>
Internal pull-down

14 NB_CFG<9>
Internal pull-up

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

NBCFG_PEG_REVERSE
R2079
2.2K
51
1/16W
MF-LP
402

=PP3V3_S0_NB 6 14 19 20
NBCFG_DMI_REVERSE
R2059
2.2K
51
1/16W
MF-LP
402

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

14 NB_CFG<19>
Internal pull-down

NB_CFG<10>	RESERVED
------------	----------

945 External Design Spec says reserved
=PP3V3_S0_NB 6 14 19 20
NBCFG_SDVO_AND_PCIE
R2060
2.2K
51
1/16W
MF-LP
402

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

14 NB_CFG<20>
Internal pull-down

PROBABLY NOT NEEDED

NB_CFG<11>	RESERVED
------------	----------

NB Config Straps

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

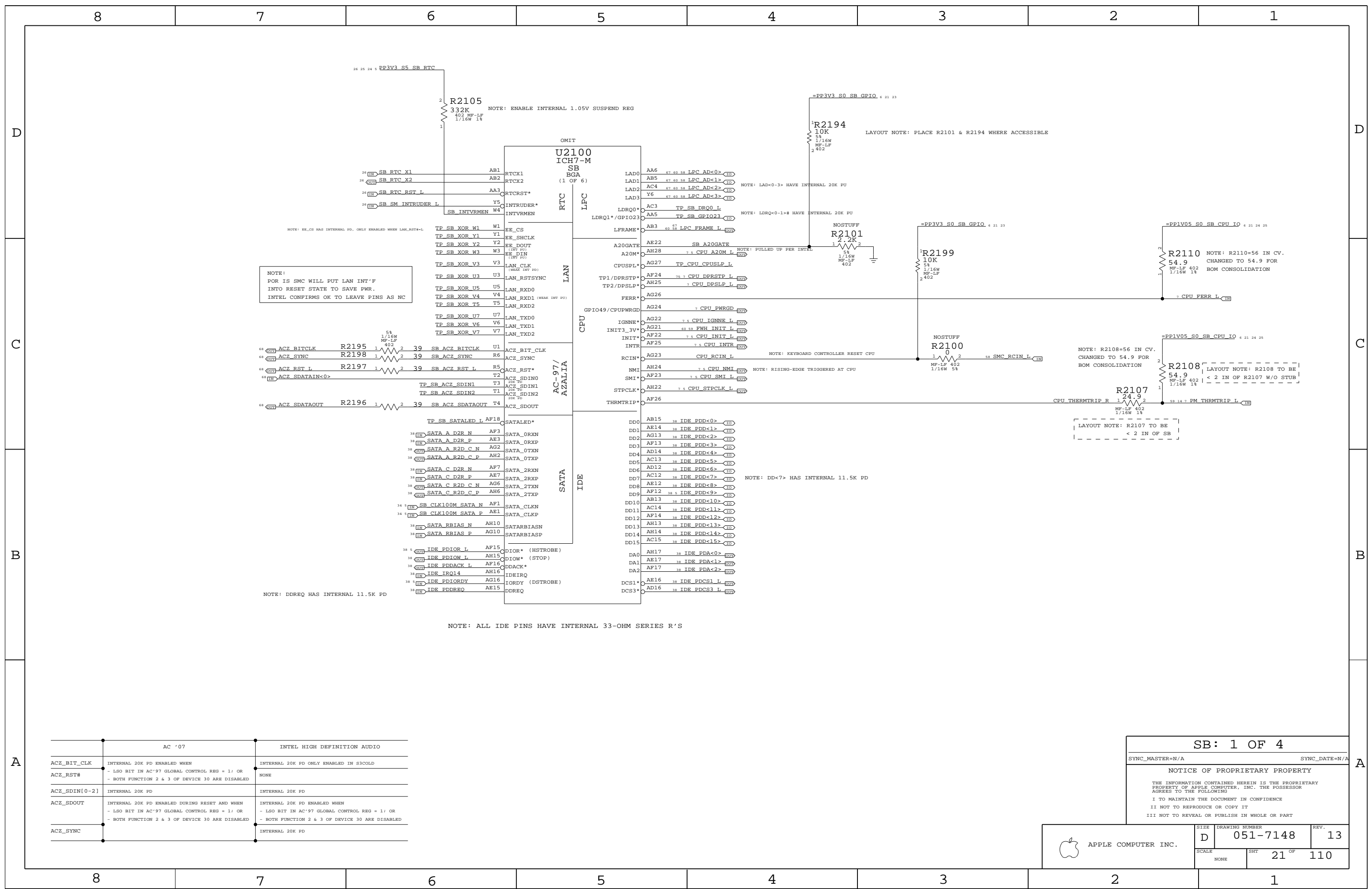
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	D	051-7148	13
SCALE	SHT	OF	
NONE	20	110	



NOTE:
 POR IS SMC WILL PUT LAN INT'F
 INTO RESET STATE TO SAVE PWR.
 INTEL CONFIRMS OK TO LEAVE PINS AS NC

NOTE: DDREQ HAS INTERNAL 11.5K PD

NOTE: ALL IDE PINS HAVE INTERNAL 33-OHM SERIES R'S

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

SB: 1 OF 4

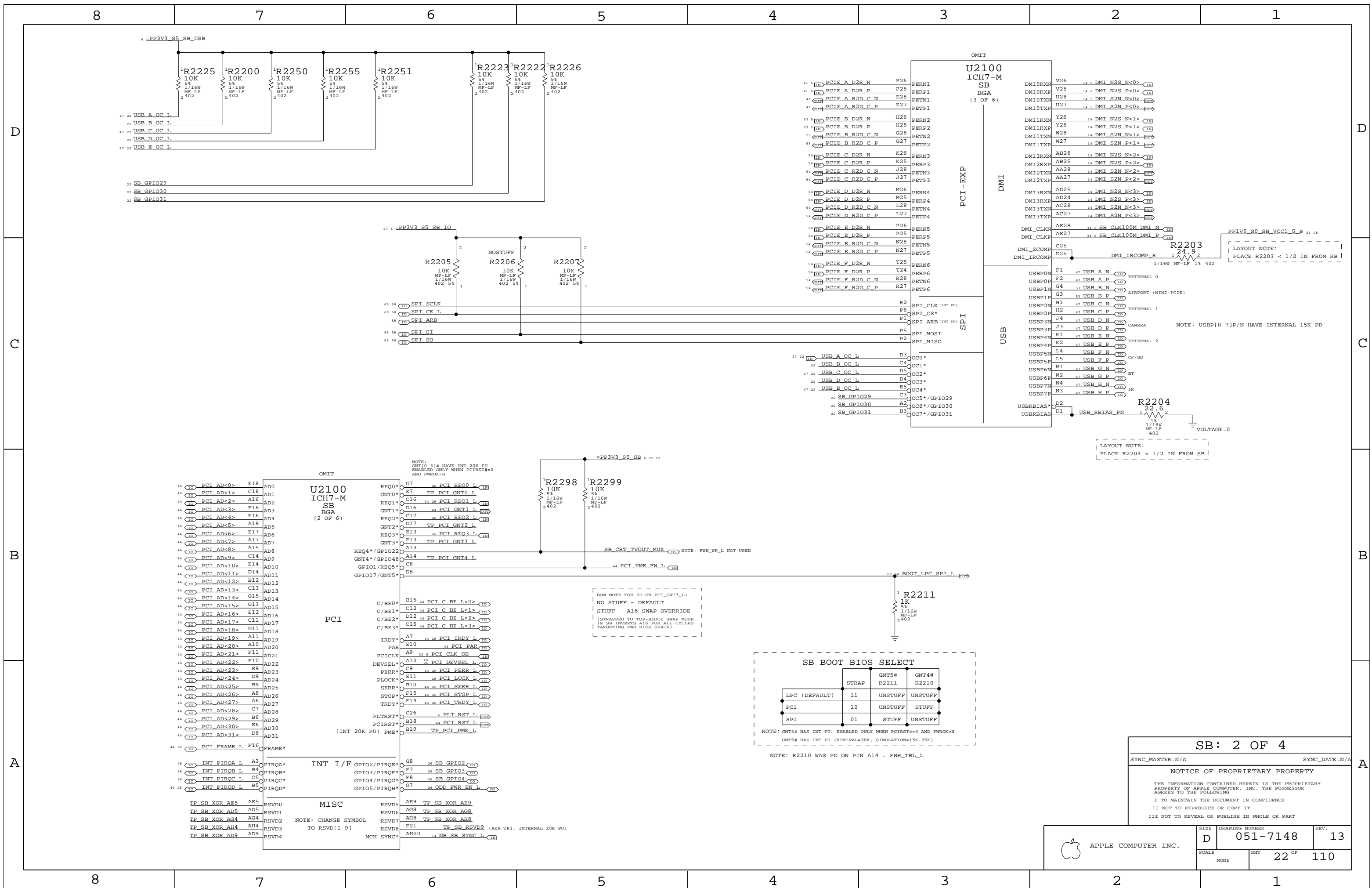
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SCALE	SHT	21 OF 110	
NONE			



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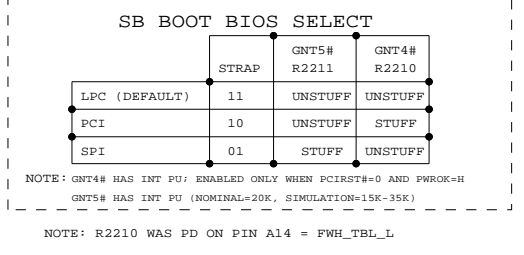
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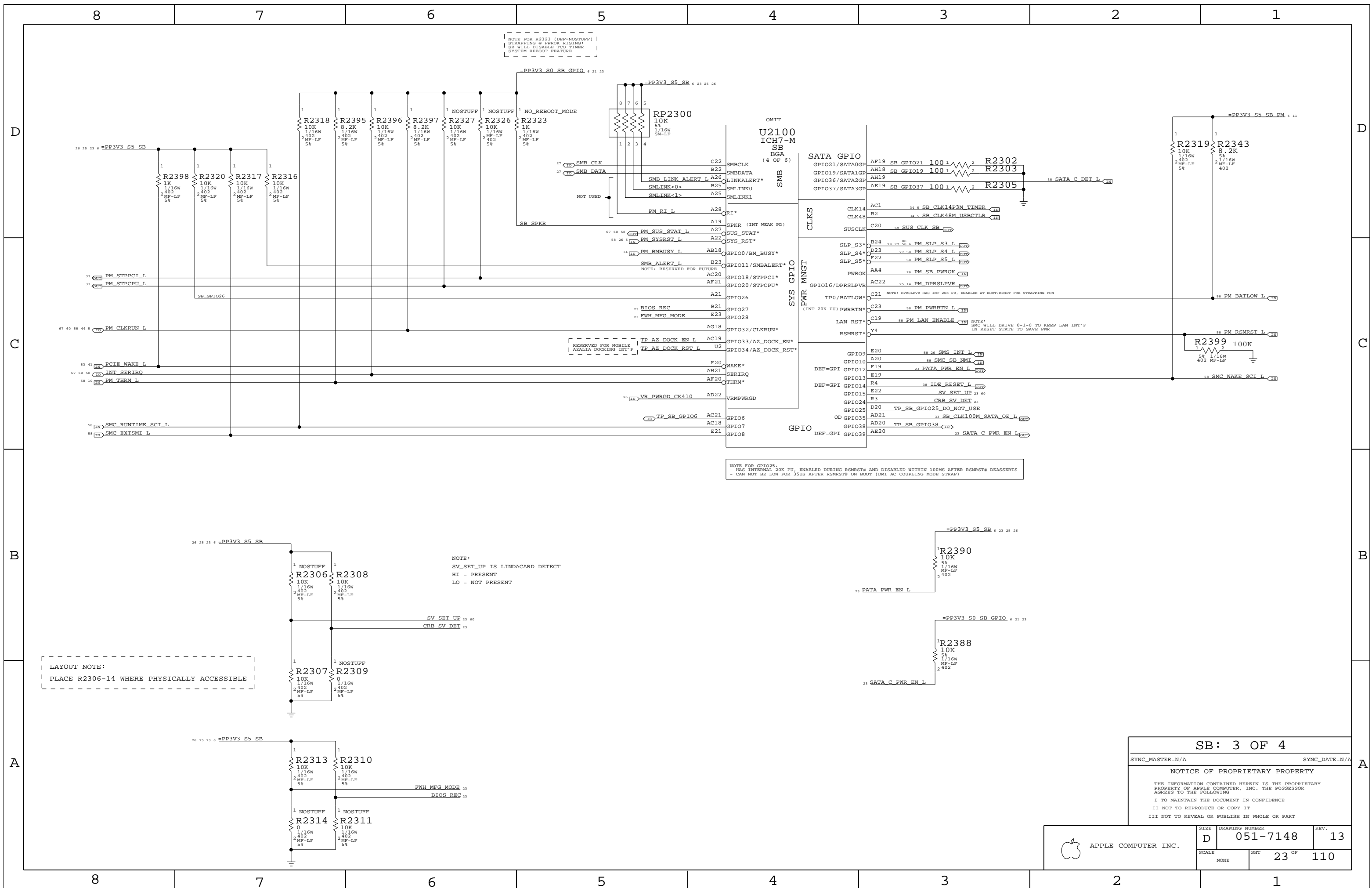
APPLE COMPUTER INC.	SCALE	DRAWING NUMBER	REV.
	NONE	051-7148	13
SHEET		22 OF	110

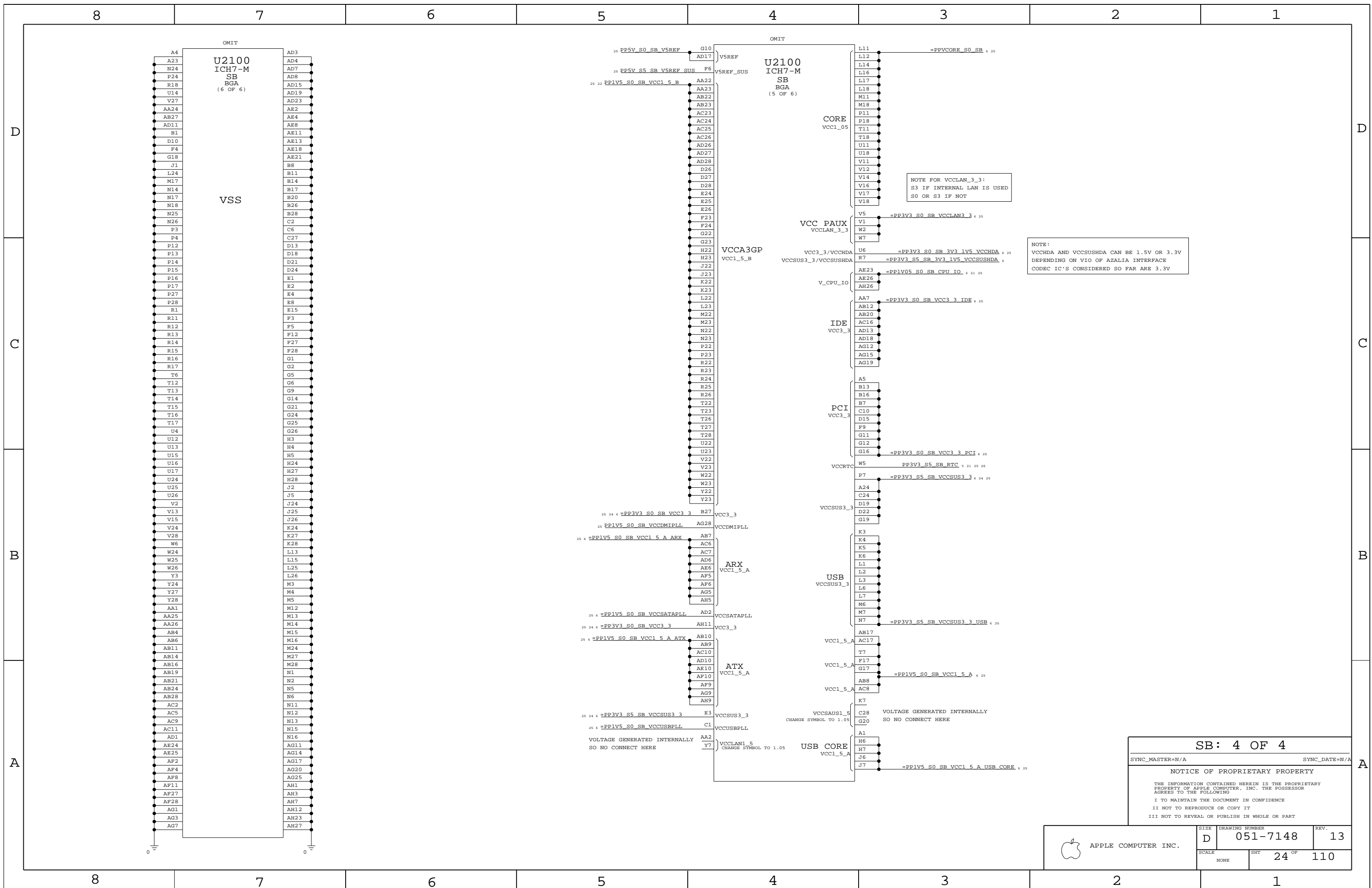


BOM NOTE FOR PD ON PCI_GNT3_L:
NO STUFF - DEFAULT
STUFF - A16 SWAP OVERRIDE
(STRAPPED TO TOP-BLOCK SWAP MODE
IF SB INVERTS A16 FOR ALL CYCLES
TARGETING FWH BIOS SPACE)

NOTE: CHANGE SYMBOL TO RSV D[1-9]

MCH_SYNC*



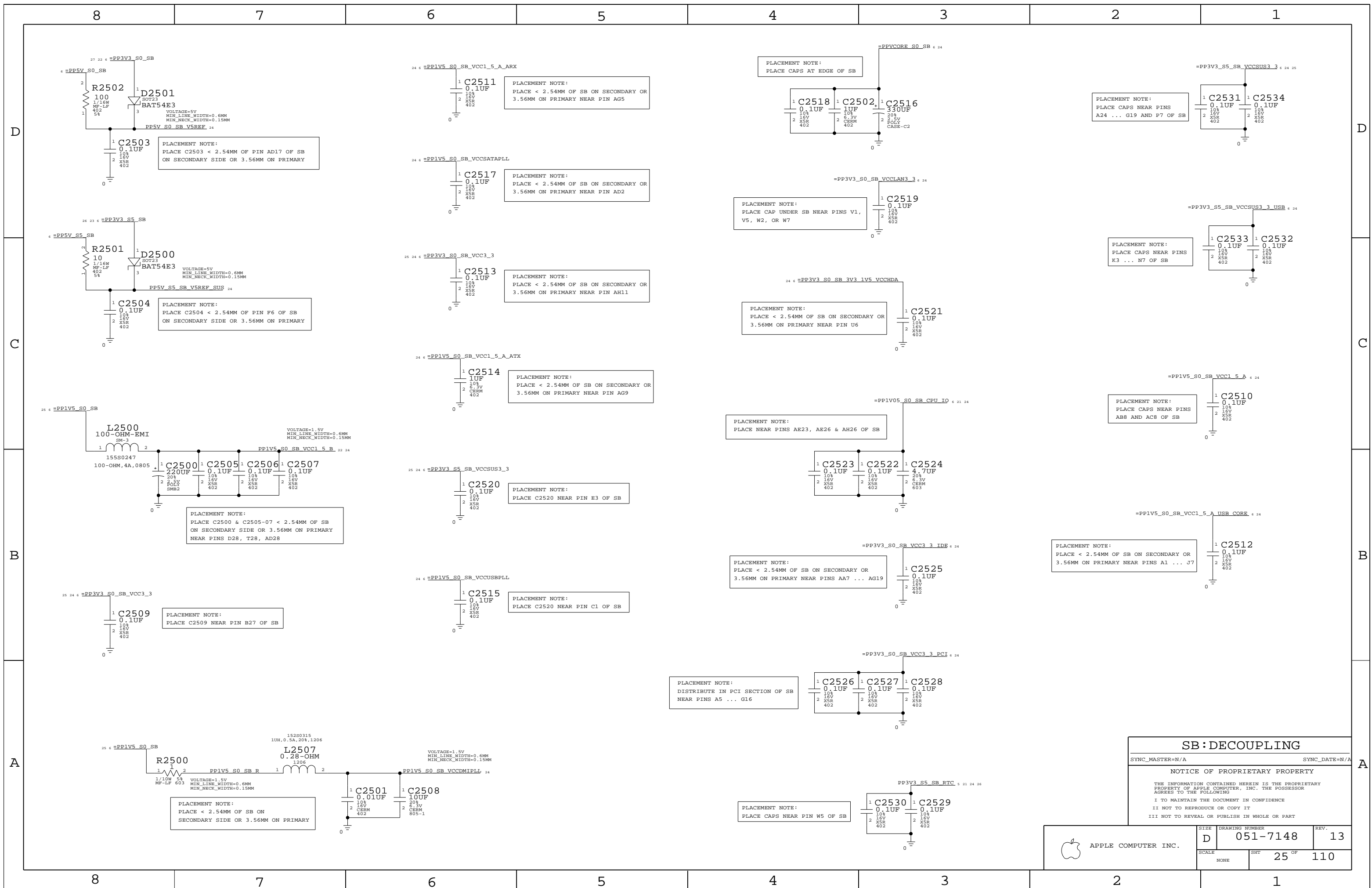


NOTE FOR VCCLAN_3_3:
S3 IF INTERNAL LAN IS USED
S0 OR S3 IF NOT

NOTE:
VCCCHDA AND VCCSUS3_3 CAN BE 1.5V OR 3.3V
DEPENDING ON VIO OF AZALIA INTERFACE
CODEC IC'S CONSIDERED SO FAR ARE 3.3V

SB: 4 OF 4			
SYNC_MASTER=N/A			SYNC_DATE=N/A
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	D	051-7148	13
SCALE	SHT	24 OF 110	
NONE			



SB: DECOUPLING

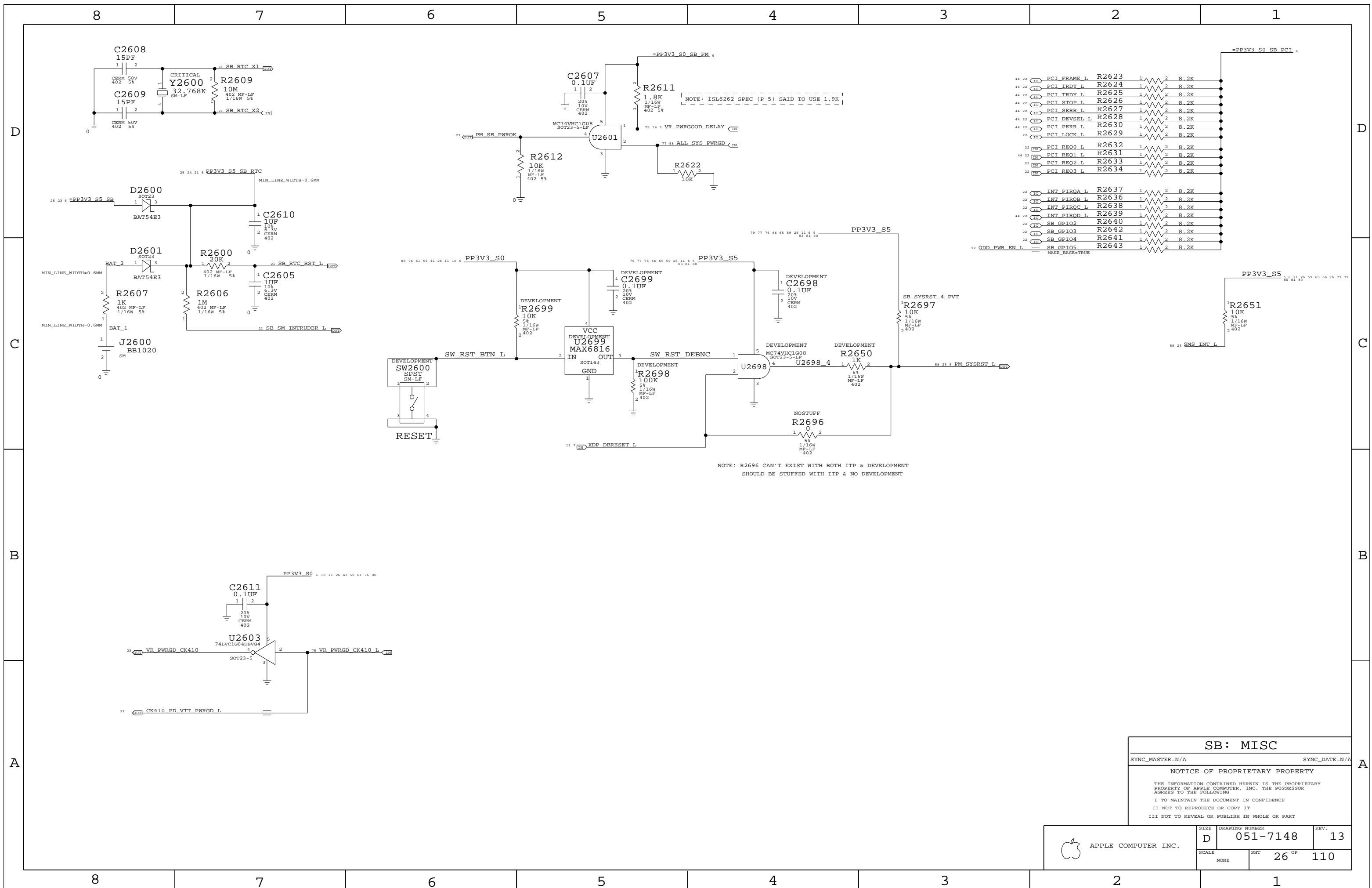
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SCALE	SHT	25 OF	110
NONE			



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

SB: MISC
 SYNC_MASTER=N/A SYNC_DATE=N/A
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	D	051-7148	13
SCALE	SHT	26 OF	110
NONE			

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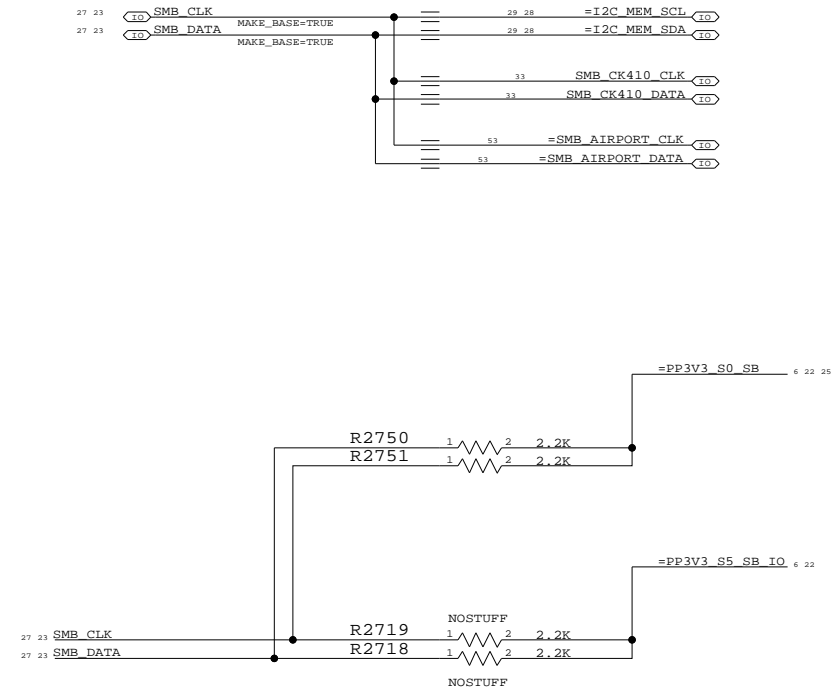
2

1

D

D

SB I2C BUSSES



C

C

B

B

A

A

8

7

6

5

4

3

2

1


SB: SMB HUB

SYNC_MASTER=N/A SYNC_DATE=N/A

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	D	051-7148	13
SCALE	SHT	27 OF 110	
NONE			

Page Notes

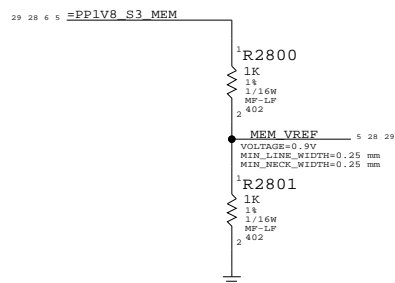
Power aliases required by this page:
 - =PPIV8_S3_MEM
 - =PPSPD_S0_MEM (2.5V - 3.3V)

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

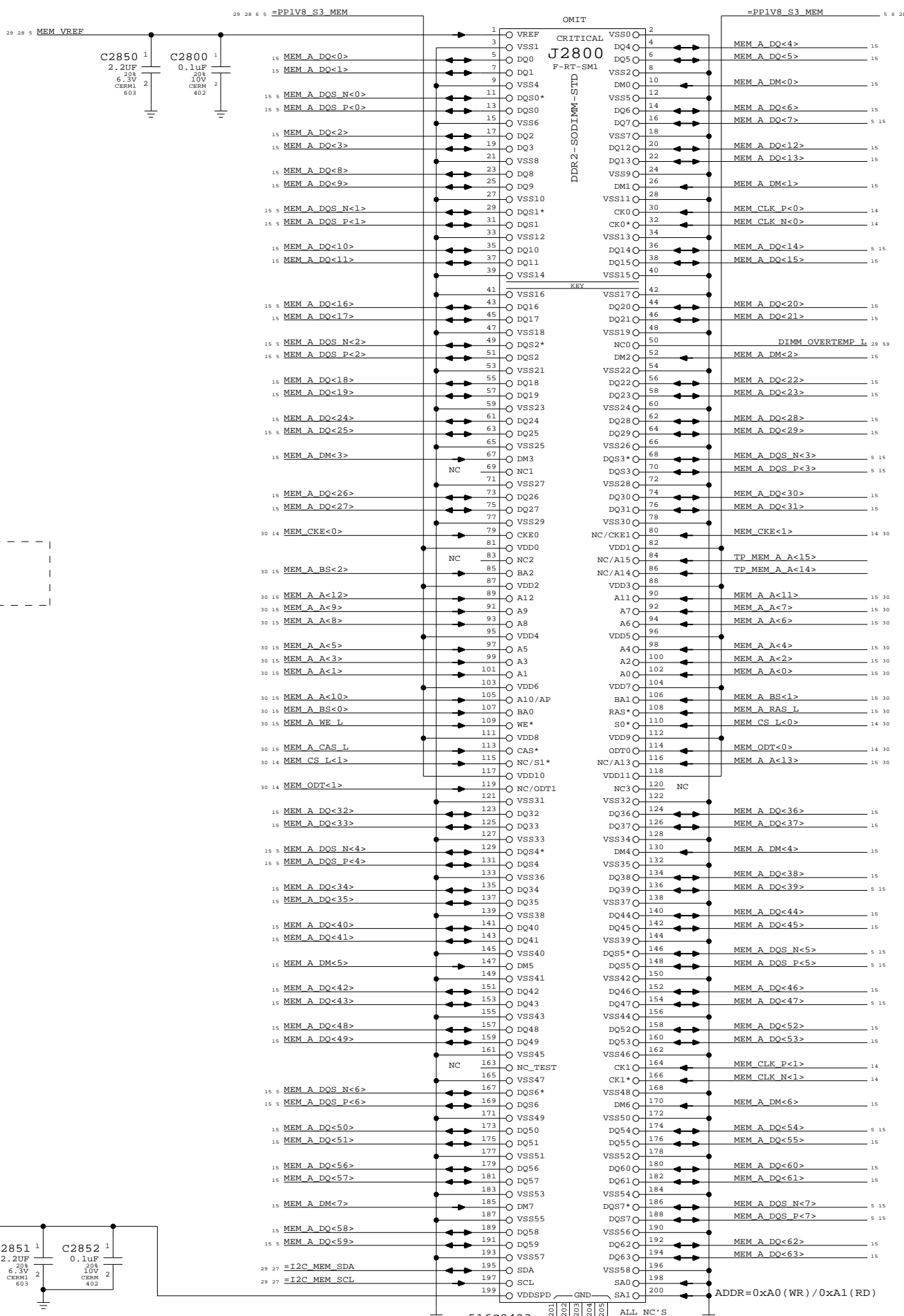
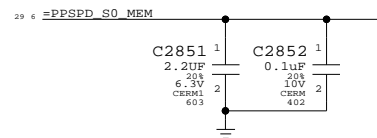
BOM options provided by this page:
 (NONE)

DDR2 VRef

One 0.1uF per connector



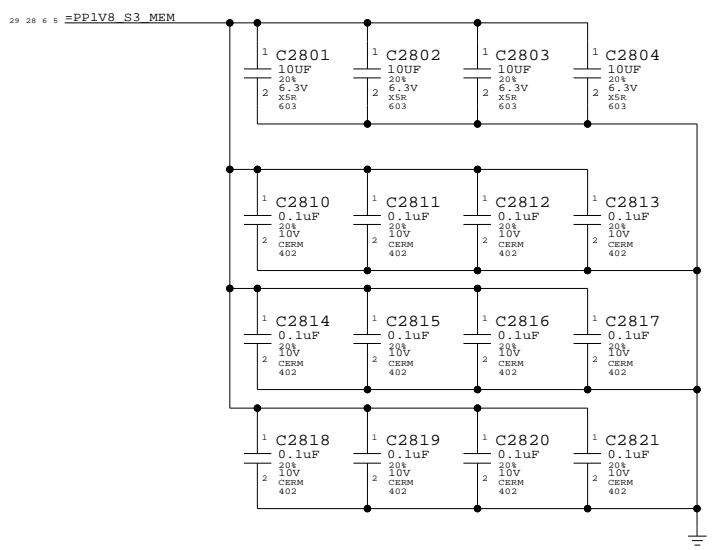
Yellow uses 10K divider and TLV2463 to drive MCH and DIMM connectors.
 (See Capell Valley pg 47)



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
51680503	1	DDR2 SODIMM STD CONN	J2800	CRITICAL	

DDR2 Bypass Caps

(For return current)



DDR2 SO-DIMM Connector A
 SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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	D	051-7148	13
SCALE	SHT	OF	
NONE	28	110	

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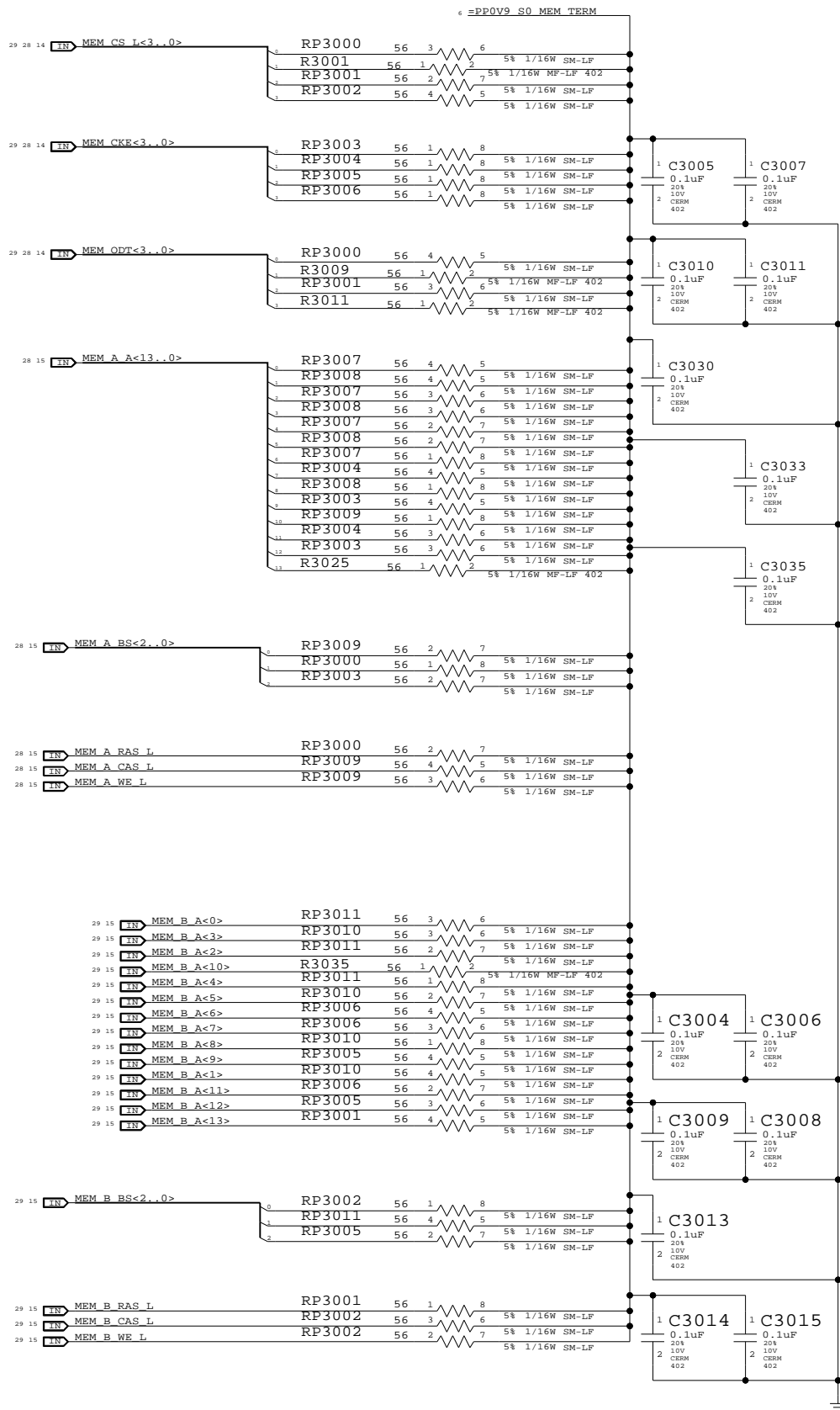
4

3

2

1

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



Memory Active Termination

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	D	051-7148	13
SCALE	SHT	OF	
NONE	30	110	

8

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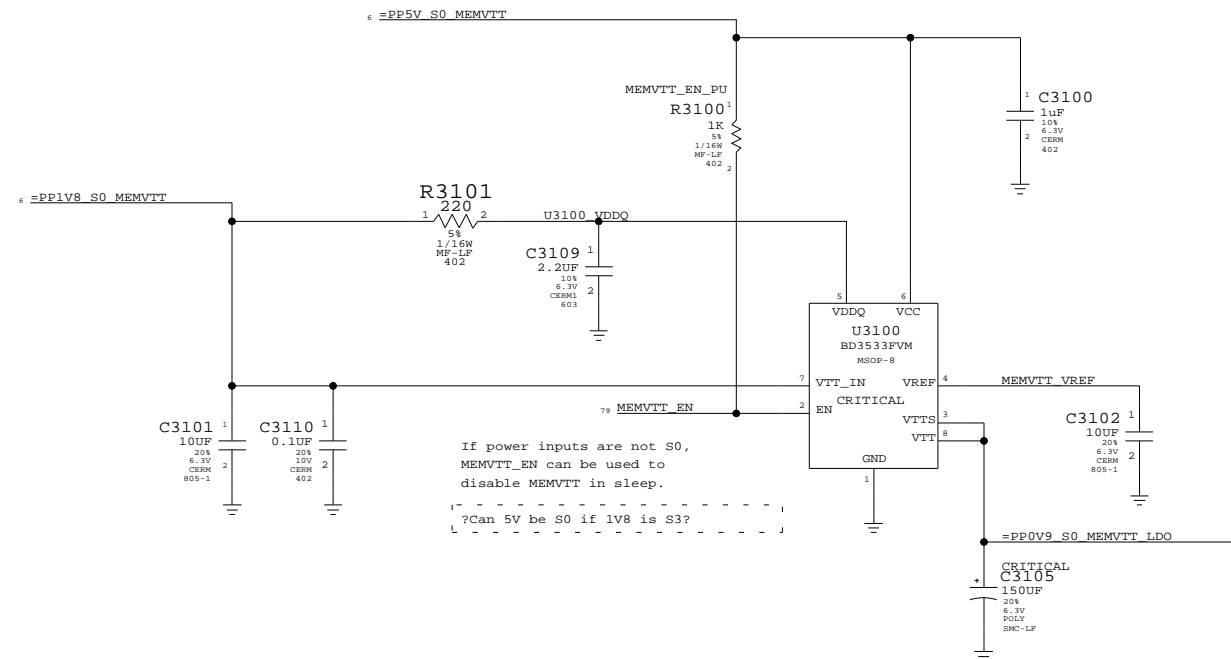
Page Notes

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

Signal aliases required by this page:
 (NONE)

BOM options provided by this page:
 (NONE)

DDR2 Vtt Regulator



Memory Vtt Supply

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

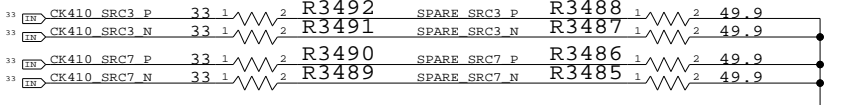
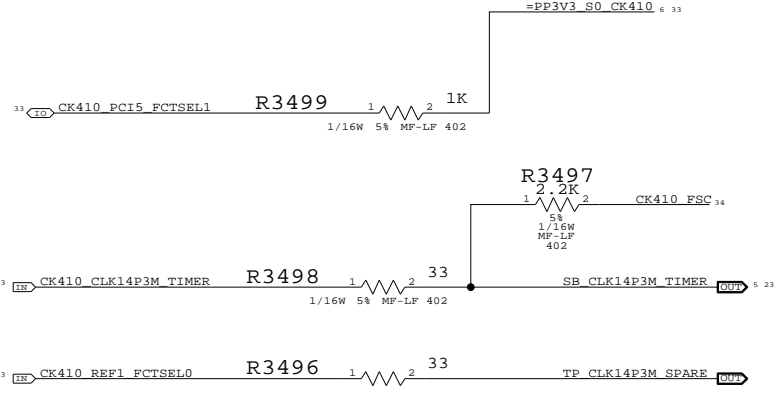
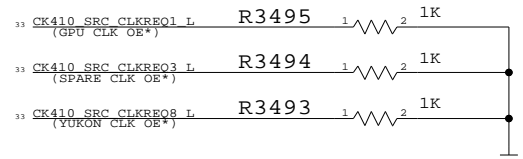
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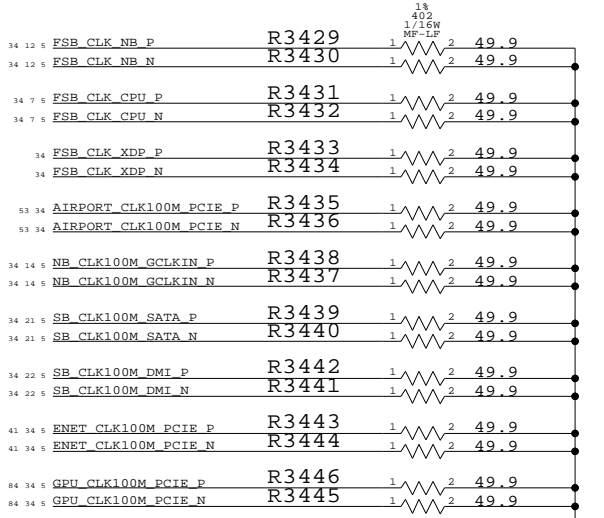
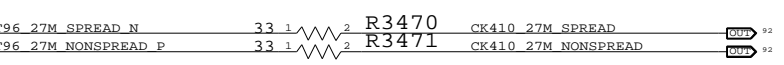
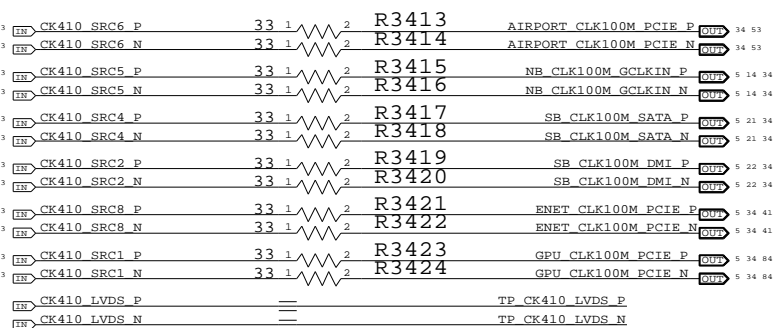
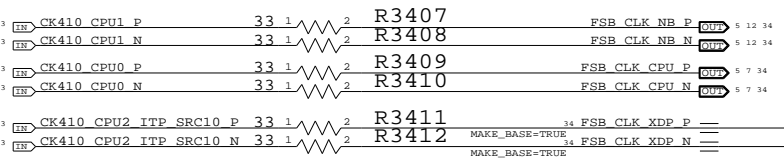
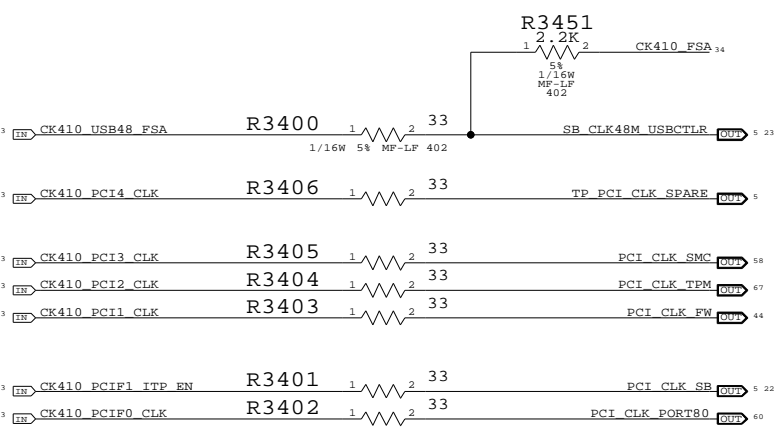
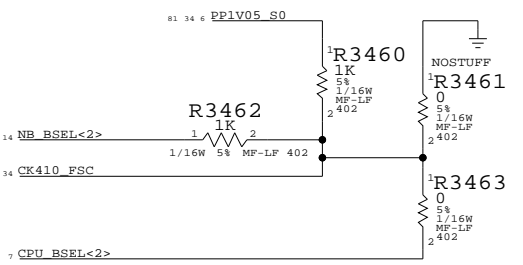
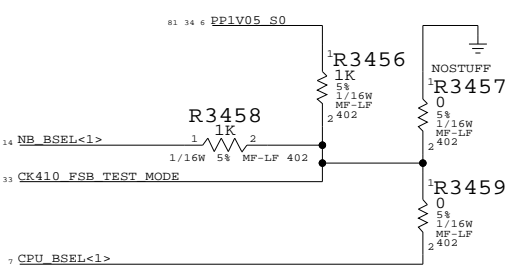
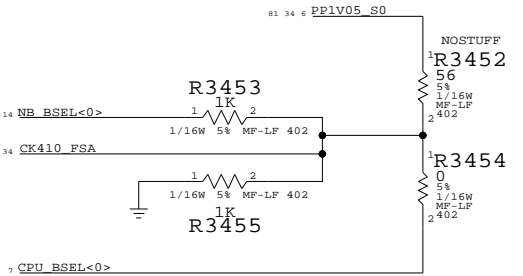
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	OF	
NONE	31	110	

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



FSB FREQUENCY SELECT:

	STUFF	NO STUFF
CPU DRIVEN	R3453 R3454 R3455	R3456 R3457
533MHZ (133MHZ CPU CLK)	R3452 R3454 R3455	R3456 R3457
667MHZ (166MHZ CPU CLK)	R3452 R3454 R3455	R3456 R3457



CLOCKS: TERMINATIONS

SYNC_MASTER=N/A SYNC_DATE=N/A

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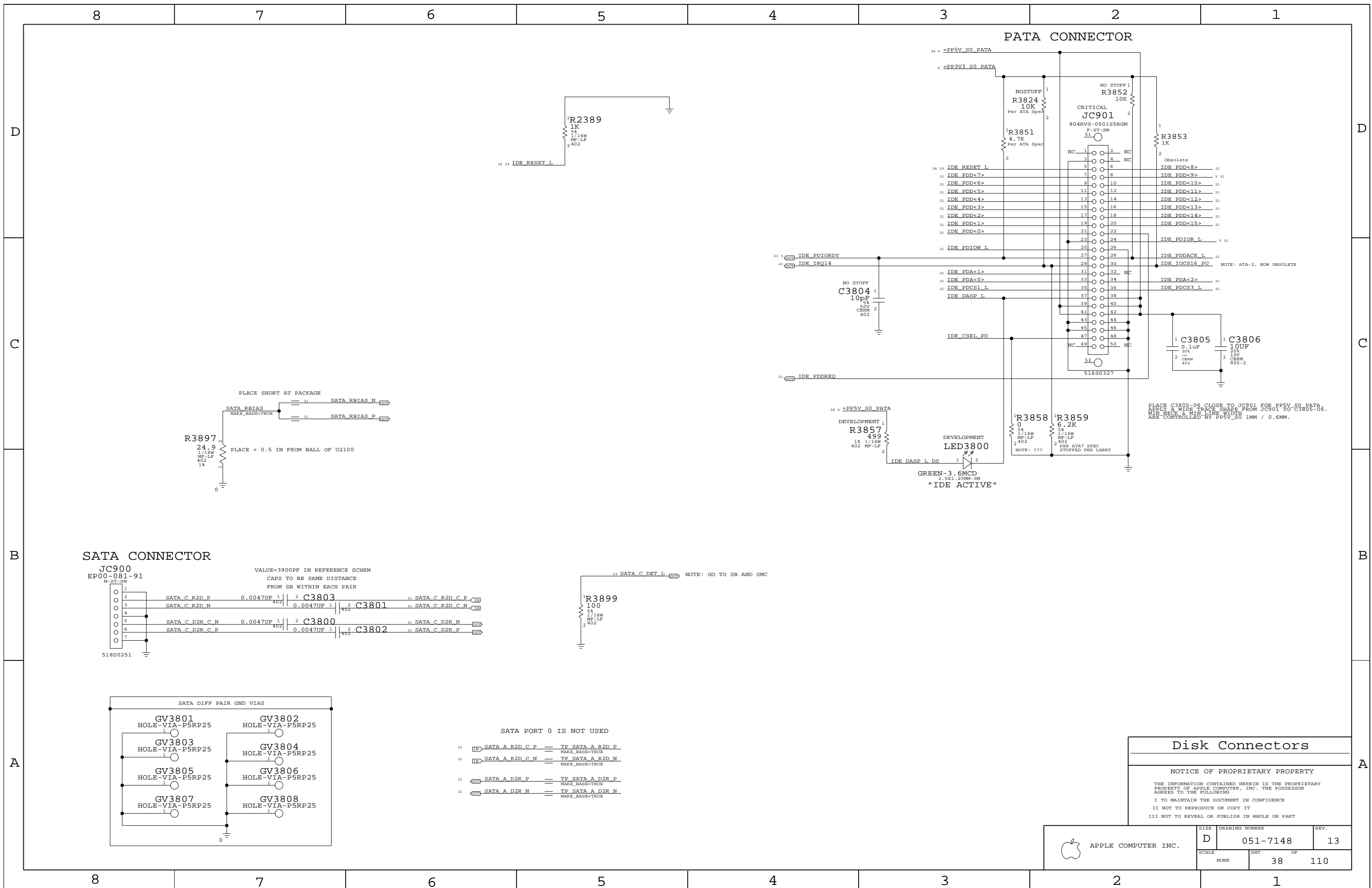
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE

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APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-7148	13
SCALE	SHT	OF
NONE	34	110



Disk Connectors

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT OF		
NONE	38		110

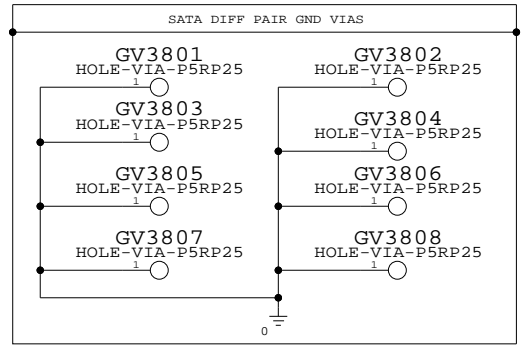
SATA PORT 0 IS NOT USED

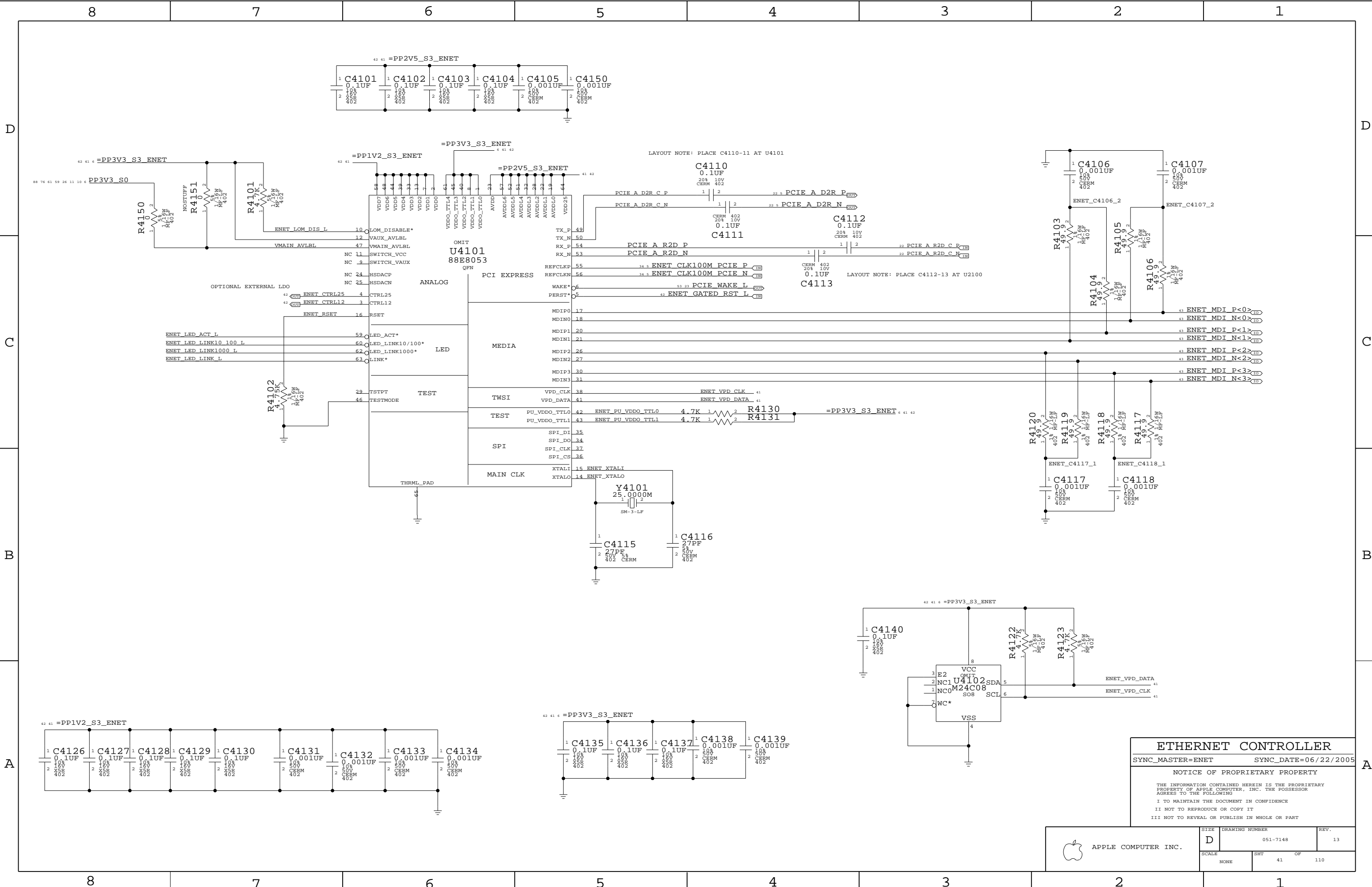
IN SATA A R2D C P == TP SATA A R2D P
 MAKE_BASE=TRUE

IN SATA A R2D C N == TP SATA A R2D N
 MAKE_BASE=TRUE

OUT SATA A D2R P == TP SATA A D2R P
 MAKE_BASE=TRUE

OUT SATA A D2R N == TP SATA A D2R N
 MAKE_BASE=TRUE





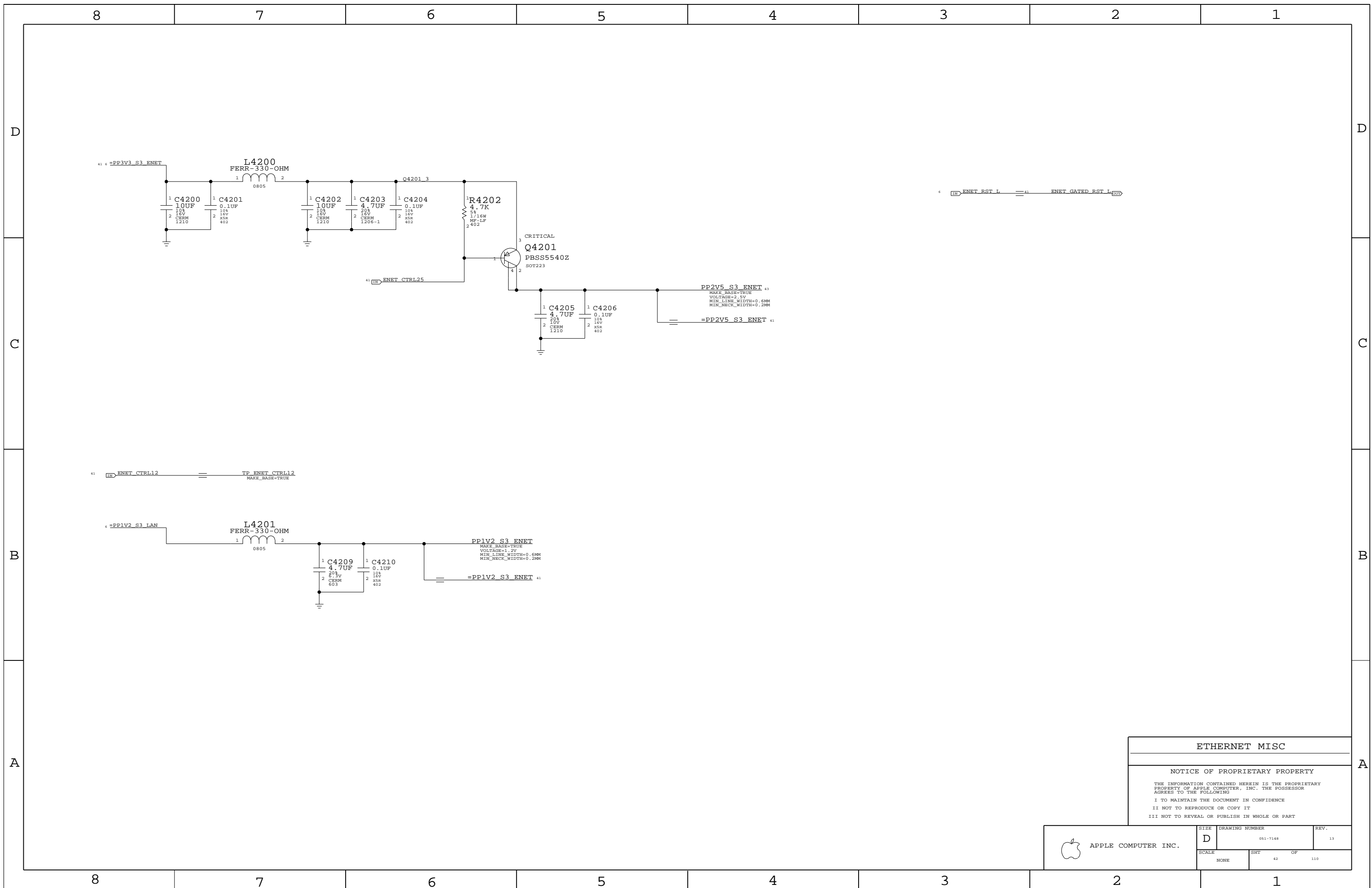
ETHERNET CONTROLLER

SYNC_MASTER=ENET SYNC_DATE=06/22/2005

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	SCALE NONE	SHEET 41	OF 110



ETHERNET MISC

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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHEET 42	OF 110

8

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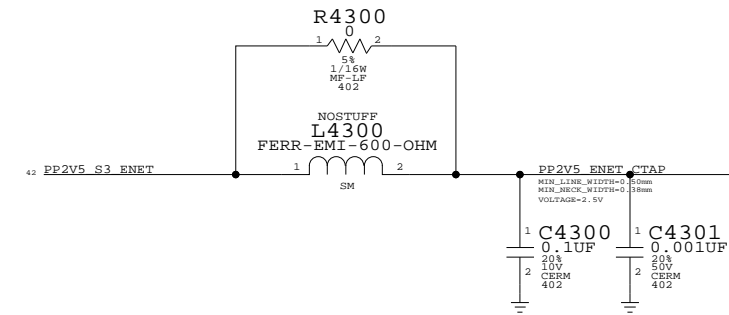
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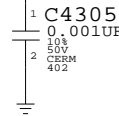
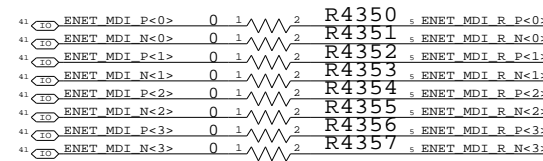
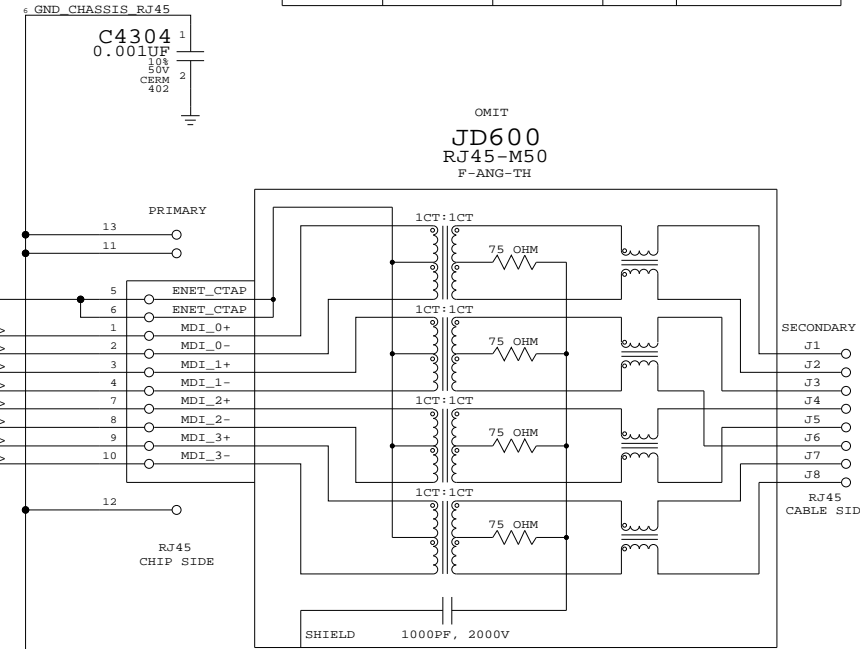
A

A



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0366	1	FOXCONN AND DELTA RJ45	JD600	CRITICAL	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:



ETHERNET CONNECTOR

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT OF		
NONE	43 OF 110		

8

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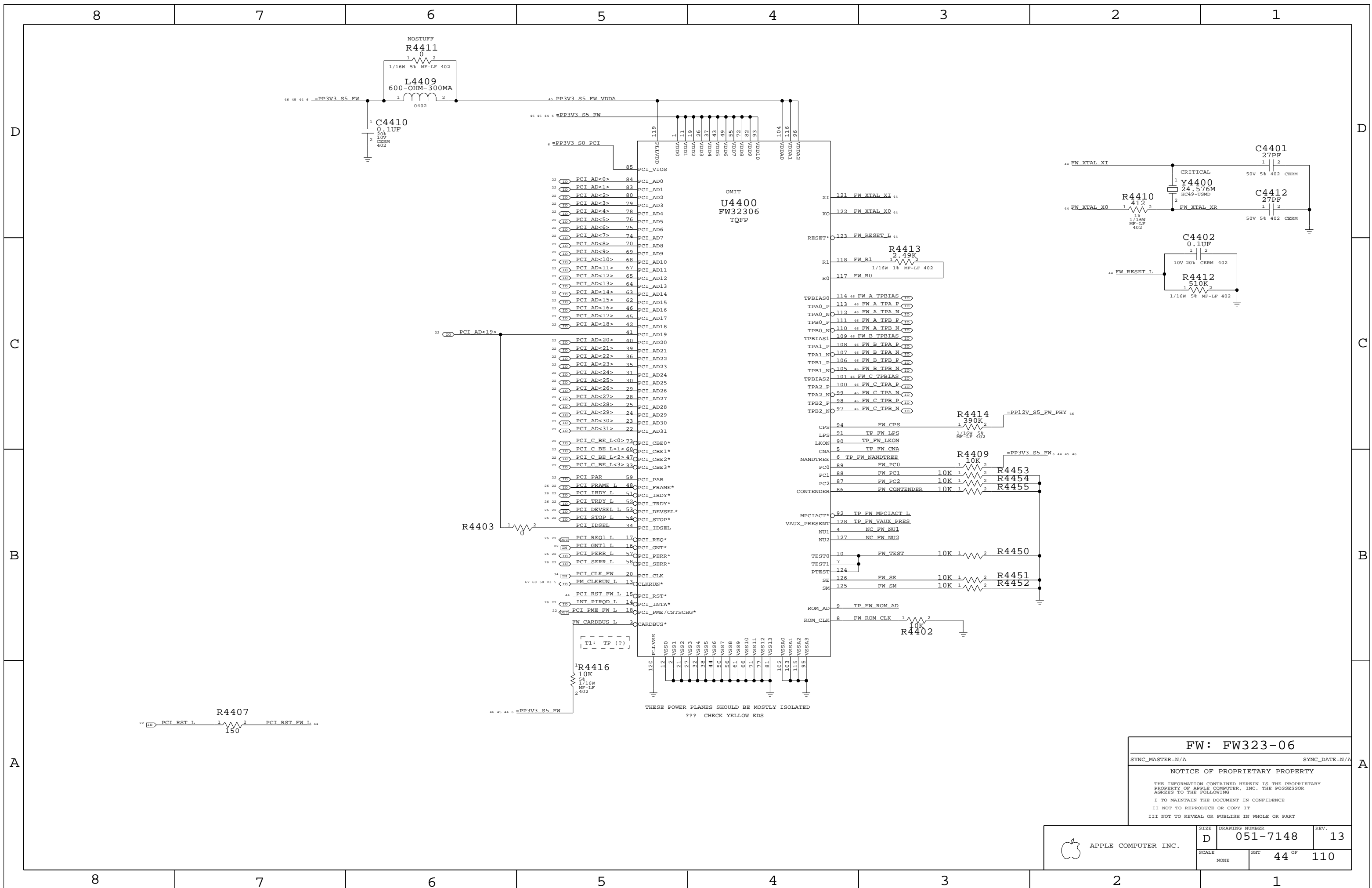
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FW: FW323-06

SYNC_MASTER=N/A SYNC_DATE=N/A

NOTICE OF PROPRIETARY PROPERTY

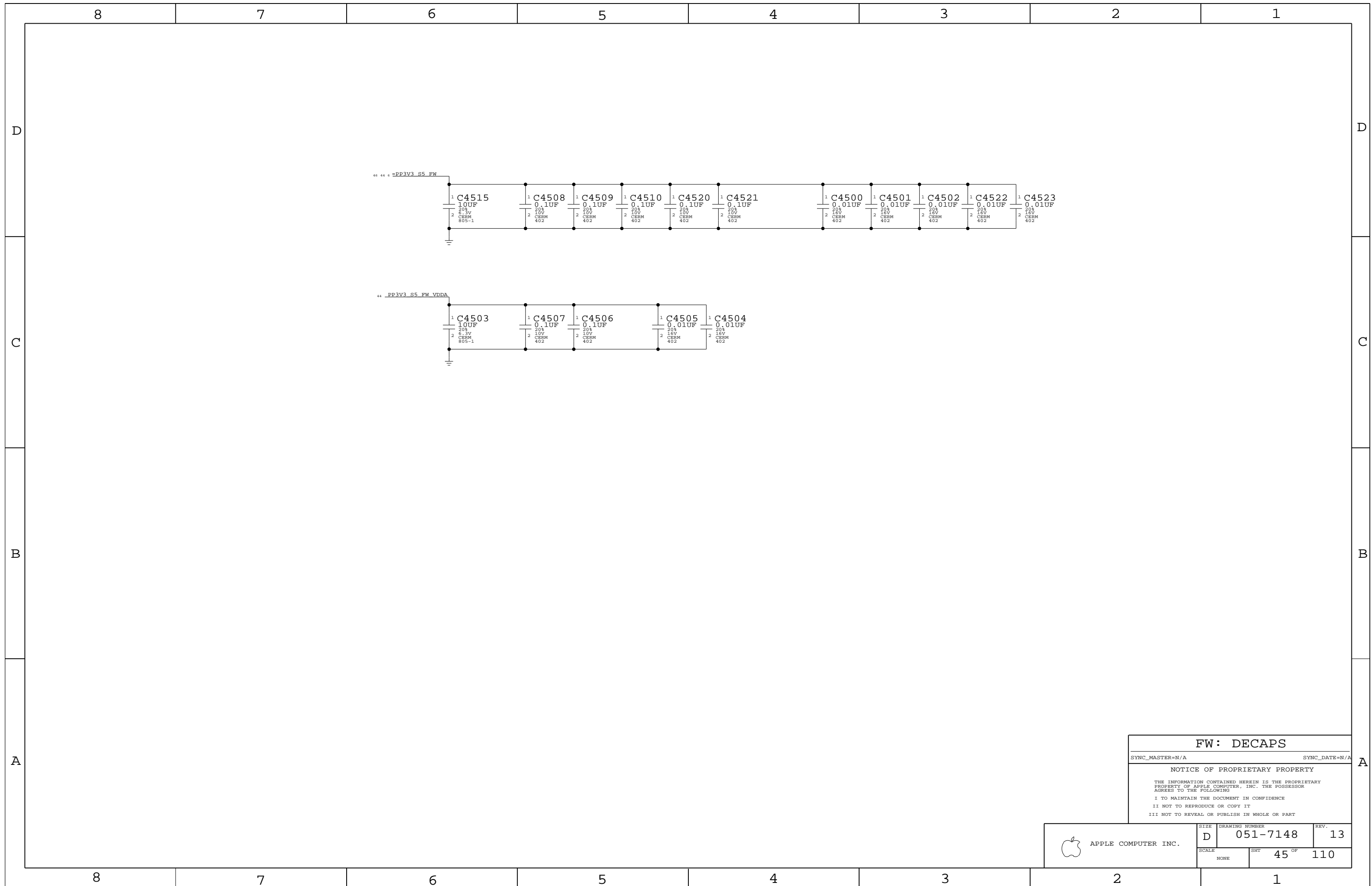
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	D	051-7148	13
SCALE	SHT	44 OF 110	
NONE			



FW: DECAPS

SYNC_MASTER=N/A SYNC_DATE=N/A

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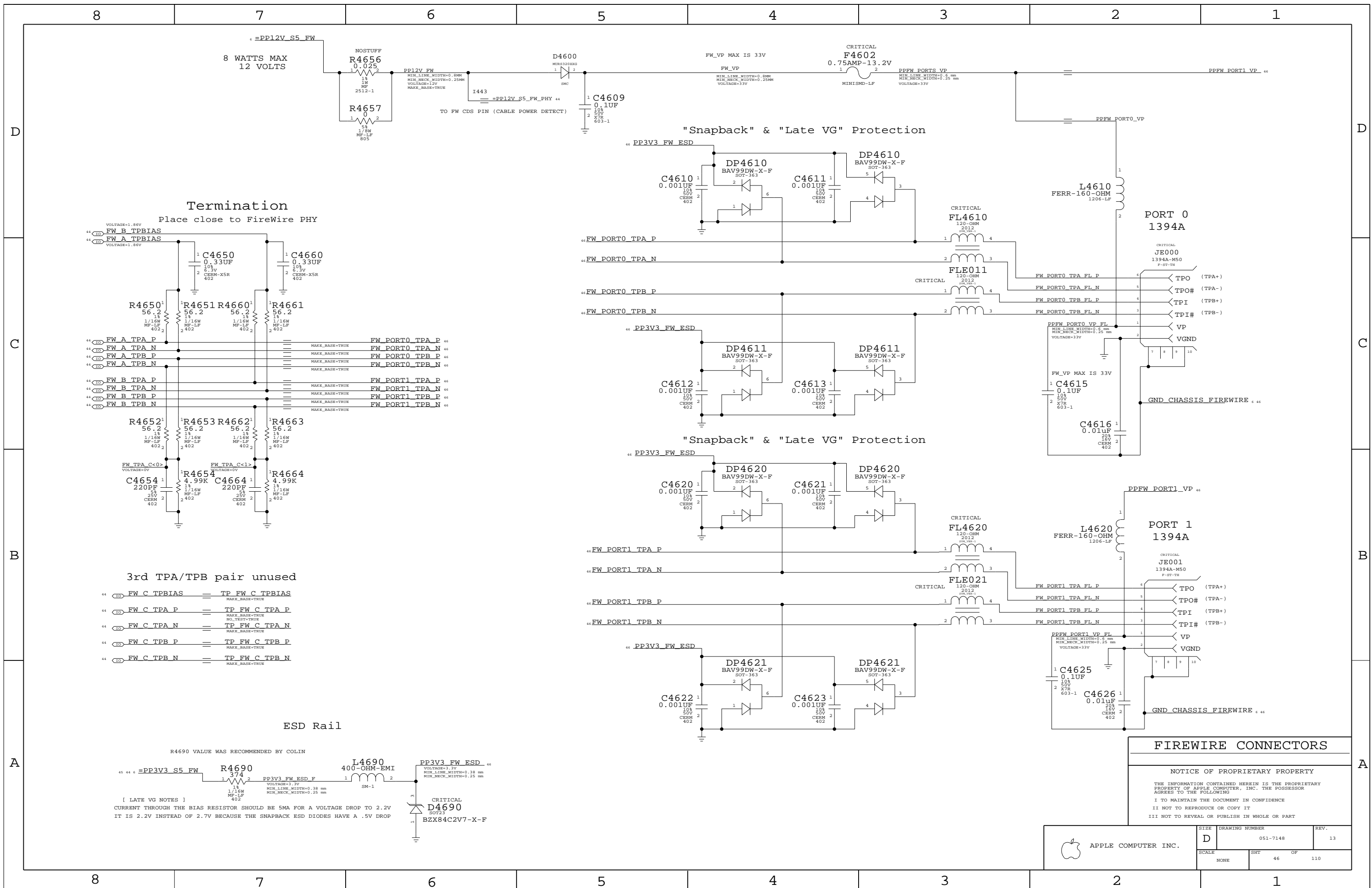
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING

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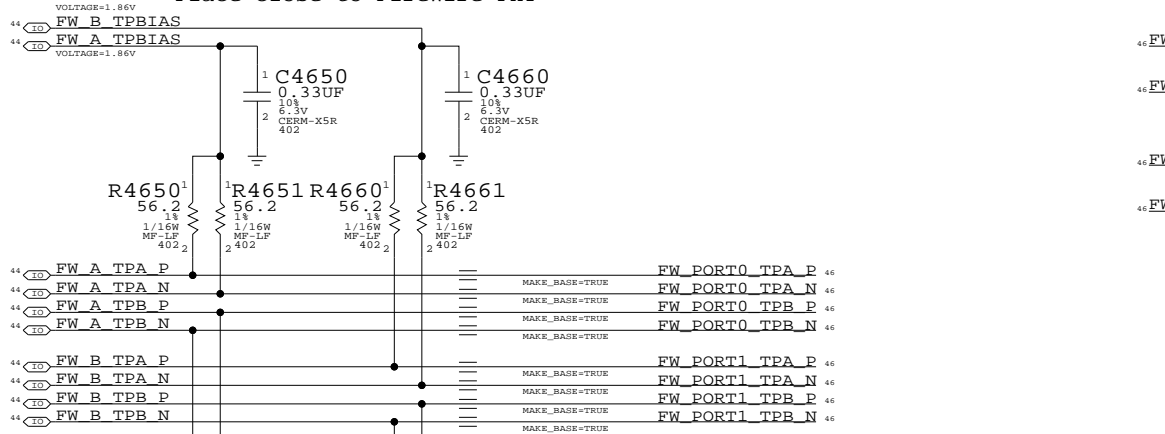
II NOT TO REPRODUCE OR COPY IT

III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

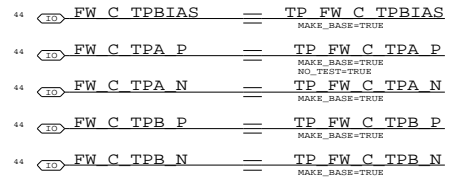
APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHT 45 OF	110



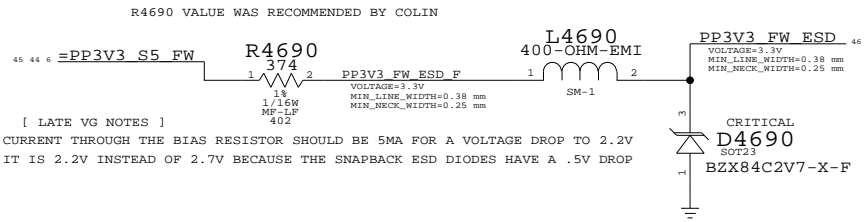
Termination
Place close to FireWire PHY



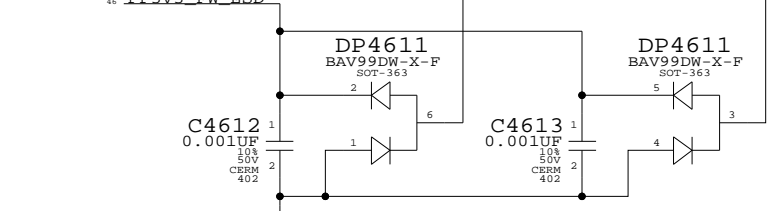
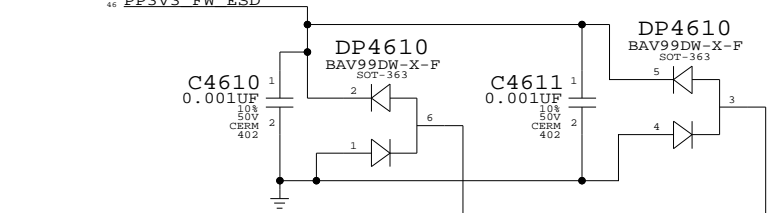
3rd TPA/TPB pair unused



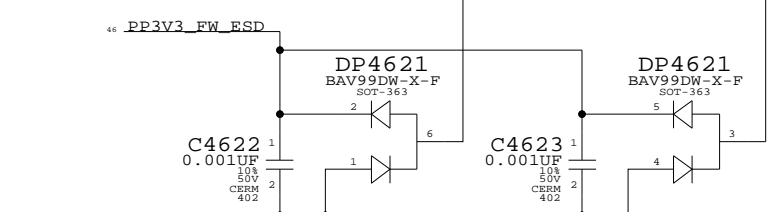
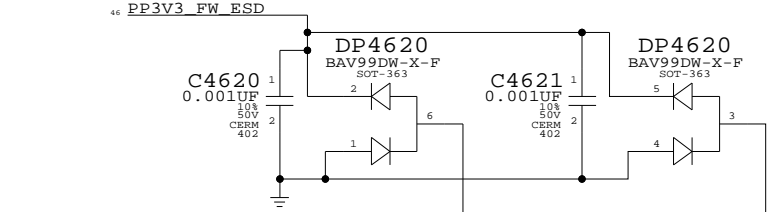
ESD Rail



"Snapback" & "Late VG" Protection



"Snapback" & "Late VG" Protection

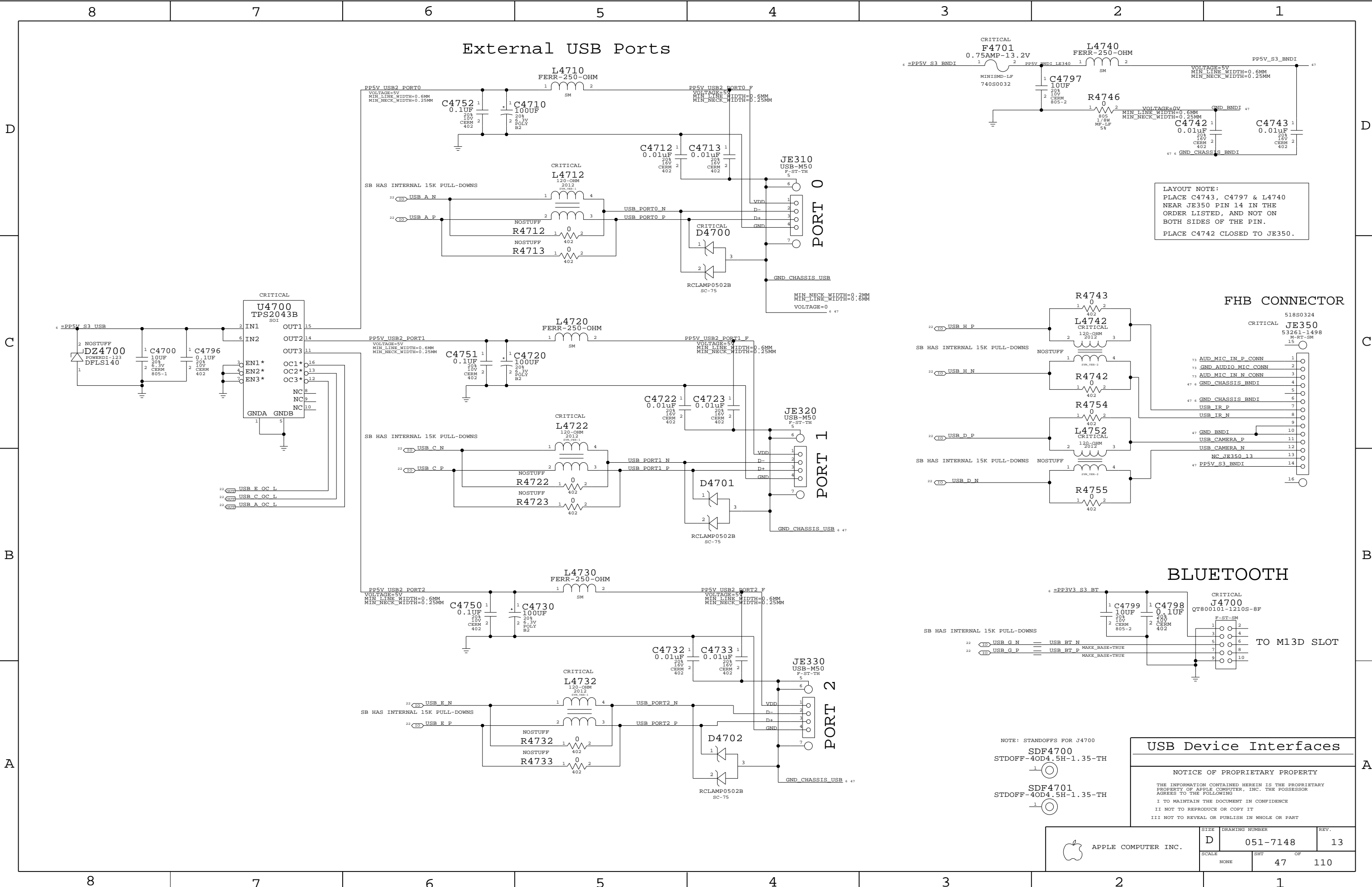


FIREWIRE CONNECTORS

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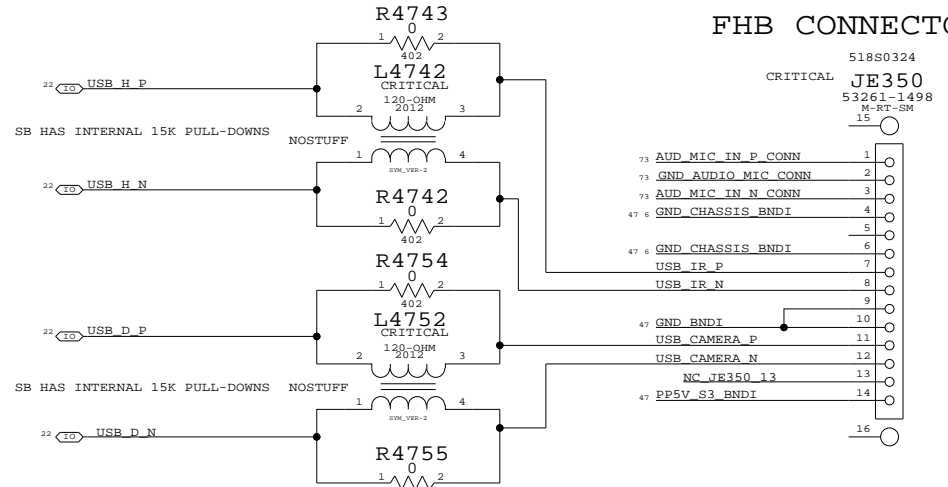
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	D	051-7148	13
SCALE	SHT	OF	110
NONE	46		

External USB Ports

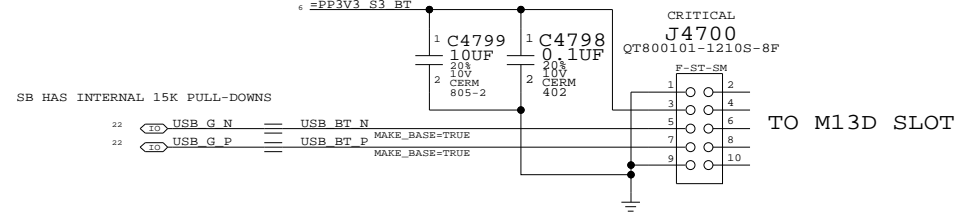


LAYOUT NOTE:
 PLACE C4743, C4797 & L4740
 NEAR JE350 PIN 14 IN THE
 ORDER LISTED, AND NOT ON
 BOTH SIDES OF THE PIN.
 PLACE C4742 CLOSED TO JE350.

FHB CONNECTOR



BLUETOOTH



NOTE: STANDOFFS FOR J4700
 SDF4700
 STDOFF-40D4.5H-1.35-TH
 SDF4701
 STDOFF-40D4.5H-1.35-TH

USB Device Interfaces

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	NONE	SHT	OF
		47	110

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	<small>SCALE</small> NONE	<small>SHT</small> 48 OF	<small>110</small>

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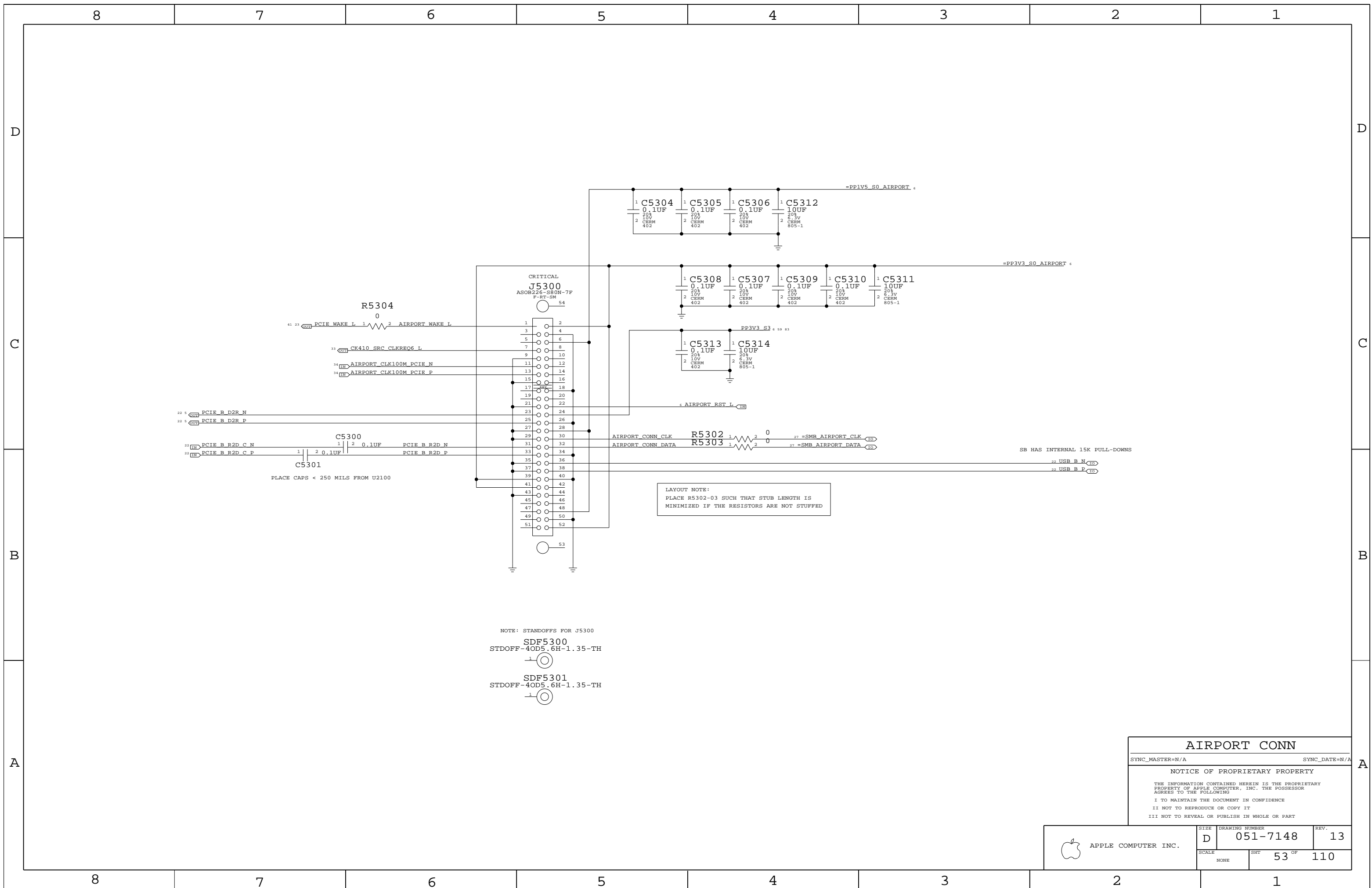
5

4

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R5304
0

41 23 PCIE_WAKE_L 1 2 AIRPORT_WAKE_L

33 CK410_SRC_CLKREQ6_L

34 AIRPORT_CLK100M_PCIE_N

34 AIRPORT_CLK100M_PCIE_P

22 PCIE_B_D2R_N

22 PCIE_B_D2R_P

22 PCIE_B_R2D_C_N

22 PCIE_B_R2D_C_P

C5300

1 2 0.1UF

PCIE_B_R2D_N

PCIE_B_R2D_P

C5301

PLACE CAPS < 250 MILS FROM U2100

AIRPORT_CONN_CLK

AIRPORT_CONN_DATA

R5302

R5303

23 =SMB_AIRPORT_CLK

27 =SMB_AIRPORT_DATA

SB HAS INTERNAL 15K PULL-DOWNS

22 USB_B_N

22 USB_B_P

LAYOUT NOTE:
PLACE R5302-03 SUCH THAT STUB LENGTH IS
MINIMIZED IF THE RESISTORS ARE NOT STUFFED

NOTE: STANDOFFS FOR J5300

SDF5300

STDOFF-40D5.6H-1.35-TH



SDF5301

STDOFF-40D5.6H-1.35-TH



AIRPORT CONN
 SYNC_MASTER=N/A SYNC_DATE=N/A
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	D	051-7148	13
SCALE	SHT	OF	
NONE	53	110	

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22 PCIE C R2D C N == TP PCIE C R2D C N
MAKE_BASE=TRUE

22 PCIE C R2D C P == TP PCIE C R2D C P
MAKE_BASE=TRUE

22 PCIE C D2R N == TP PCIE C D2R N
MAKE_BASE=TRUE

22 PCIE C D2R P == TP PCIE C D2R P
MAKE_BASE=TRUE

22 PCIE D R2D C N == TP PCIE D R2D C N
MAKE_BASE=TRUE

22 PCIE D R2D C P == TP PCIE D R2D C P
MAKE_BASE=TRUE

22 PCIE D D2R N == TP PCIE D D2R N
MAKE_BASE=TRUE

22 PCIE D D2R P == TP PCIE D D2R P
MAKE_BASE=TRUE

22 PCIE E R2D C N == TP PCIE E R2D C N
MAKE_BASE=TRUE

22 PCIE E R2D C P == TP PCIE E R2D C P
MAKE_BASE=TRUE

22 PCIE E D2R N == TP PCIE E D2R N
MAKE_BASE=TRUE

22 PCIE E D2R P == TP PCIE E D2R P
MAKE_BASE=TRUE

22 PCIE F R2D C N == TP PCIE F R2D C N
MAKE_BASE=TRUE

22 PCIE F R2D C P == TP PCIE F R2D C P
MAKE_BASE=TRUE

22 PCIE F D2R N == TP PCIE F D2R N
MAKE_BASE=TRUE

22 PCIE F D2R P == TP PCIE F D2R P
MAKE_BASE=TRUE

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PCIE UNUSED PORTS

SYNC_MASTER=N/A SYNC_DATE=N/A


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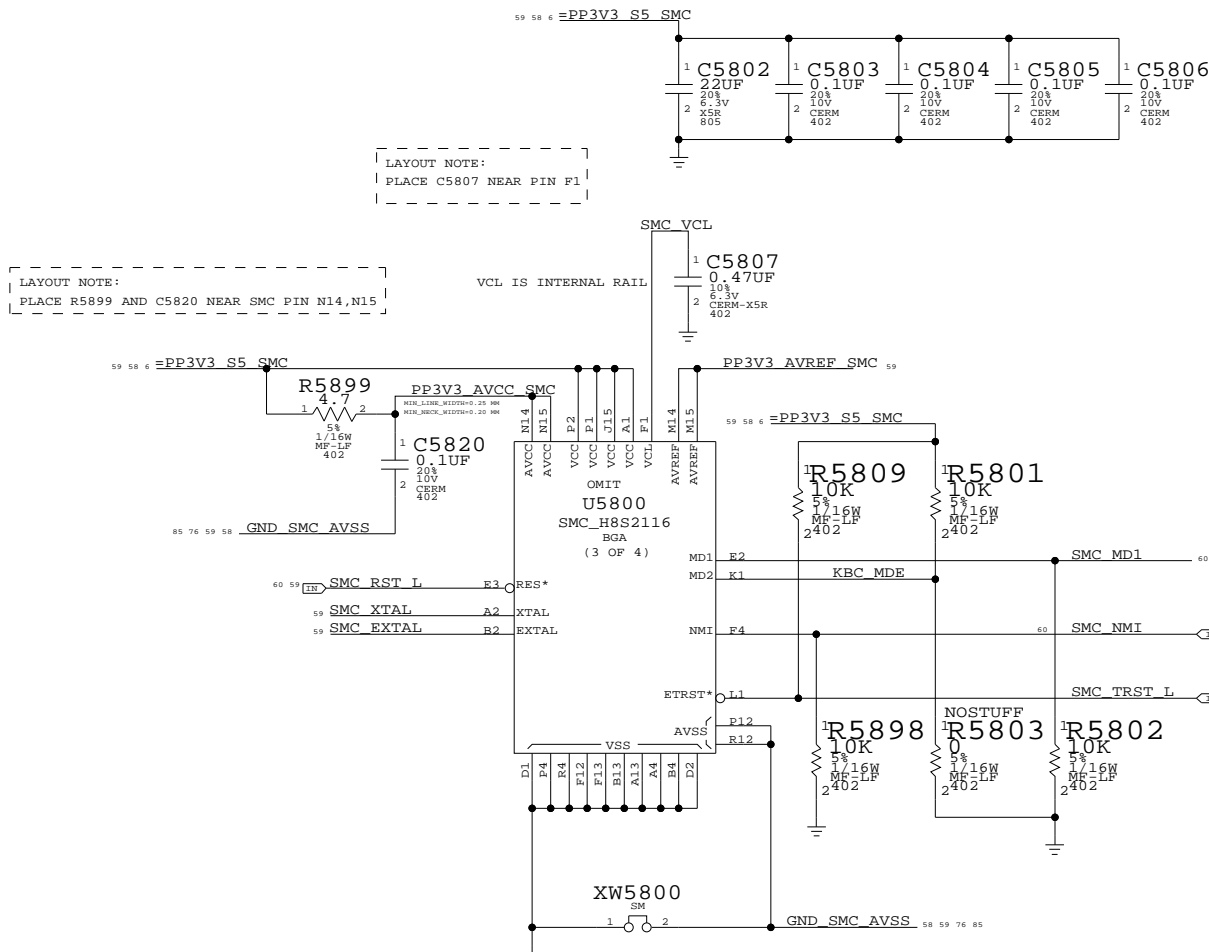
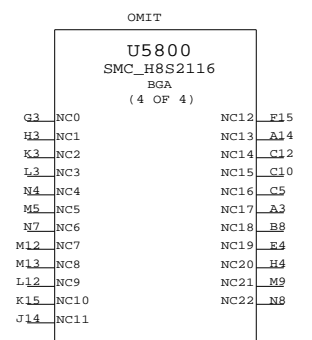
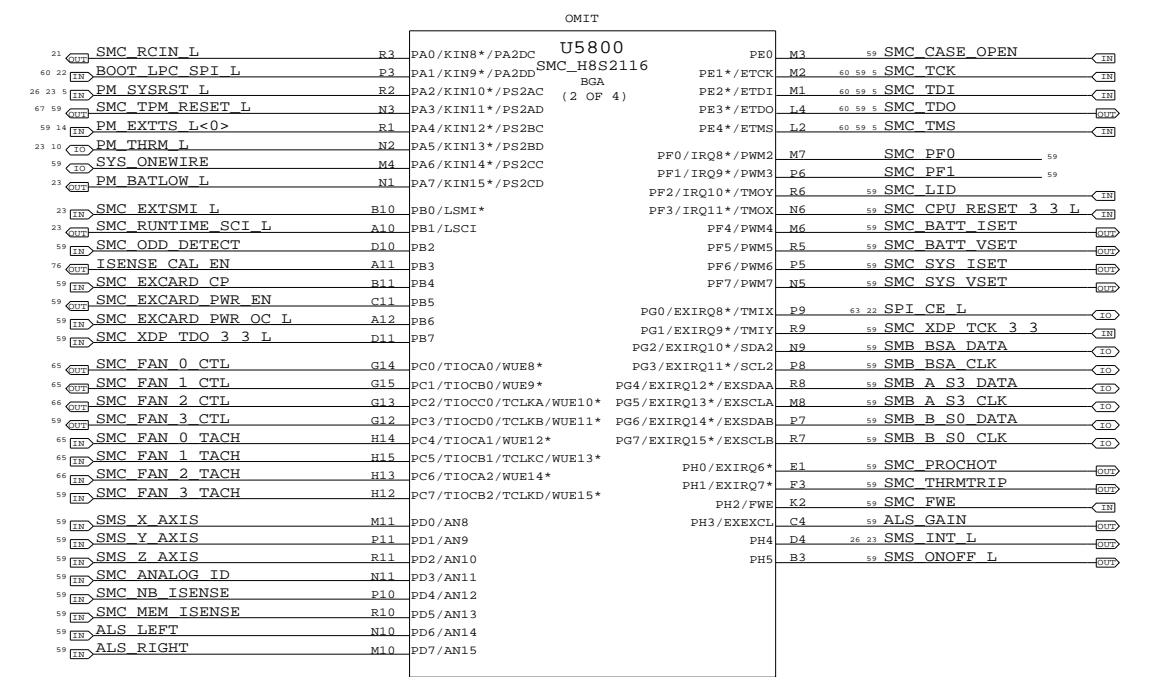
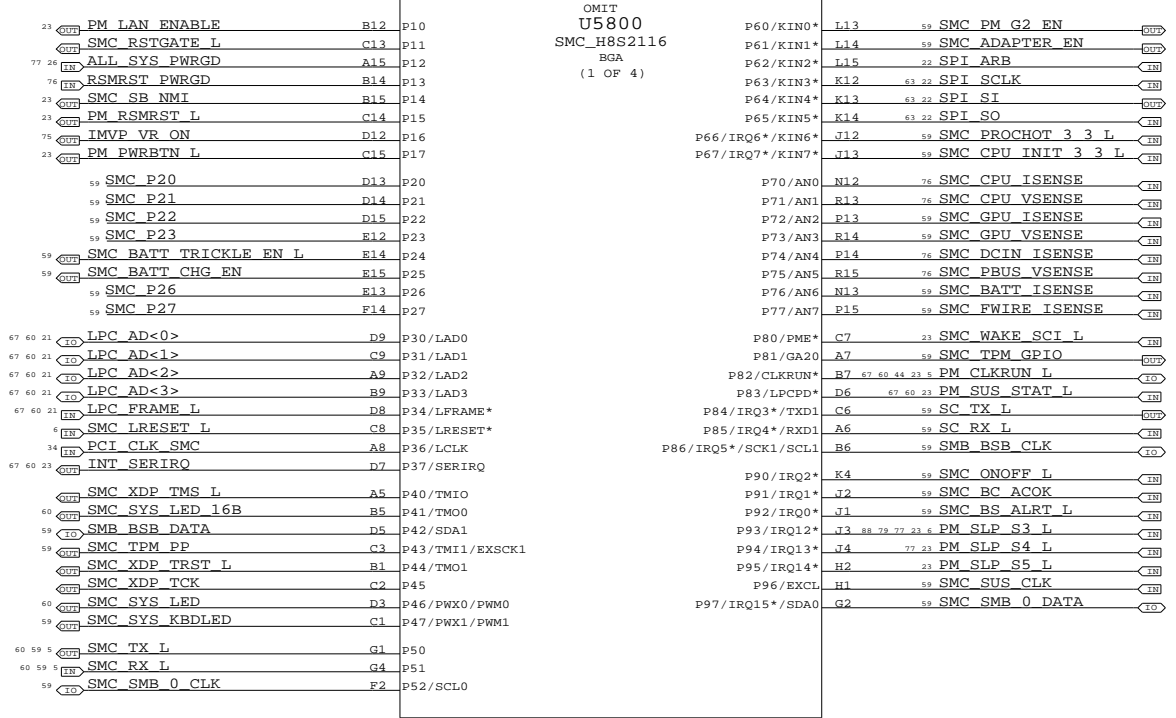
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 APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SH1 54 OF	110

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



SMC

SYNC_MASTER=N/A SYNC_DATE=N/A

NOTICE OF PROPRIETARY PROPERTY

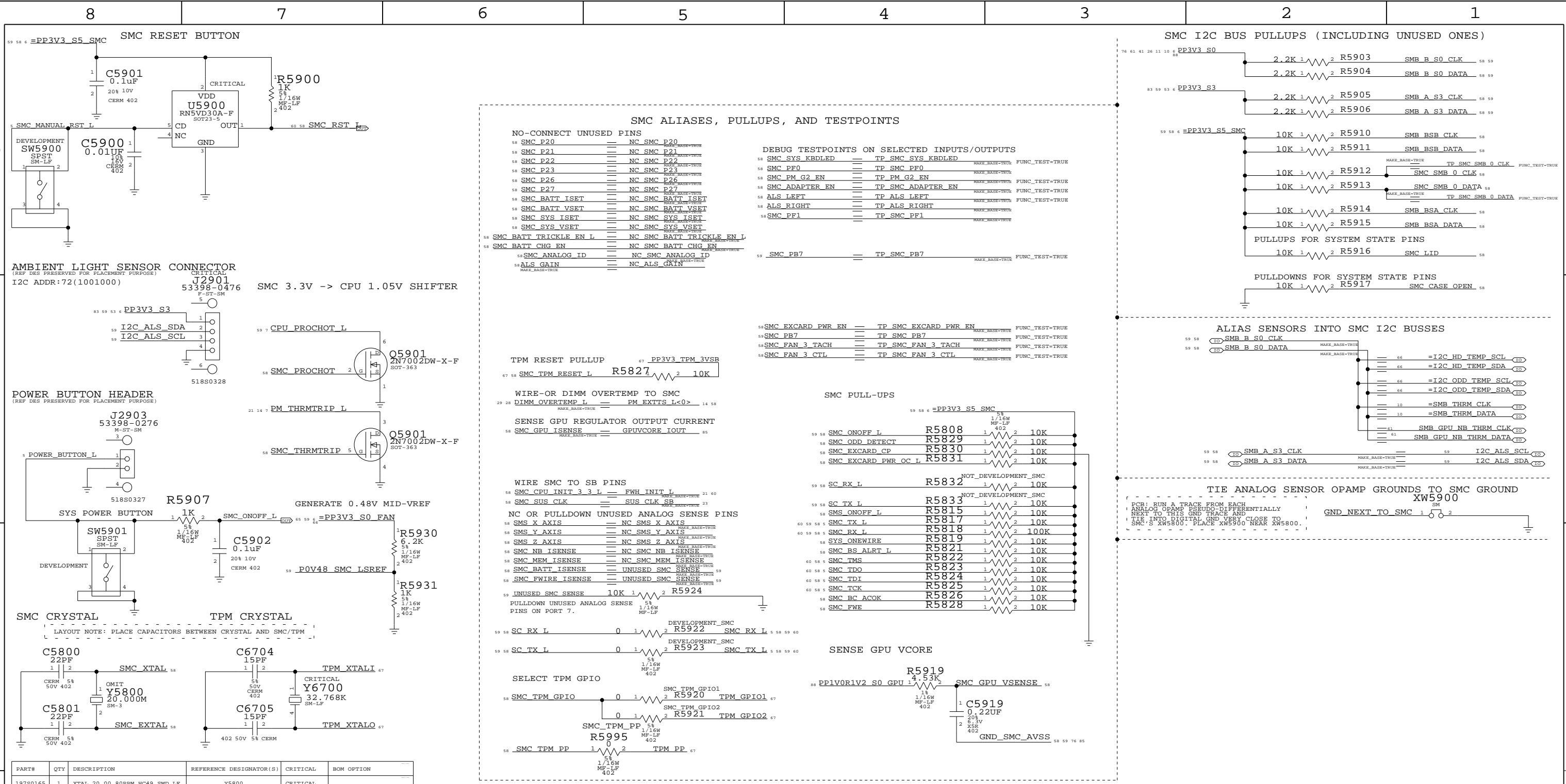
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	58 OF	110
NONE			



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

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS
35381381	35381278		U5940	DONE IN M50/M51

SMC & TPM SUPPORT

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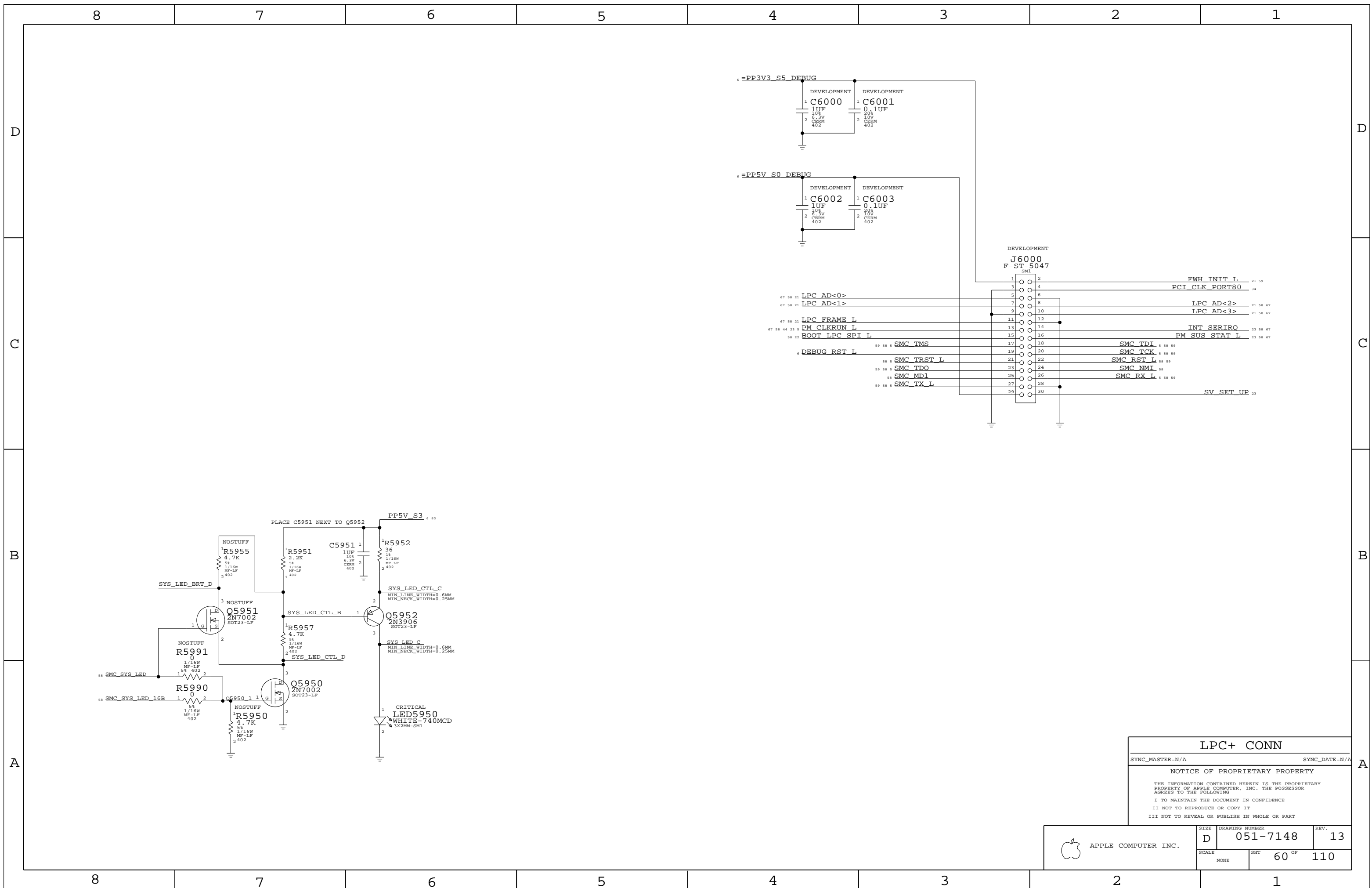
SIZE	DRAWING NUMBER	REV.
D	051-7148	13

SCALE: NONE SHEET: 59 OF 110

APPLE COMPUTER INC.

1 PCB: ENSURE FSB_CPUSET_L PINS OUT FROM U1200 AND MINIMIZE ROUTER LENGTH TO U5999.

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



LPC+ CONN

SYNC_MASTER=N/A SYNC_DATE=N/A

NOTICE OF PROPRIETARY PROPERTY

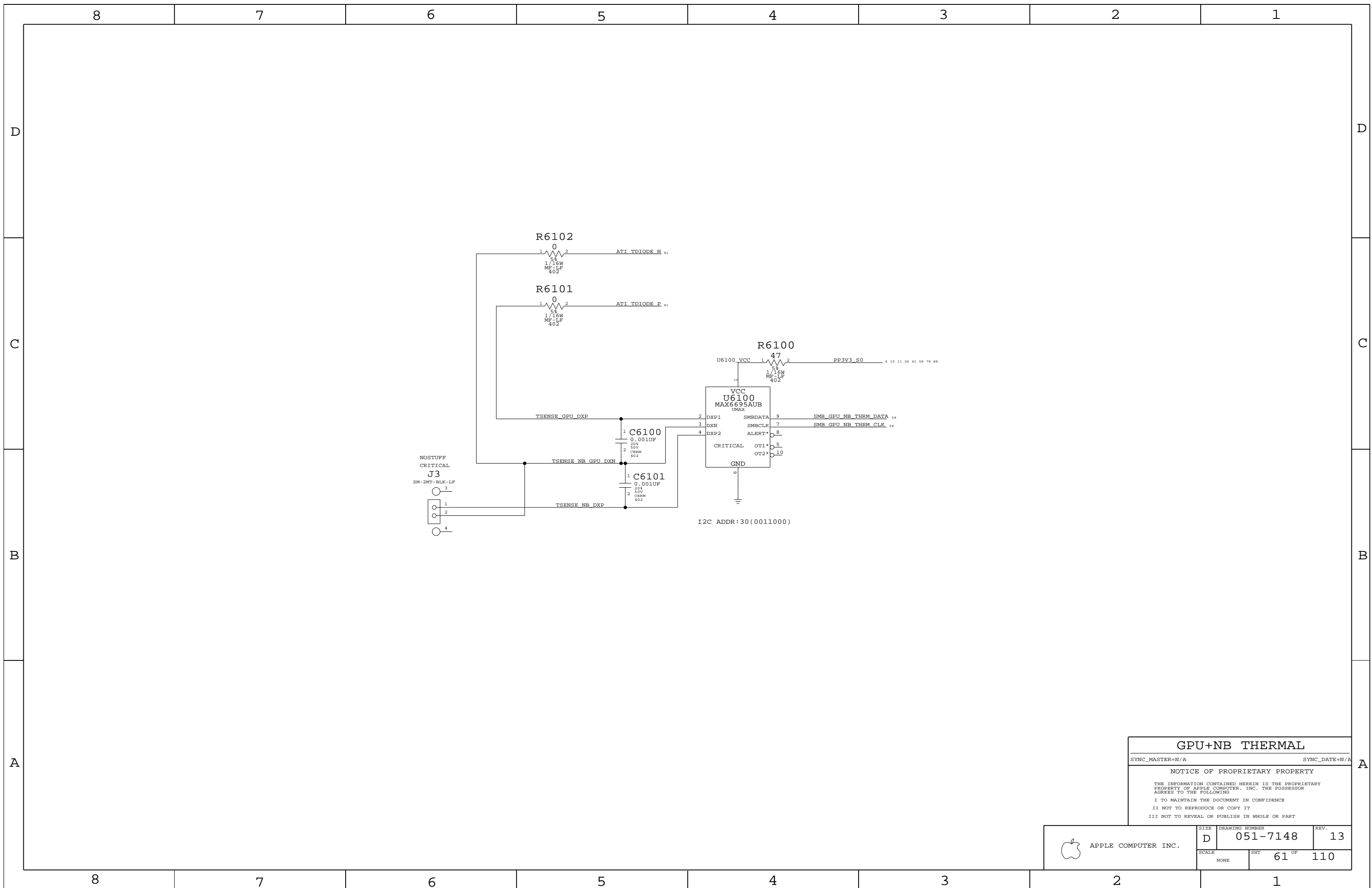
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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHEETS 60 OF 110	



GPU+NB THERMAL

SYNC_MASTER=N/A SYNC_DATE=N/A

NOTICE OF PROPRIETARY PROPERTY

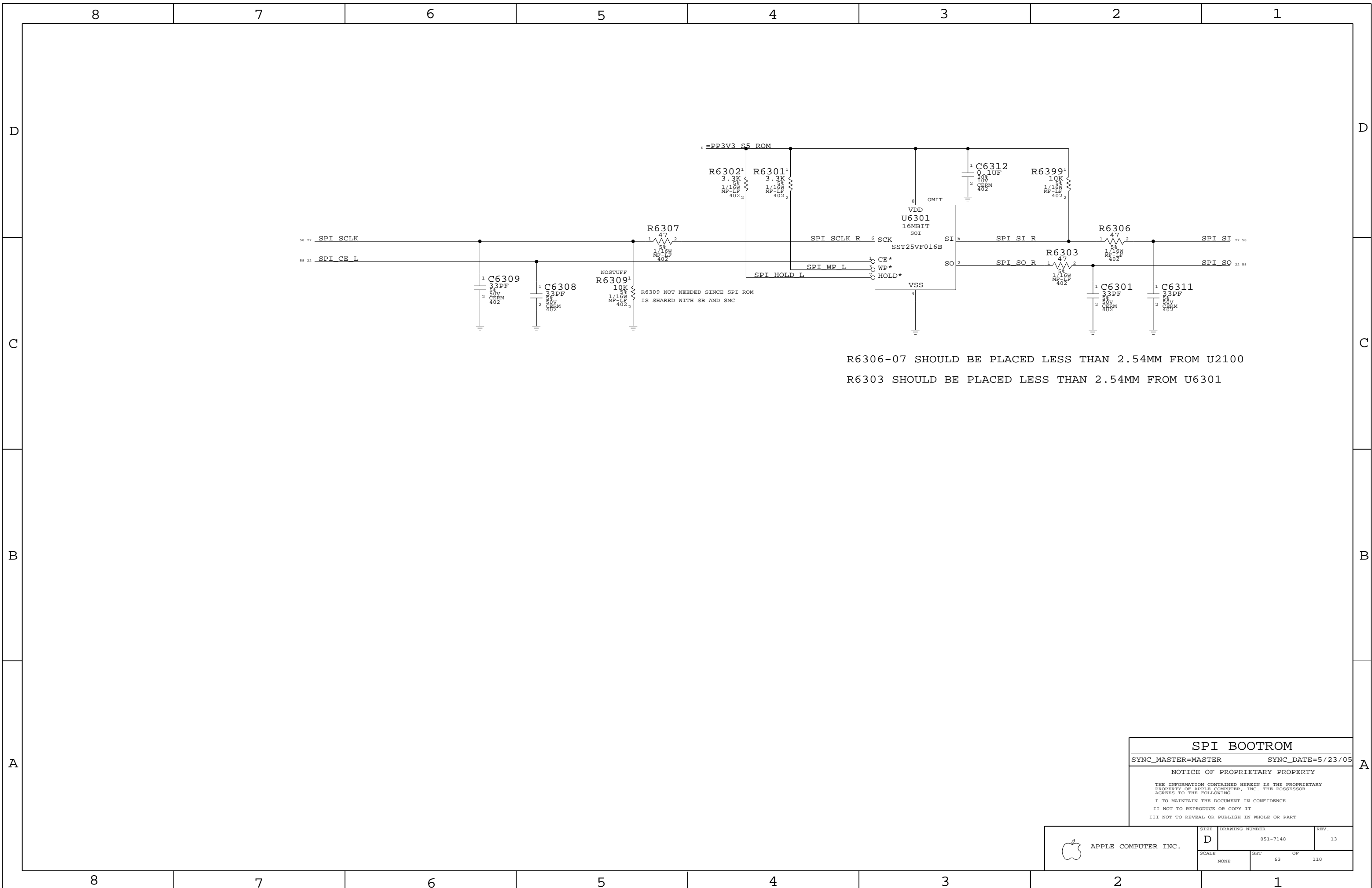
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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHT 61 OF	110



R6306-07 SHOULD BE PLACED LESS THAN 2.54MM FROM U2100
 R6303 SHOULD BE PLACED LESS THAN 2.54MM FROM U6301


SPI BOOTROM

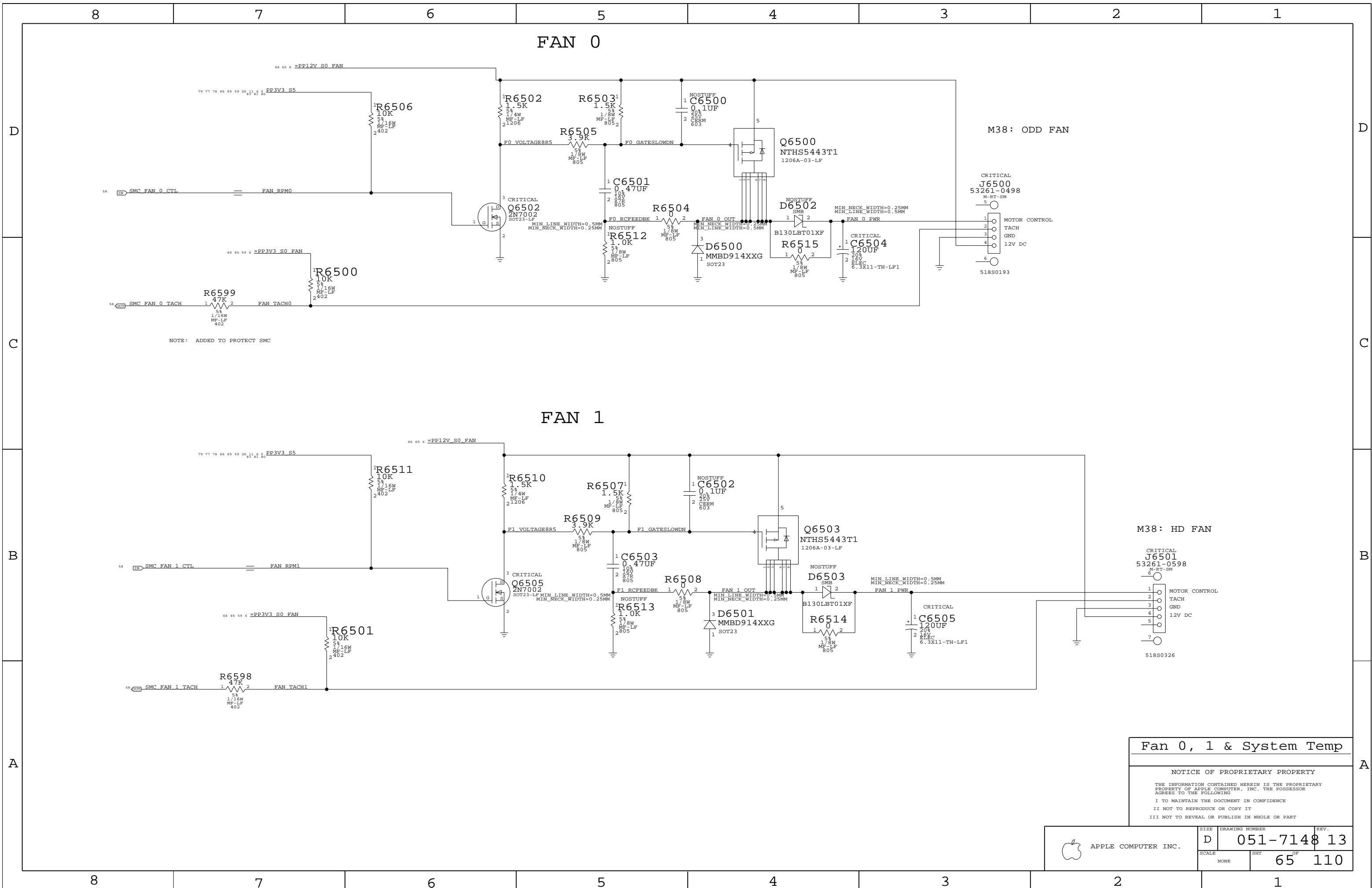
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	D	051-7148	13
SCALE	SHT OF		
NONE	63 OF		110



NOTE: ADDED TO PROTECT SMC

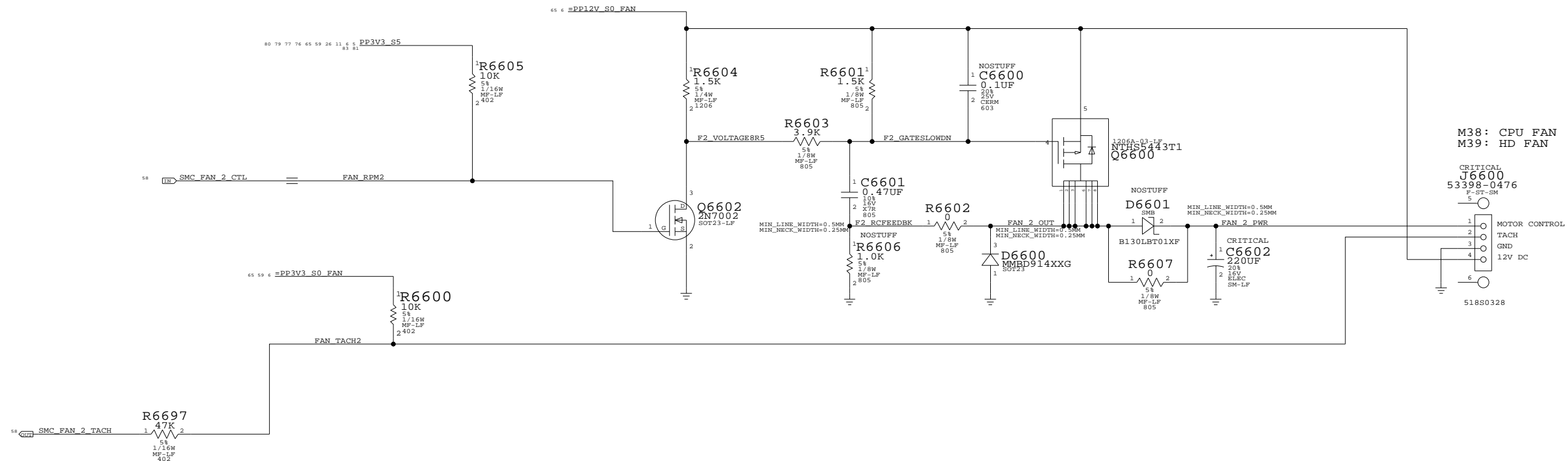
Fan 0, 1 & System Temp

NOTICE OF PROPRIETARY PROPERTY

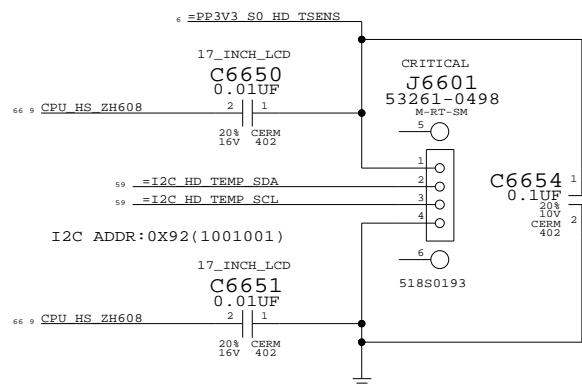
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	NONE	SHT	OF
		65	110

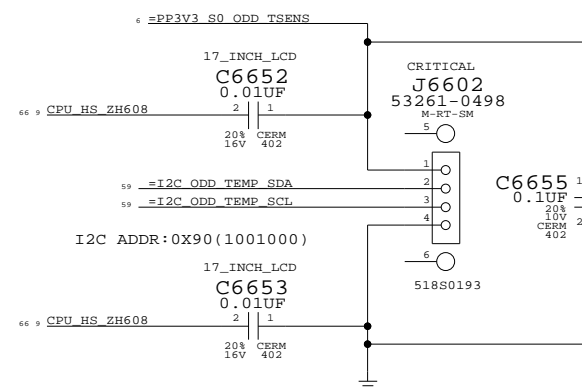
FAN 2



HD TEMP SENSOR



ODD TEMP SENSOR

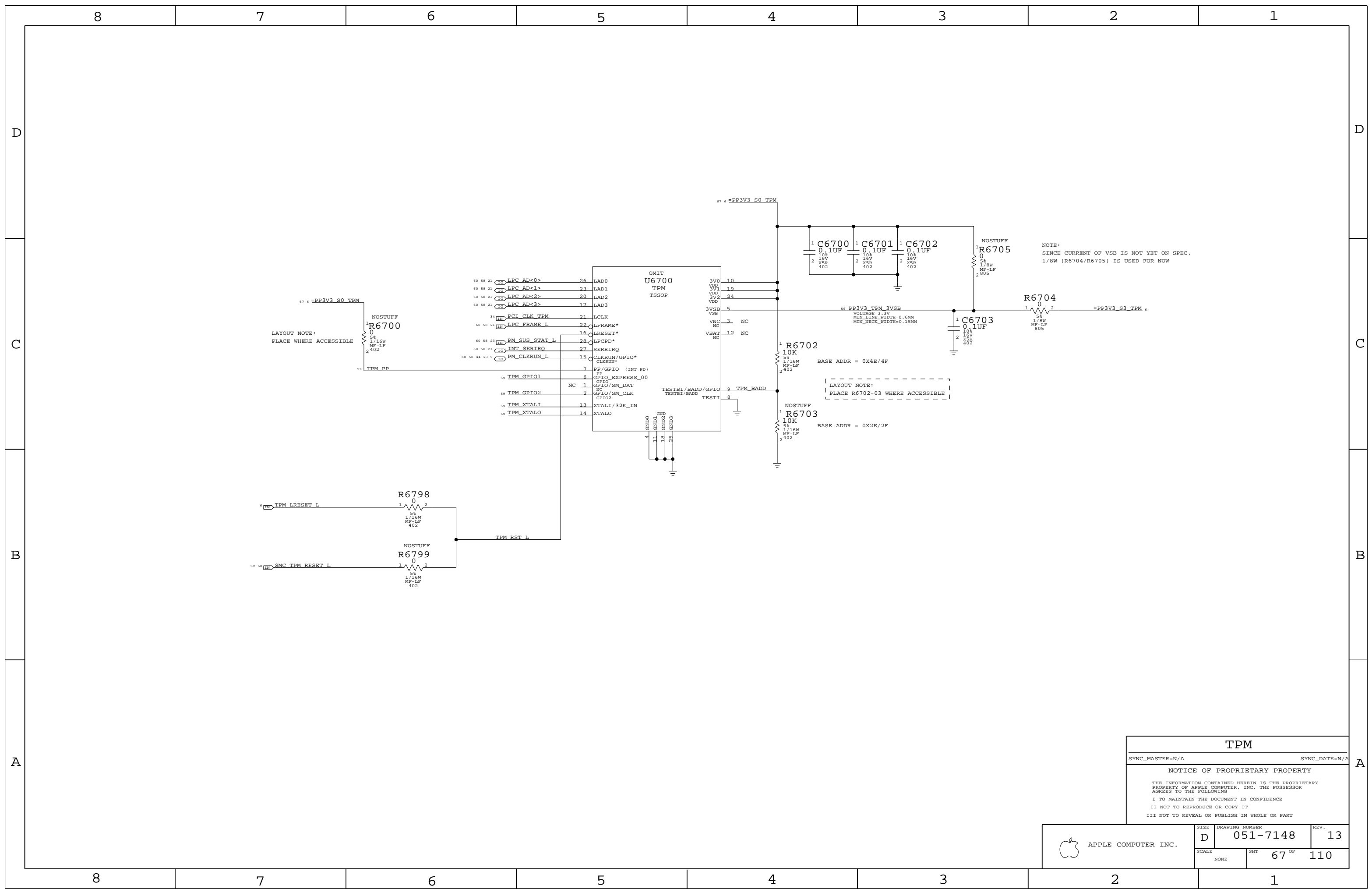


Fan 2 & HD Temp

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	OF	
NONE	66	110	



LAYOUT NOTE:
PLACE WHERE ACCESSIBLE

LAYOUT NOTE:
PLACE R6702-03 WHERE ACCESSIBLE

NOTE:
SINCE CURRENT OF VSB IS NOT YET ON SPEC,
1/8W (R6704/R6705) IS USED FOR NOW

TPM

SYNC_MASTER=N/A SYNC_DATE=N/A


NOTICE OF PROPRIETARY PROPERTY

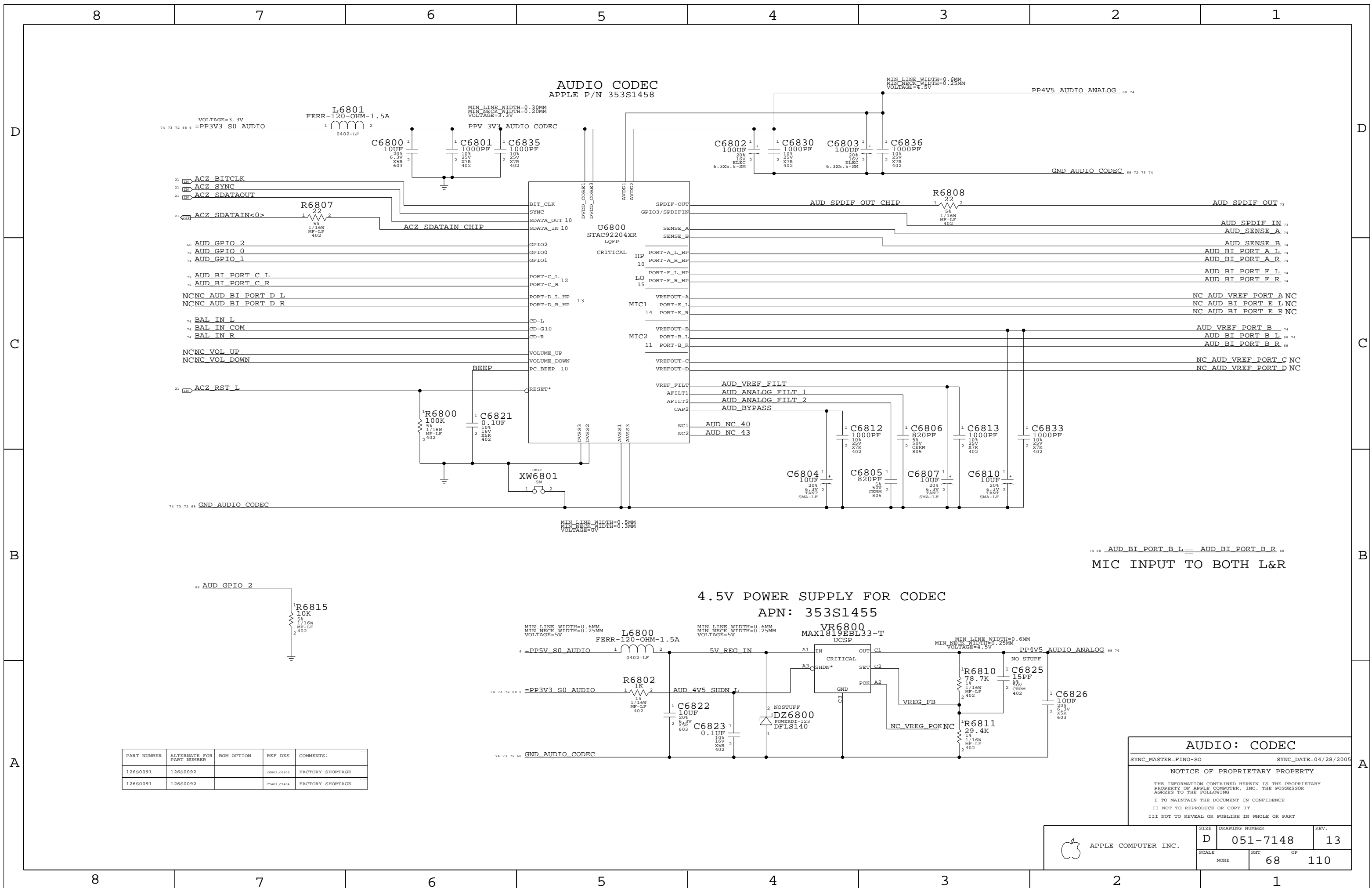
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 APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	67 OF 110	
NONE			



PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
126S0091	126S0092		C6802, C6803	FACTORY SHORTAGE
126S0091	126S0092		C7403, C7404	FACTORY SHORTAGE

AUDIO: CODEC

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

NOTICE OF PROPRIETARY PROPERTY

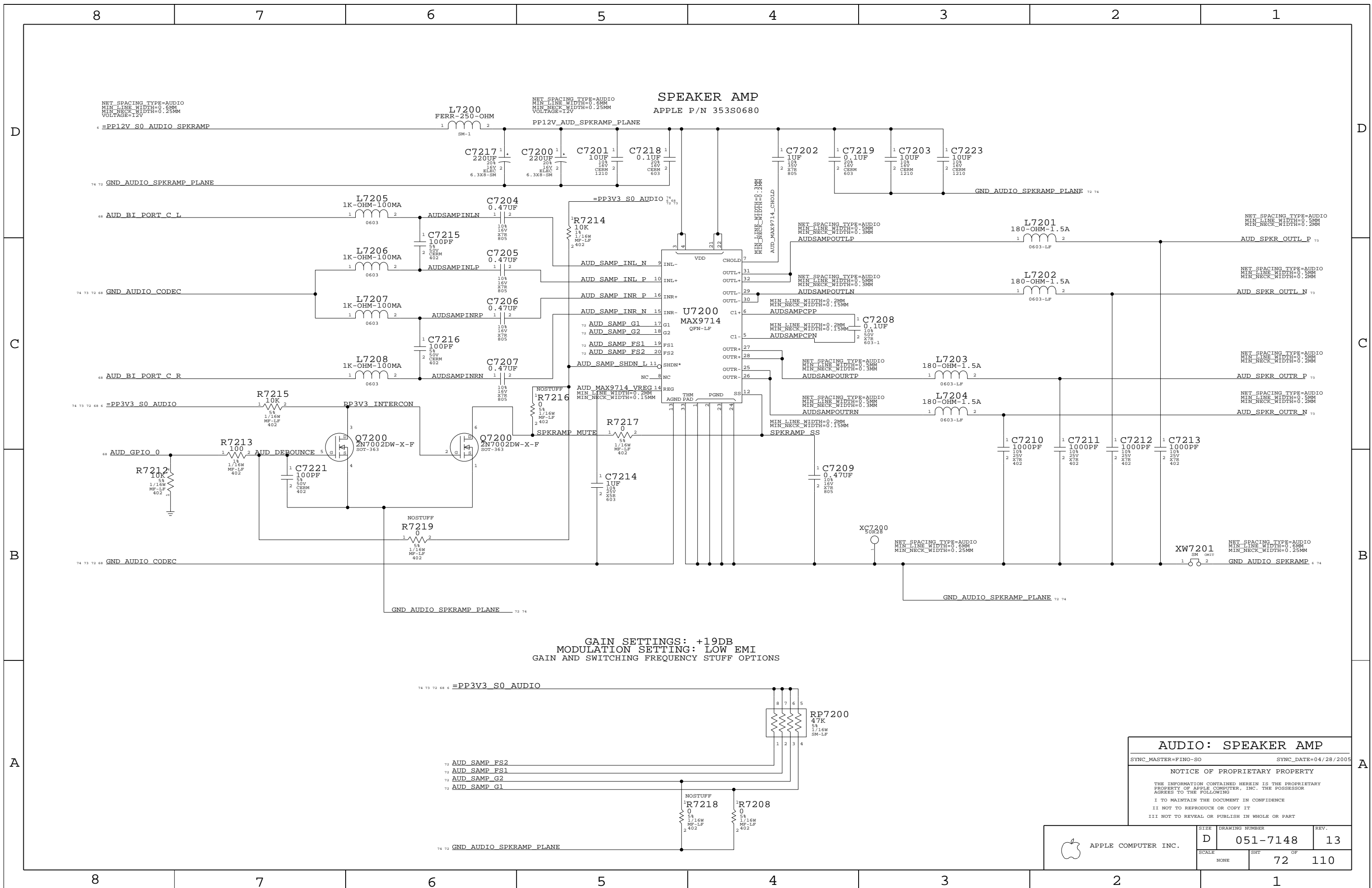
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHEET OF		
NONE	68 OF 110		

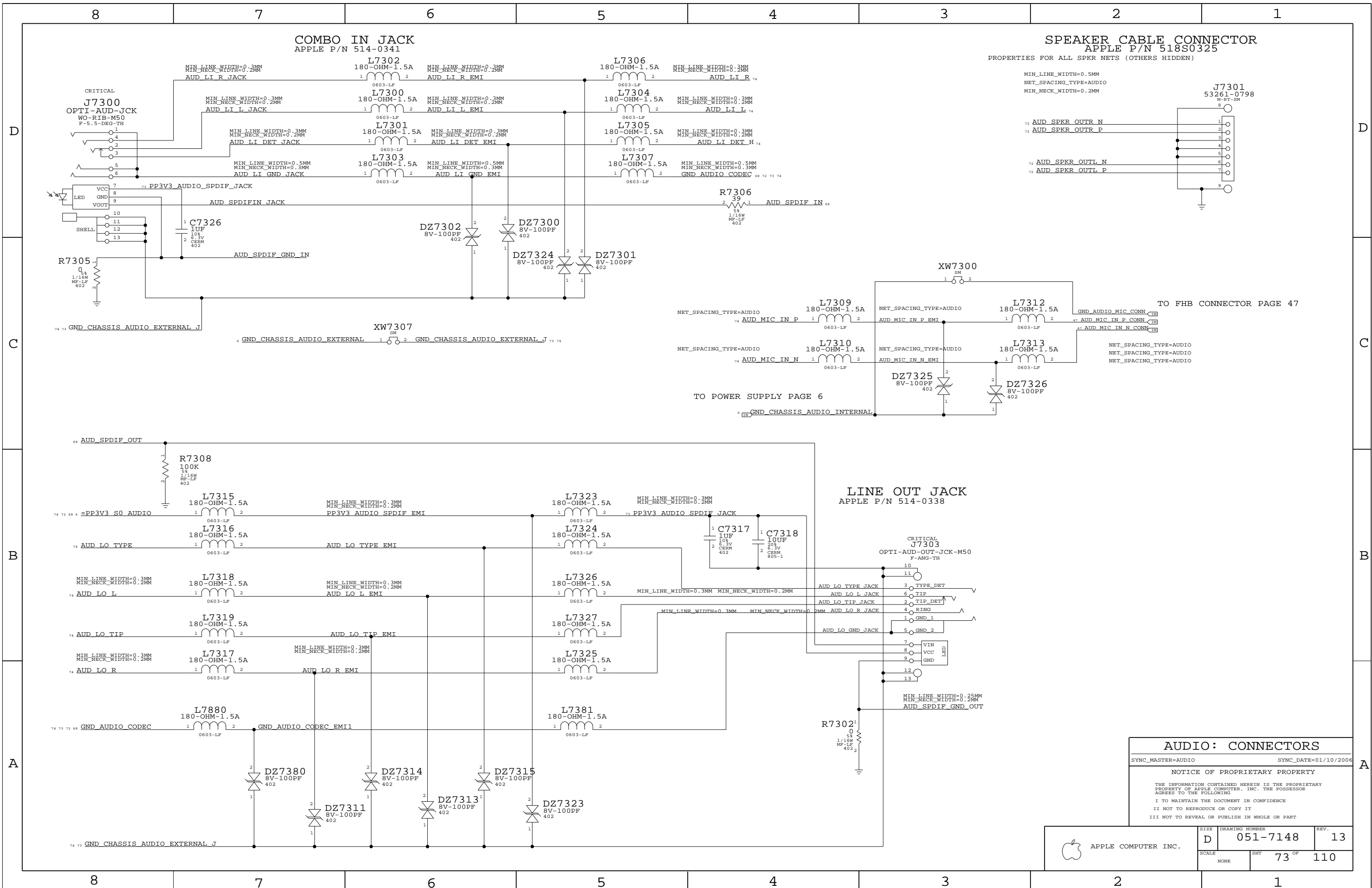


SPEAKER AMP
APPLE P/N 353S0680

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

AUDIO: SPEAKER AMP
SYNC_MASTER=FINO-SO SYNC_DATE=04/28/2005
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	NONE	SHT OF	72 OF 110



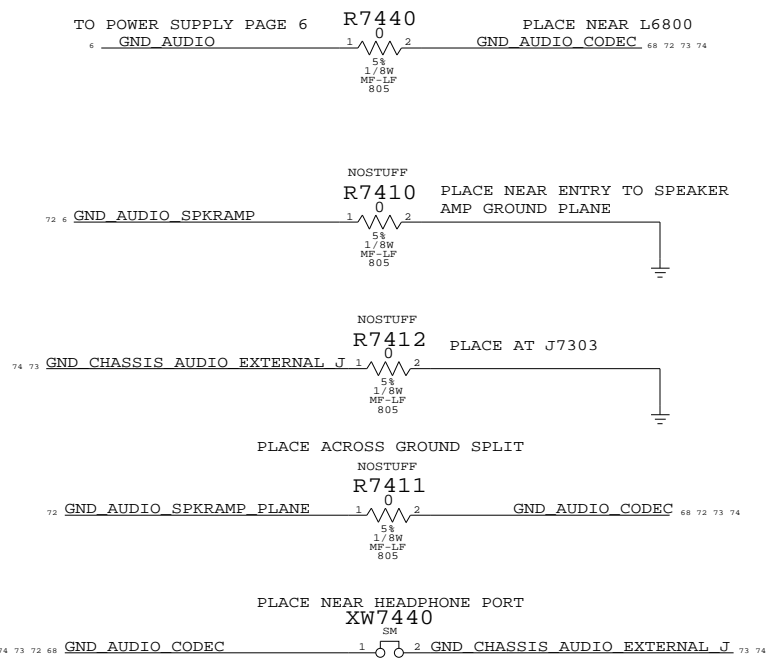
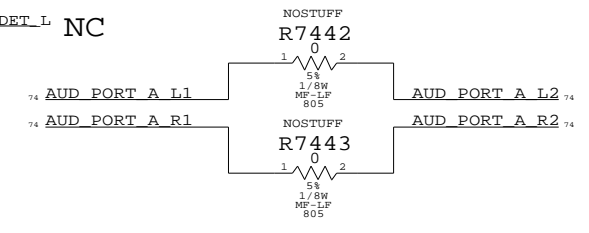
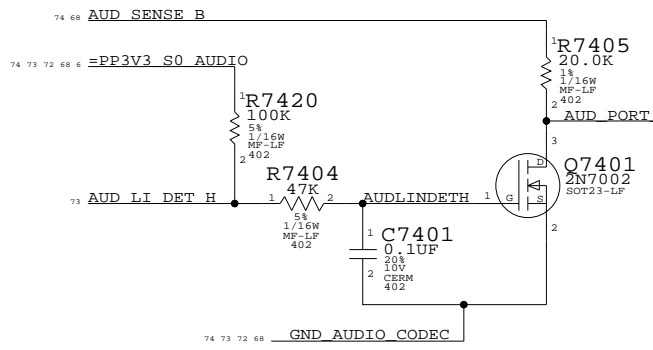
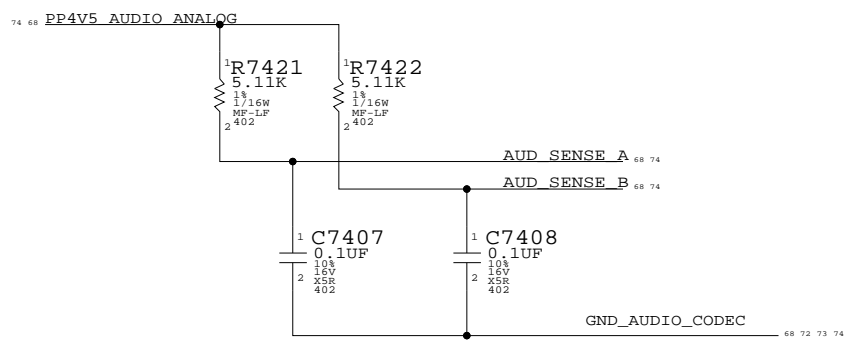
AUDIO: CONNECTORS
 SYNC_MASTER=AUDIO SYNC_DATE=01/10/2006
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	73 OF	110
NONE			

PORT F (LI) PLUG DETECT

AUDIO GROUND RETURNS

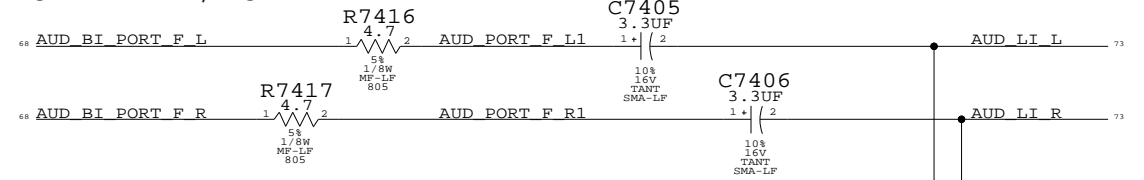
JACK SENSE PULL UPS (PLACE NEXT TO CODEC)



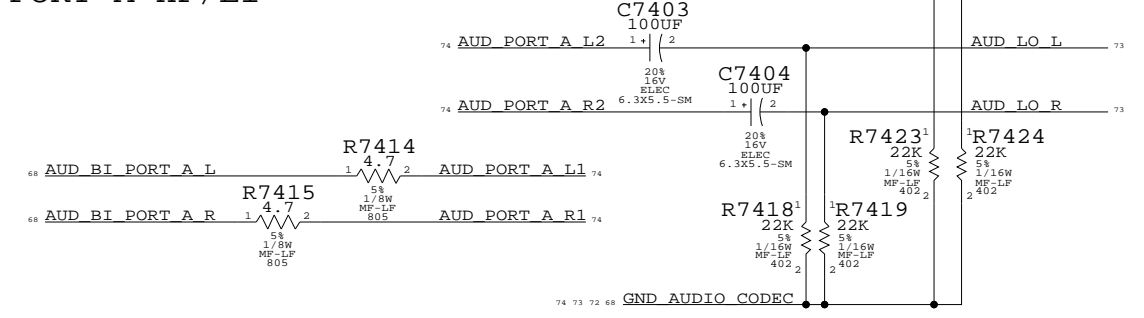
USED PORTS
 PORT A HP/LI
 PORT B MIC IN, VREF 80%
 PORT C BI SPEAKERS
 PORT F LI/LO

UNUSED PORTS
 PORT E SPDIF OUT DELEGATE
 PORT D

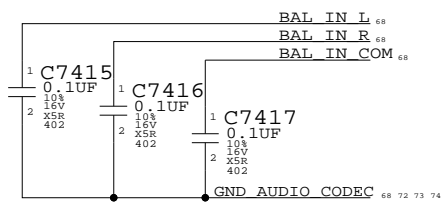
PORT F LI/LO



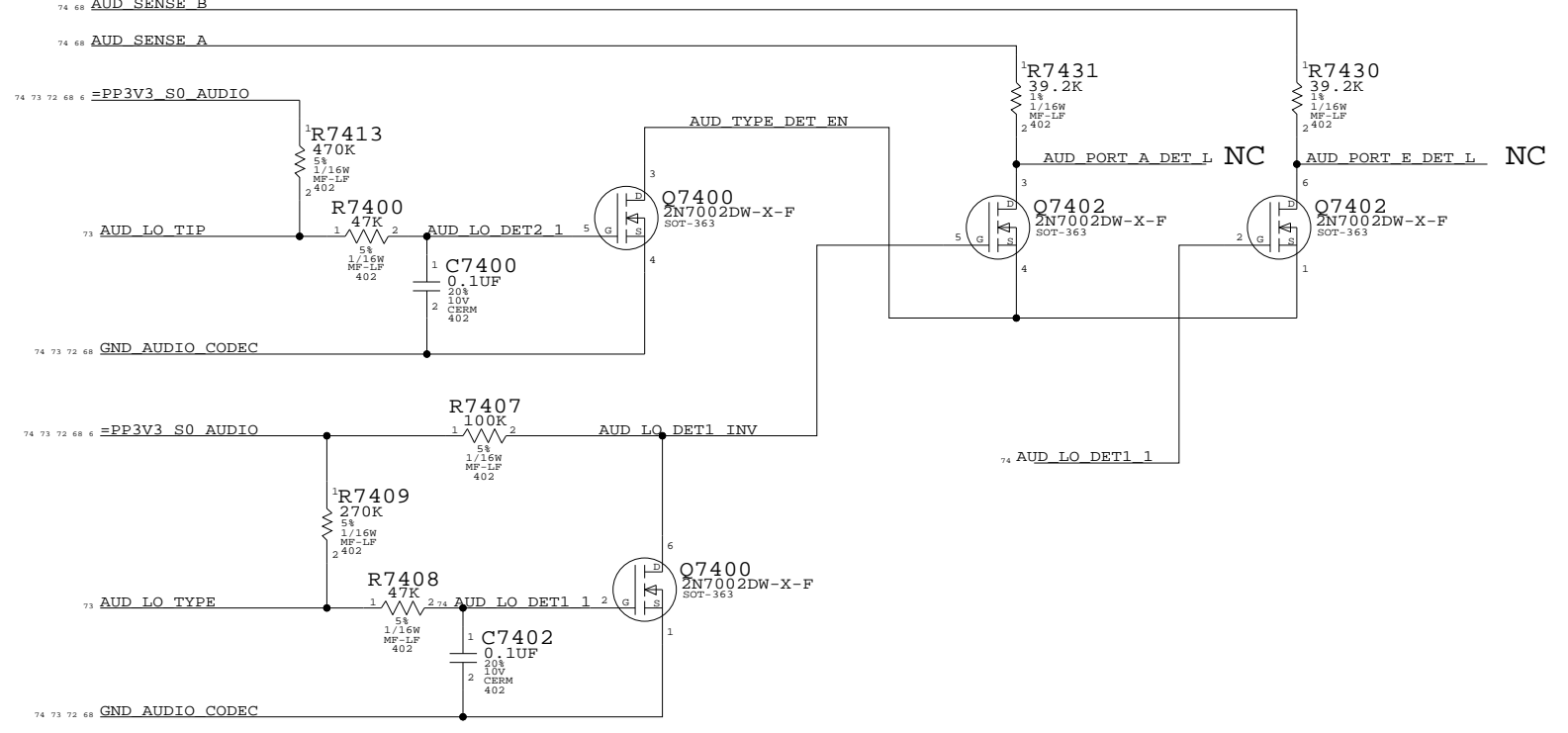
PORT A HP/LI



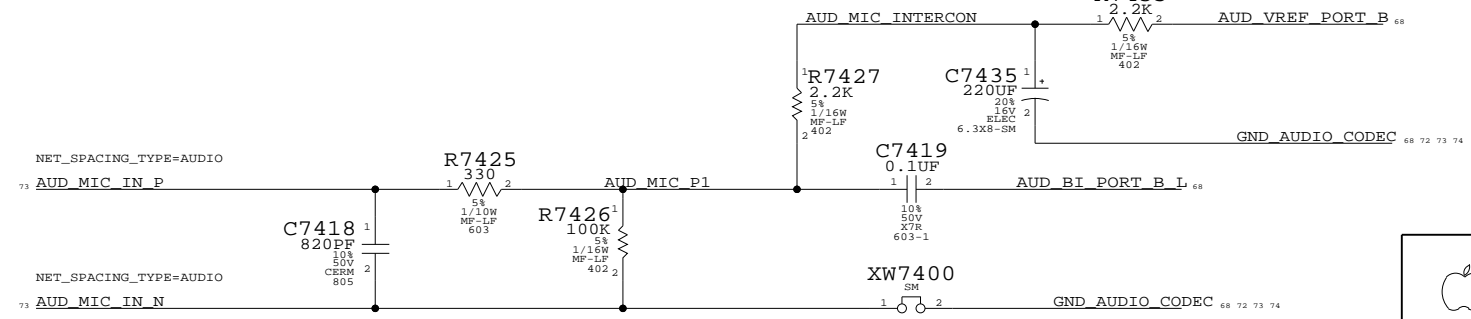
UNUSED PORT TERMINATION



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



MICROPHONE IMPEDANCE MATCHING CIRCUIT



AUDIO: POWER SUPPLIES

SYNC_MASTER=AUDIO SYNC_DATE=02/23/2006

NOTICE OF PROPRIETARY PROPERTY

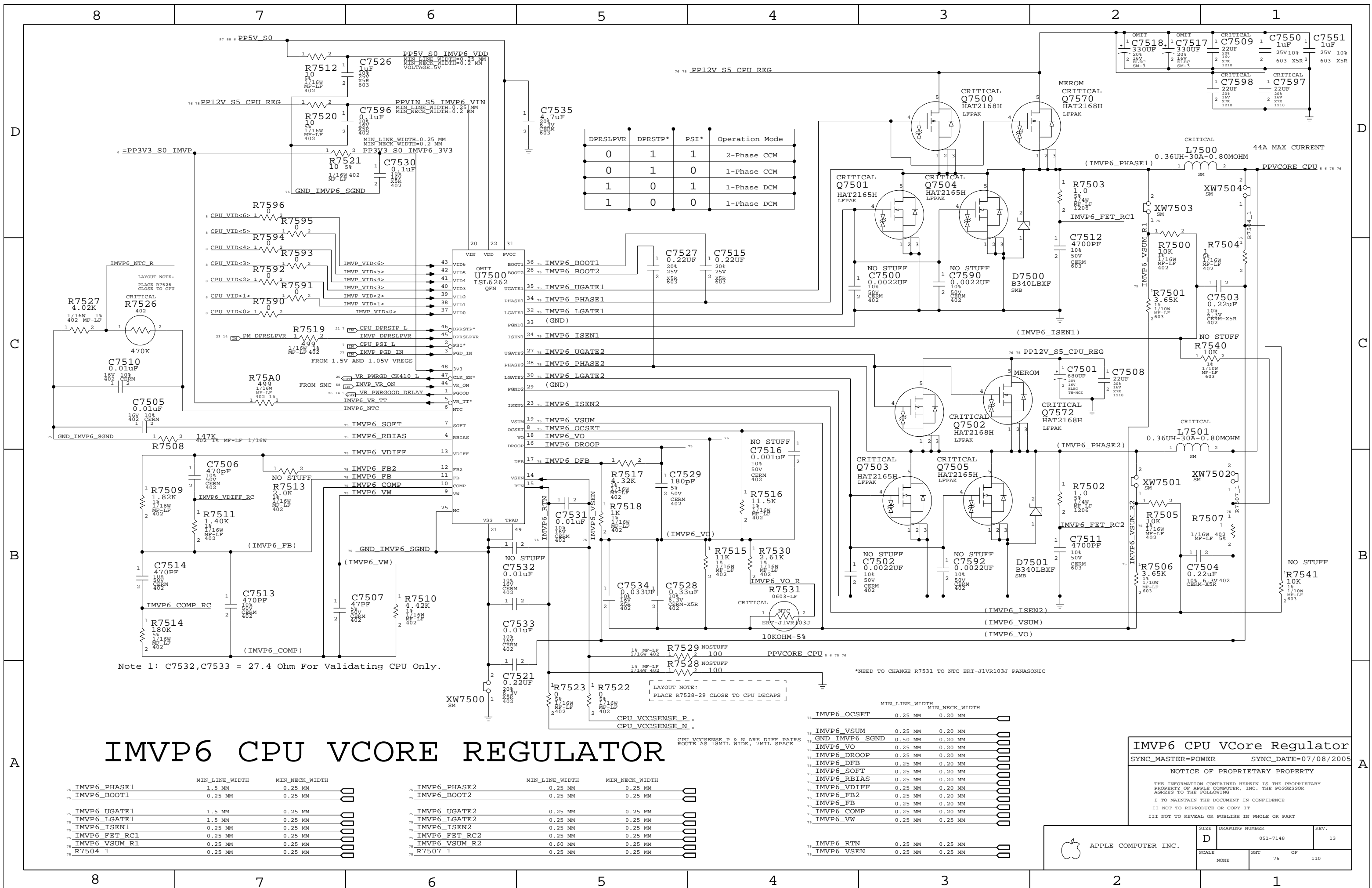
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	74 OF	110
NONE			



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

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

LAYOUT NOTE:
PLACE R7528-29 CLOSE TO CPU DECAPS

*NEED TO CHANGE R7531 TO NTC ERT-J1VR103J PANASONIC

IMVP6 CPU VCore Regulator

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

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

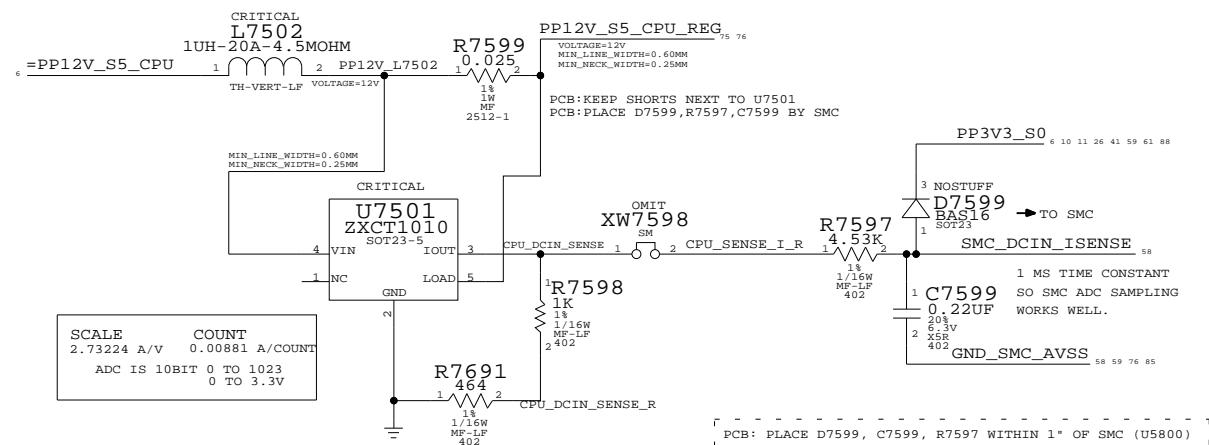
	MIN_LINE_WIDTH	MIN_NECK_WIDTH
IMVP6_OCSET	0.25 MM	0.20 MM
IMVP6_VSUM	0.25 MM	0.20 MM
GND_IMVP6_SGND	0.50 MM	0.20 MM
IMVP6_VO	0.25 MM	0.20 MM
IMVP6_DROOP	0.25 MM	0.20 MM
IMVP6_DFB	0.25 MM	0.20 MM
IMVP6_SOFT	0.25 MM	0.20 MM
IMVP6_RBIAS	0.25 MM	0.20 MM
IMVP6_VDIFF	0.25 MM	0.20 MM
IMVP6_FB2	0.25 MM	0.20 MM
IMVP6_FB	0.25 MM	0.20 MM
IMVP6_COMP	0.25 MM	0.20 MM
IMVP6_VW	0.25 MM	0.25 MM
IMVP6_RTIN	0.25 MM	0.25 MM
IMVP6_VSEN	0.25 MM	0.25 MM

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

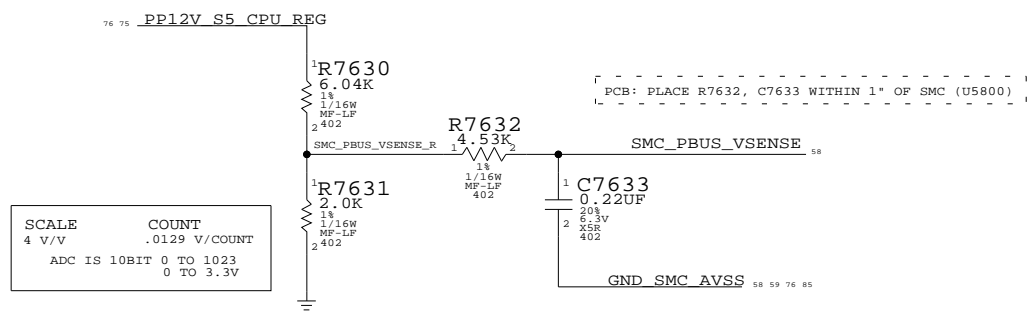
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHEET	OF	
NONE	75	110	

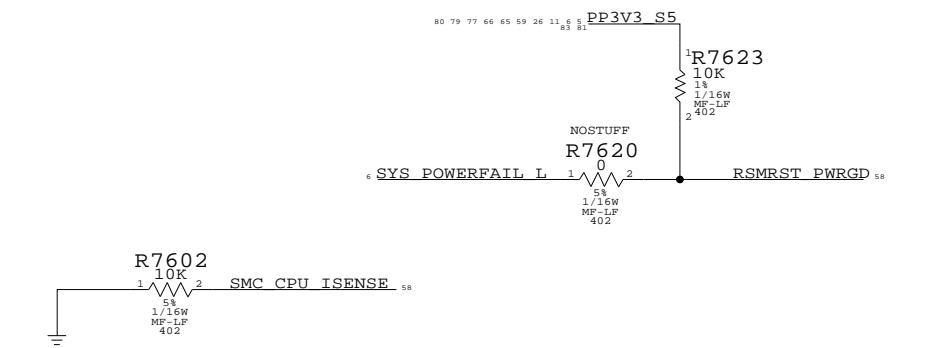
PROCESSOR VCORE CURRENT SENSE
(USING 12V INPUT CURRENT TO DERIVE CPU CURRENT)



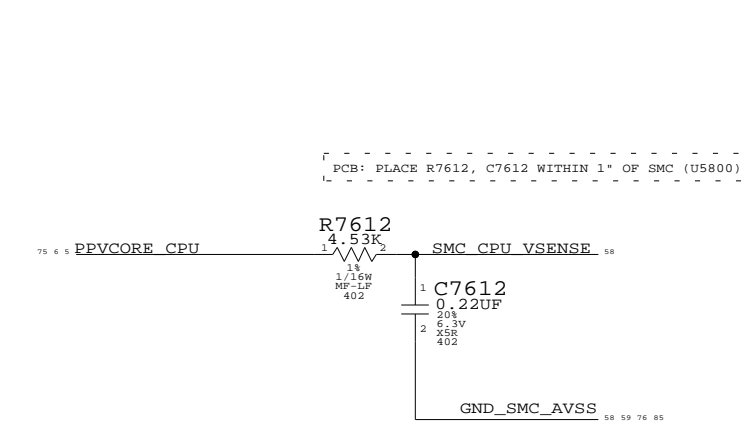
PROCESSOR DCIN VOLTAGE SENSE
(SCALING 12V INPUT VOLTAGE TO SMC)



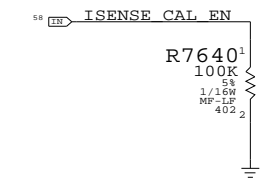
SMC PWRGD PULLUP



PROCESSOR VCORE SENSE



Current Sense Calibration Circuit
Switches in fixed load on power supplies to calibrate current sense circuits



CPU SENSE CIRCUITRIES

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

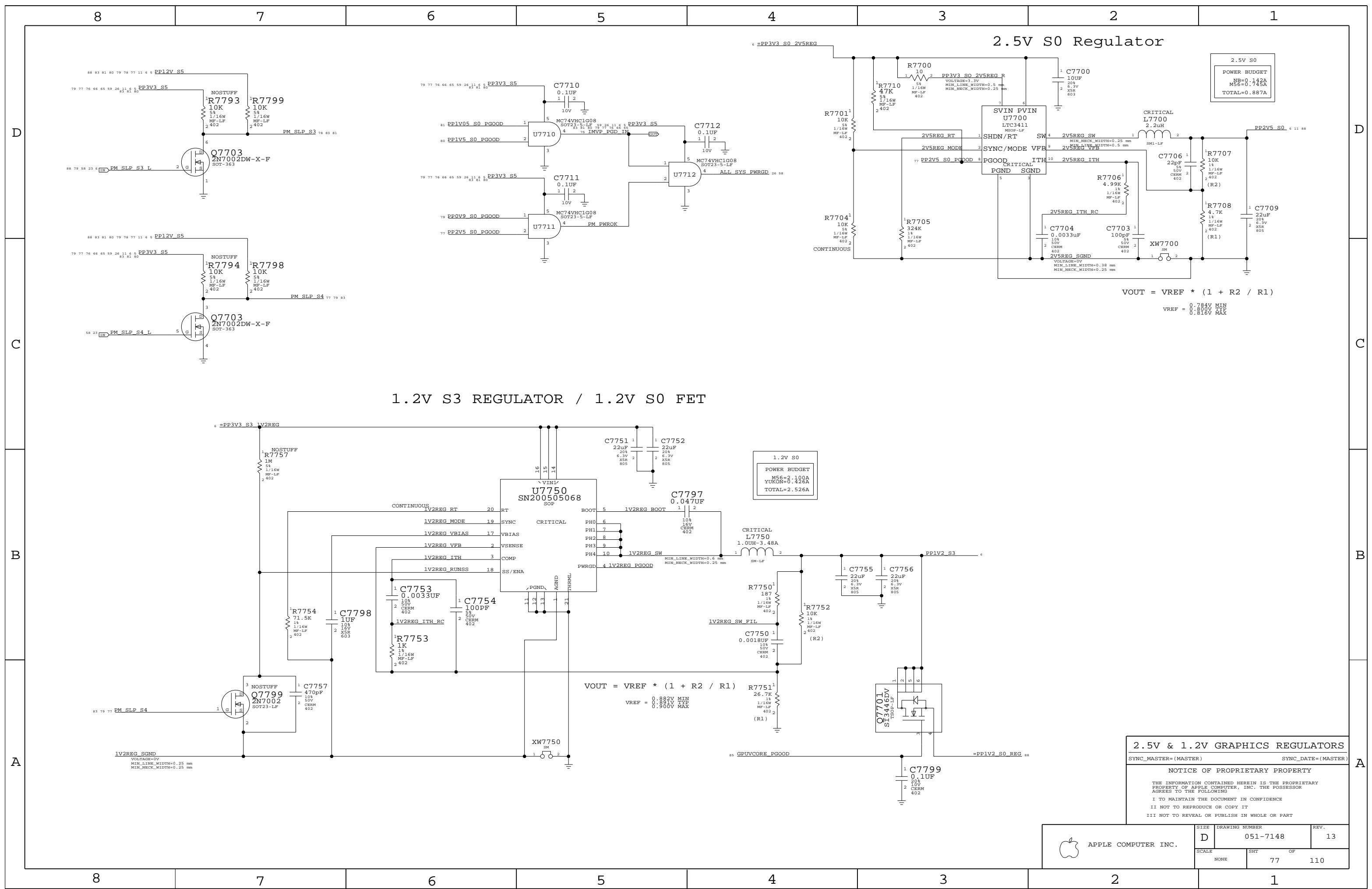
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	76 OF 110	
NONE			



2.5V & 1.2V GRAPHICS REGULATORS

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

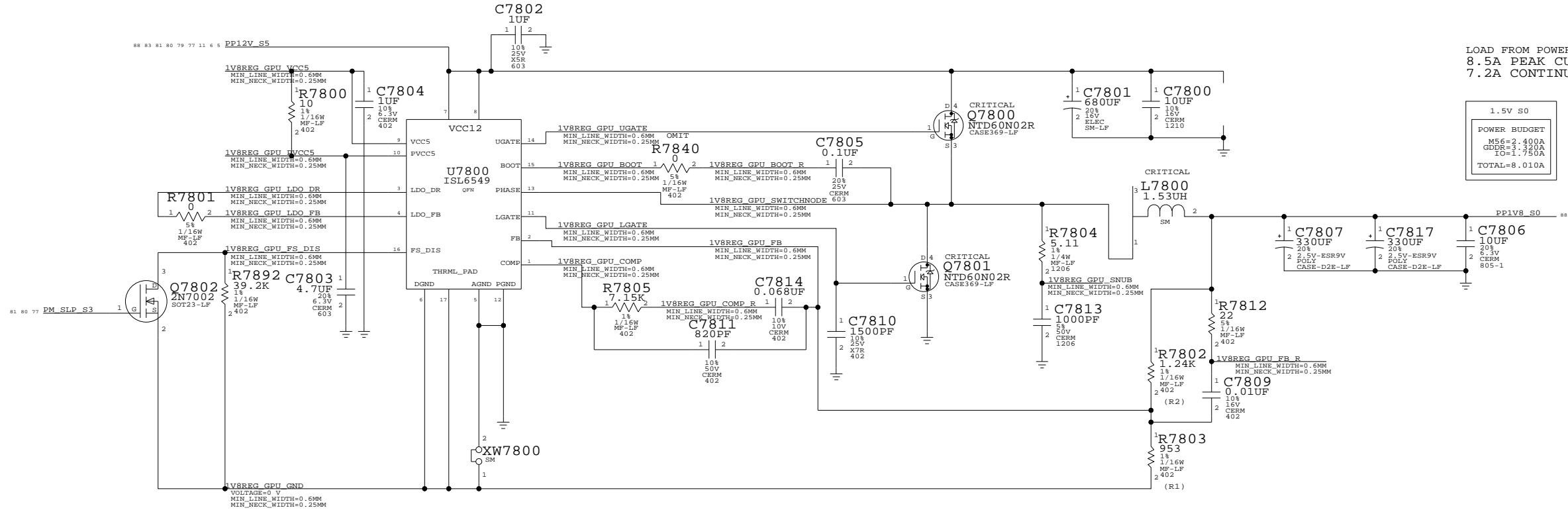
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	D	051-7148	13
SCALE	SHT	OF	
NONE	77	110	

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
11480514	1	5.11 OHM 0402 1% 1/16W LF	R7840		

1.8V S0 REGULATOR



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

1.5V S0	
POWER BUDGET	
M56=	2.400A
GDDR=	3.300A
IO=	1.750A
TOTAL=8.010A	

$$V_{OUT} = V_{REF} * (1 + R2/R1)$$

VREF = 0.784V MIN
VREF = 0.800V TYP
VREF = 0.816V MAX

1.8V GDDR REGULATOR

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

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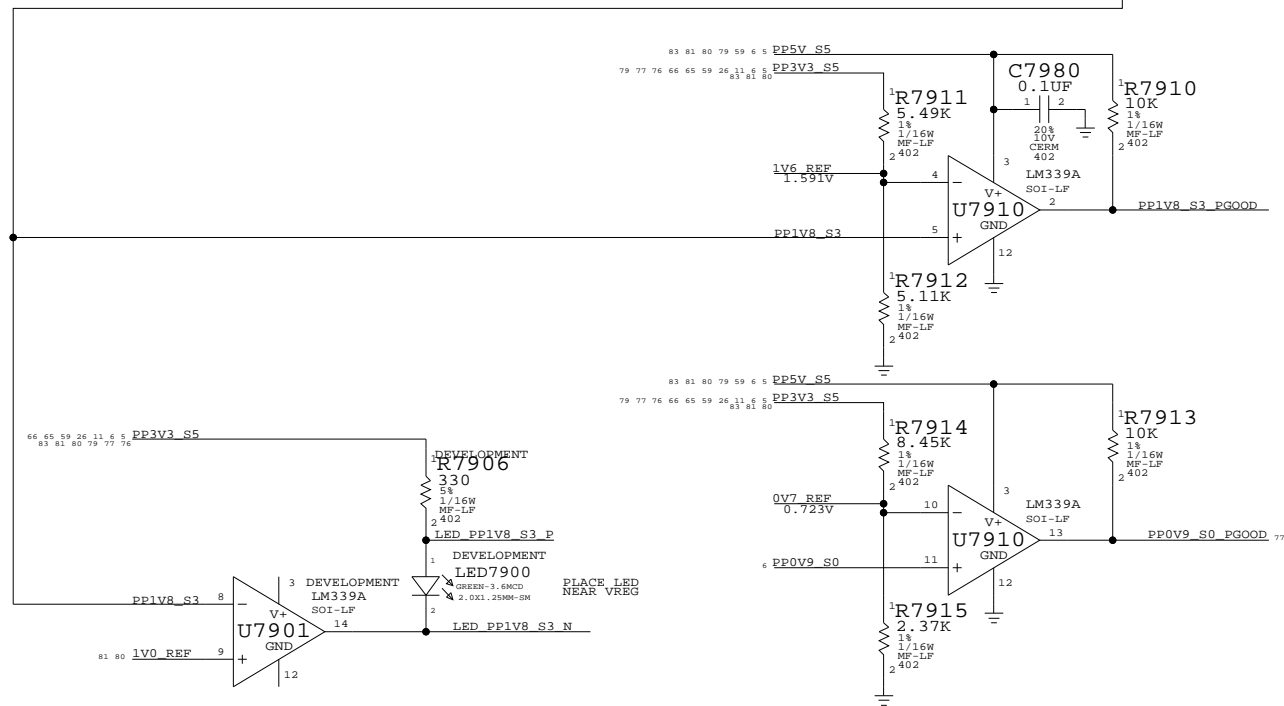
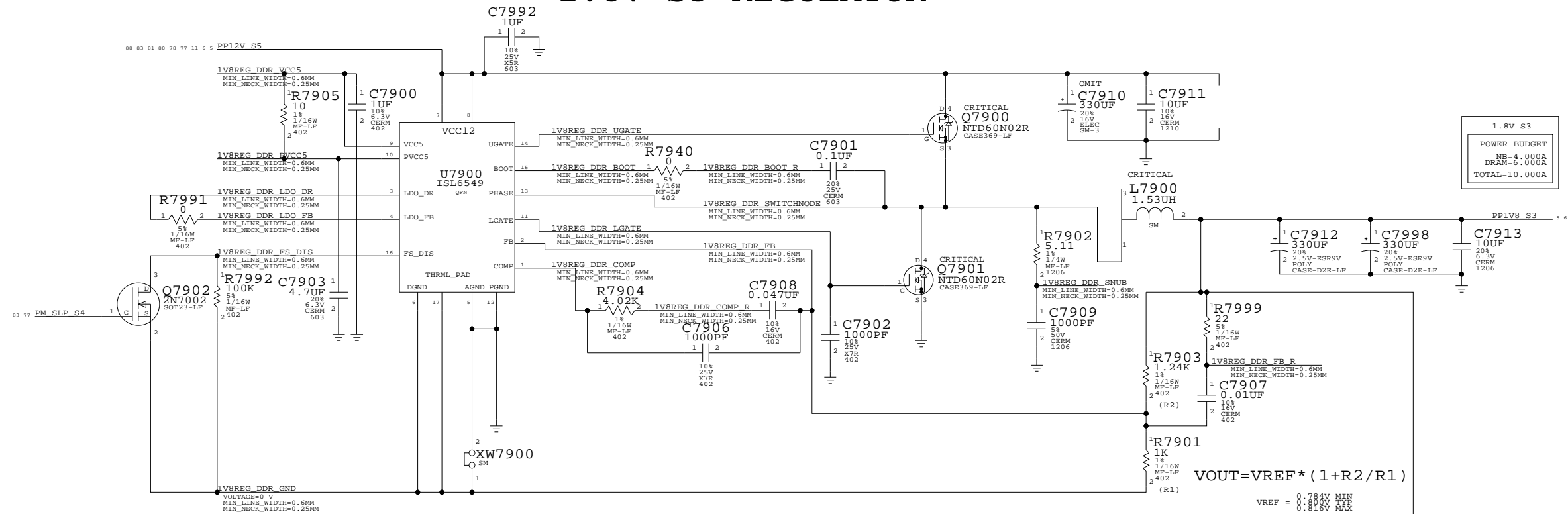
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	78 OF 110	
NONE			

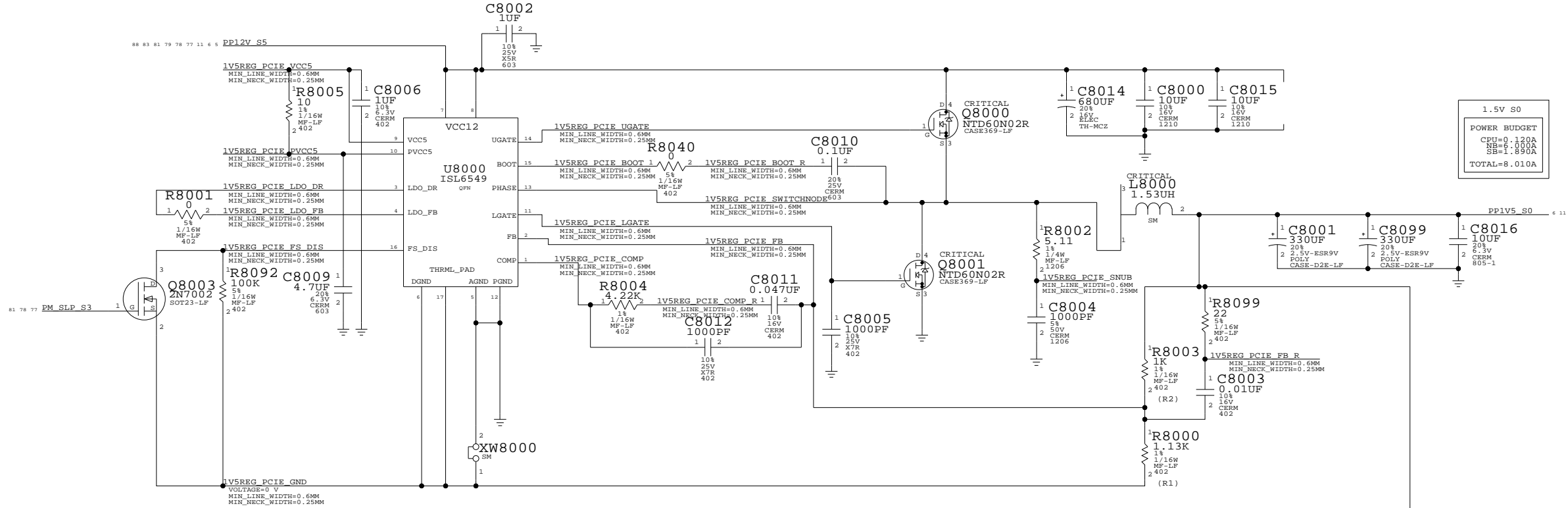
1.8V S3 REGULATOR



1.8V Vreg
 SYNC_MASTER=M23-PC SYNC_DATE=04/12/2005
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	79 OF	110
NONE			

1.5V S0 REGULATOR

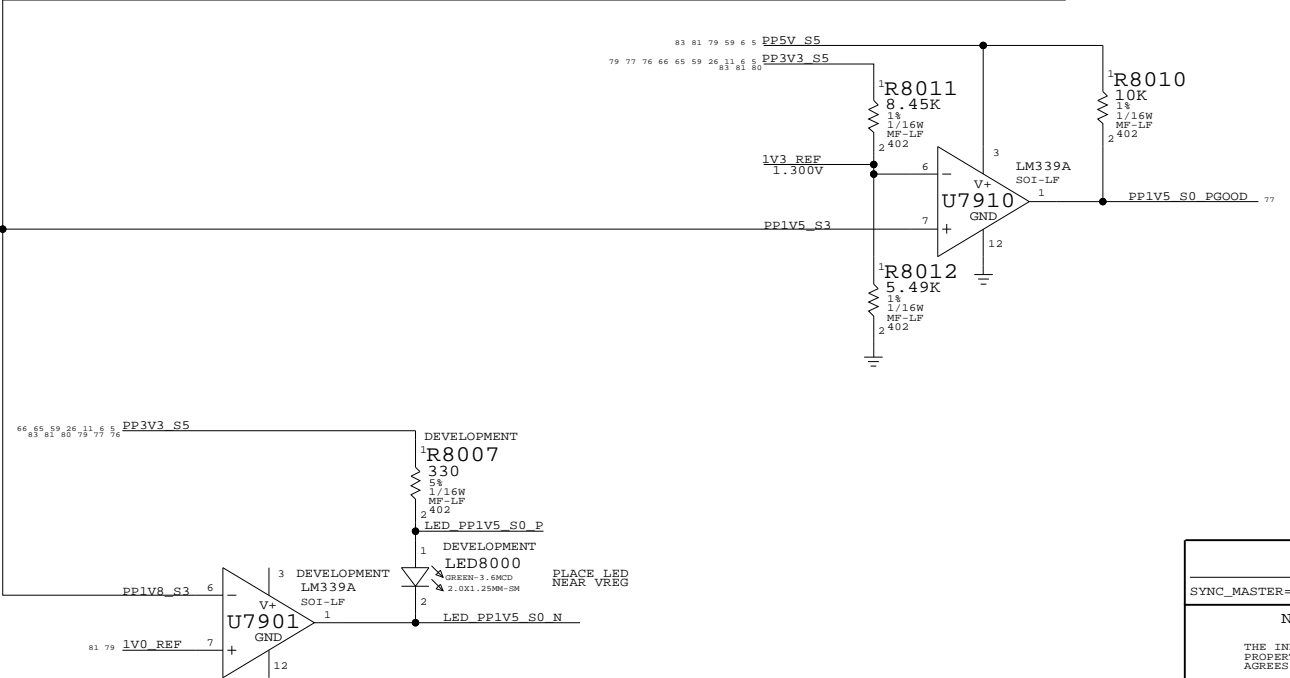


$$V_{OUT} = V_{REF} * (1 + R2/R1)$$

$$V_{REF} = 0.784V \text{ MIN}$$

$$V_{REF} = 0.800V \text{ TYP}$$

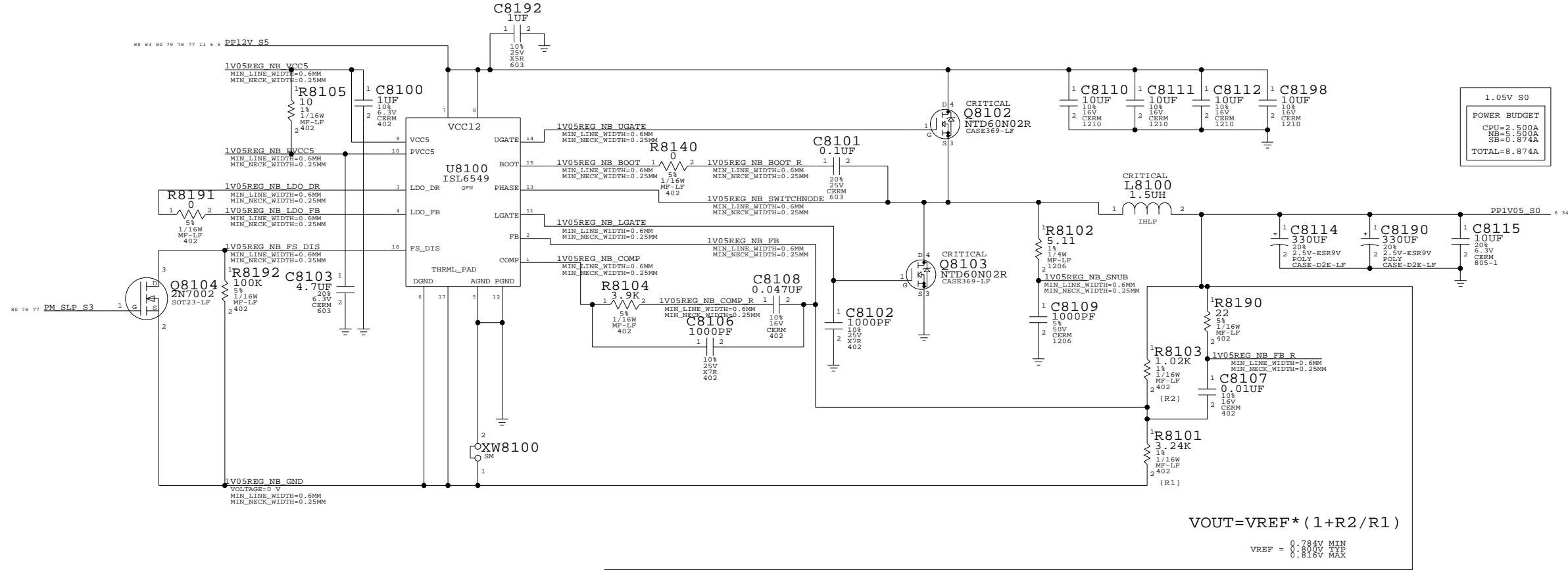
$$V_{REF} = 0.816V \text{ MAX}$$



1.5V Vreg
 SYNC_MASTER=FINO-PC SYNC_DATE=05/18/2005
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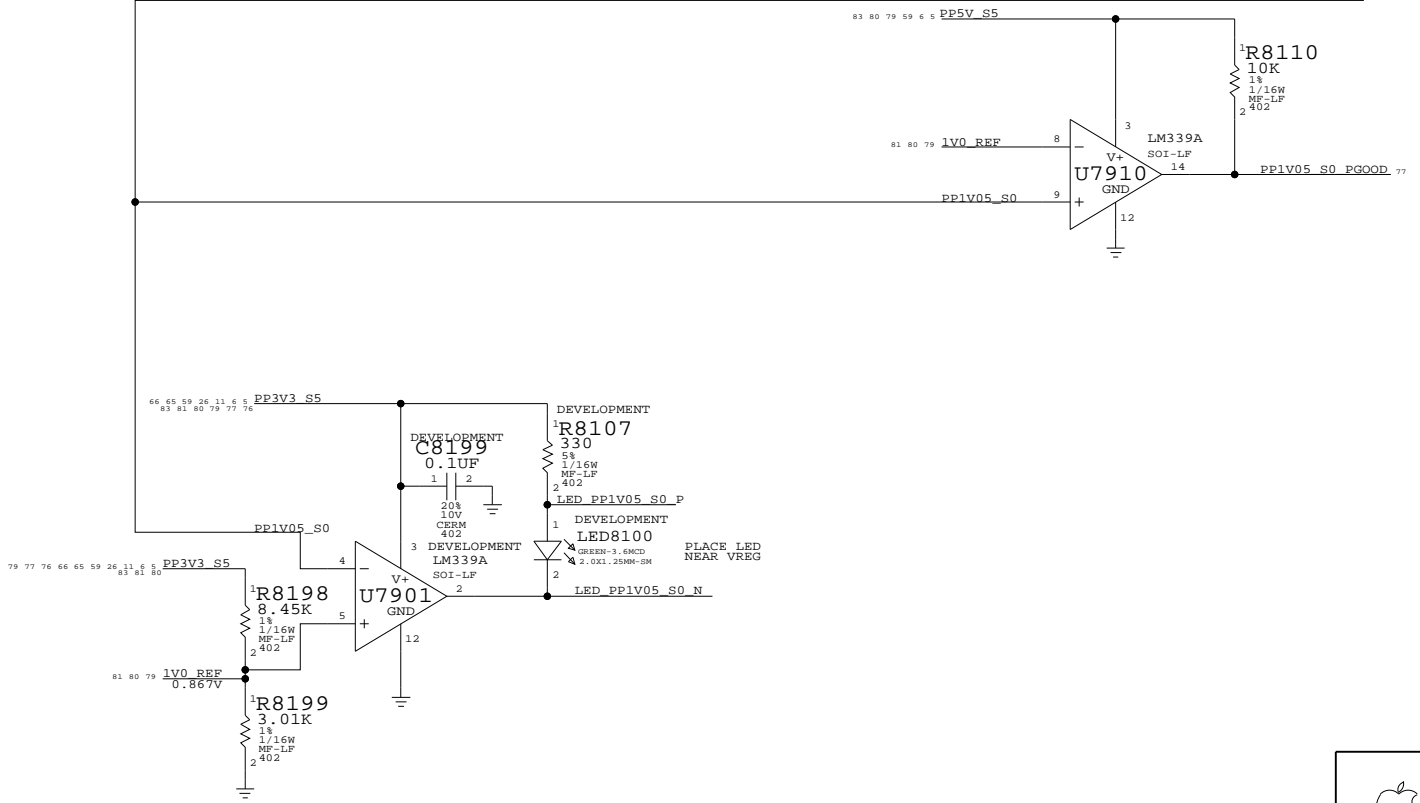
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	80 OF	110
NONE			

1.05V S0 REGULATOR



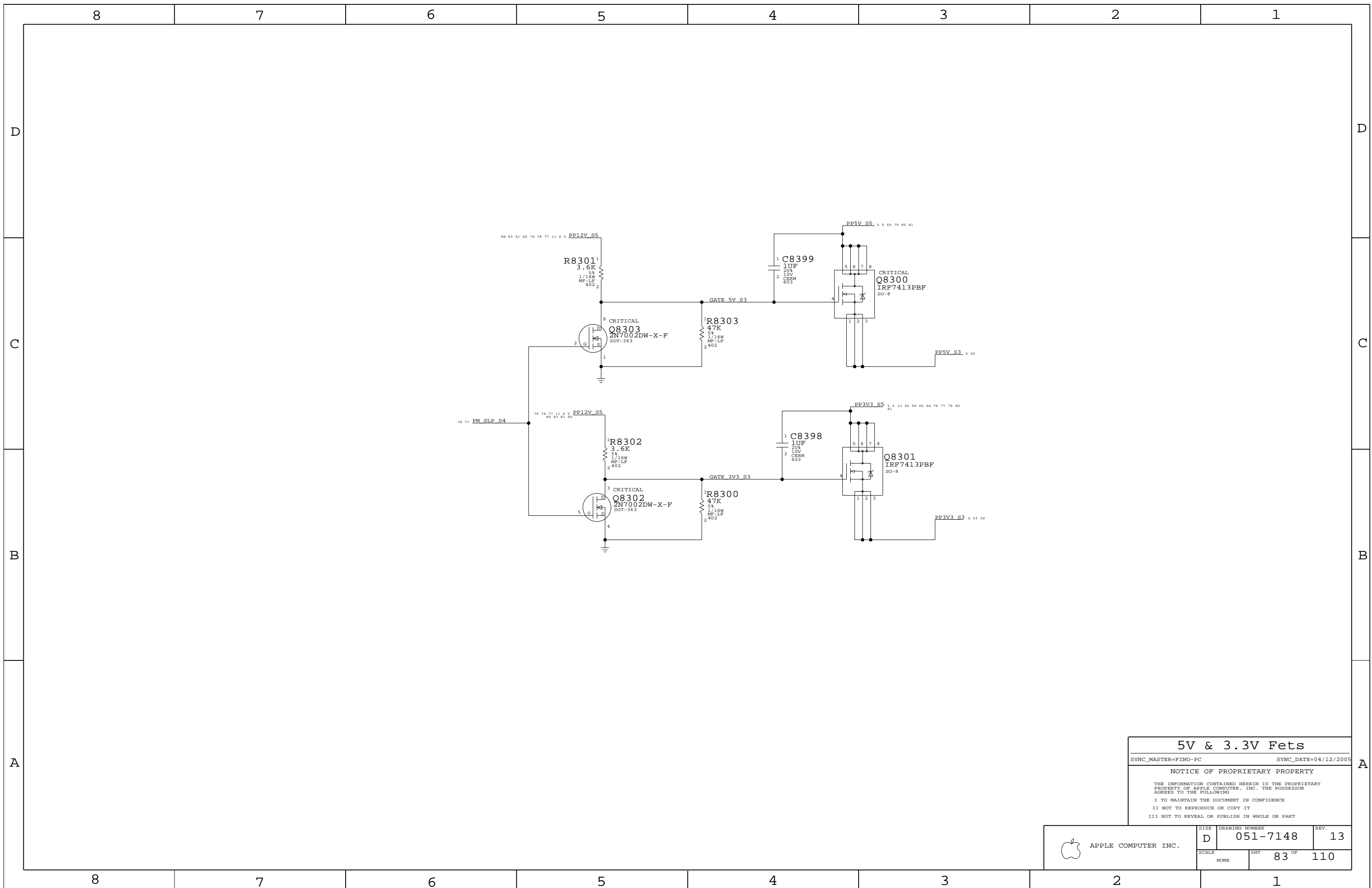
$$V_{OUT} = V_{REF} * (1 + R2/R1)$$

VREF = 0.784V MIN
0.800V TYP
0.816V MAX



1.05V VREG		
SYNC_MASTER=M38-RT	SYNC_DATE=05/18/2005	
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	81 OF	110
NONE			




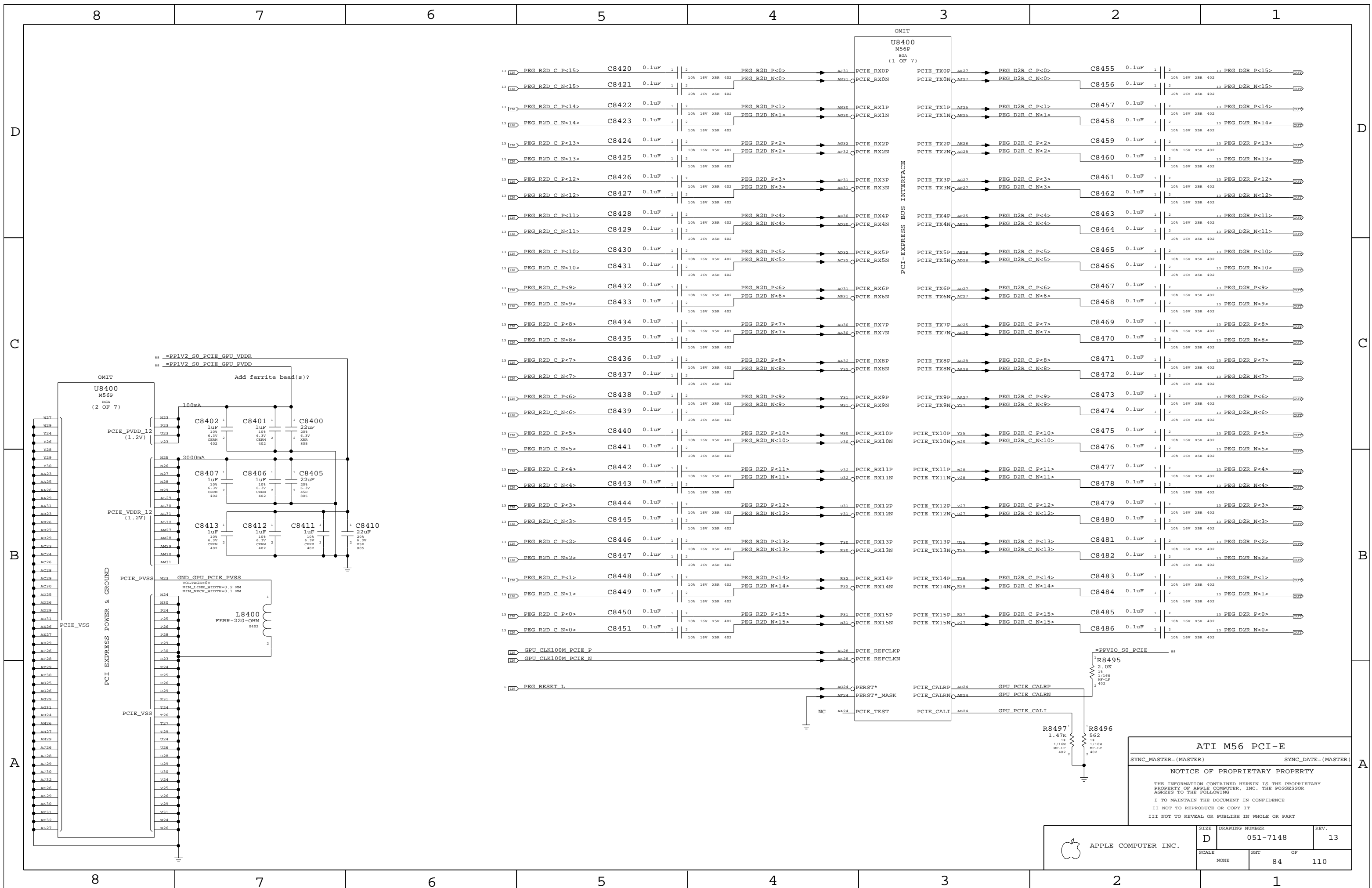
5V & 3.3V Fets

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

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 APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	83 OF 110	
NONE			



ATI M56 PCI-E

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

NOTICE OF PROPRIETARY PROPERTY

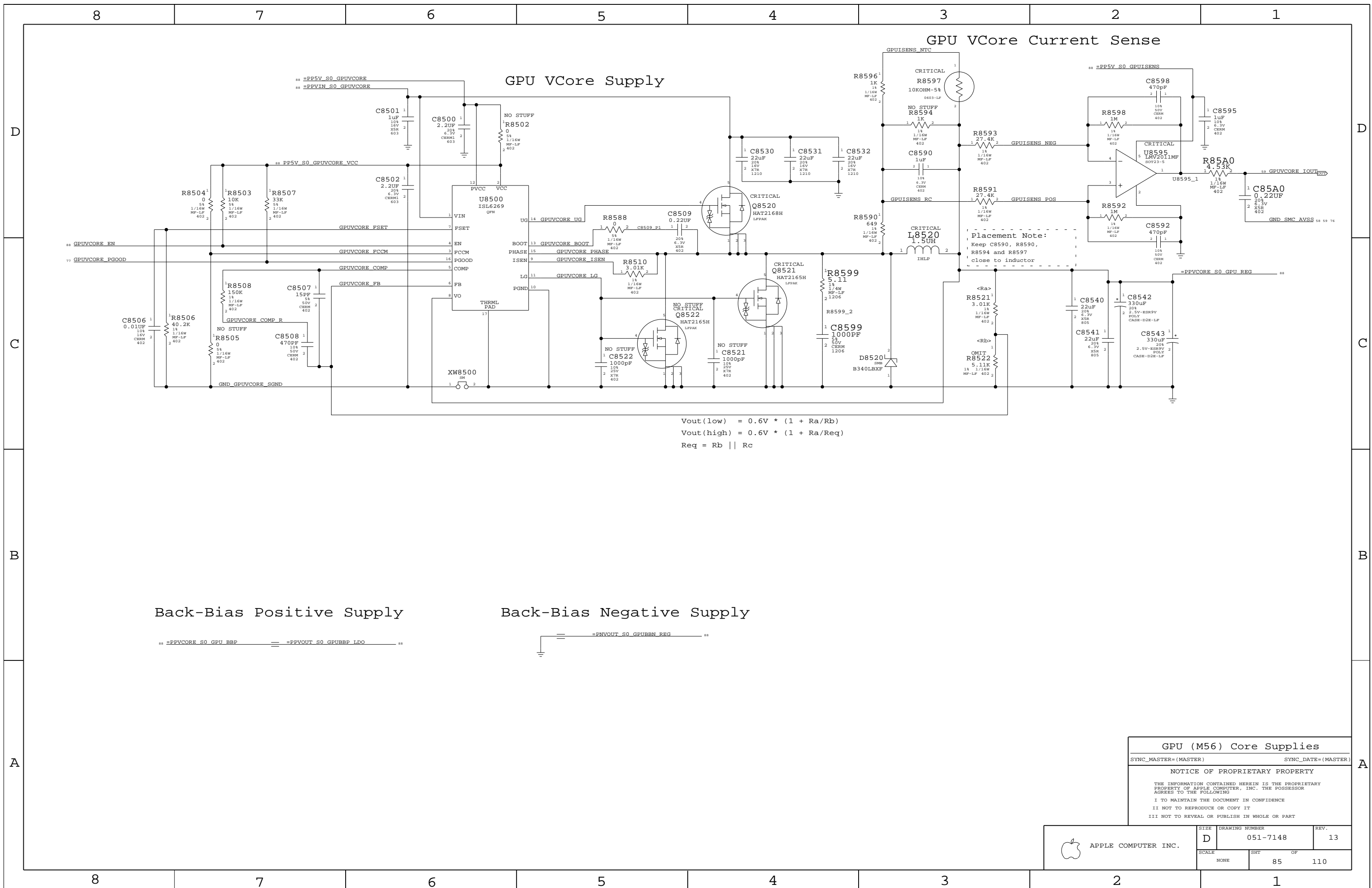
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 APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	OF	
NONE	84		110



GPU (M56) Core Supplies

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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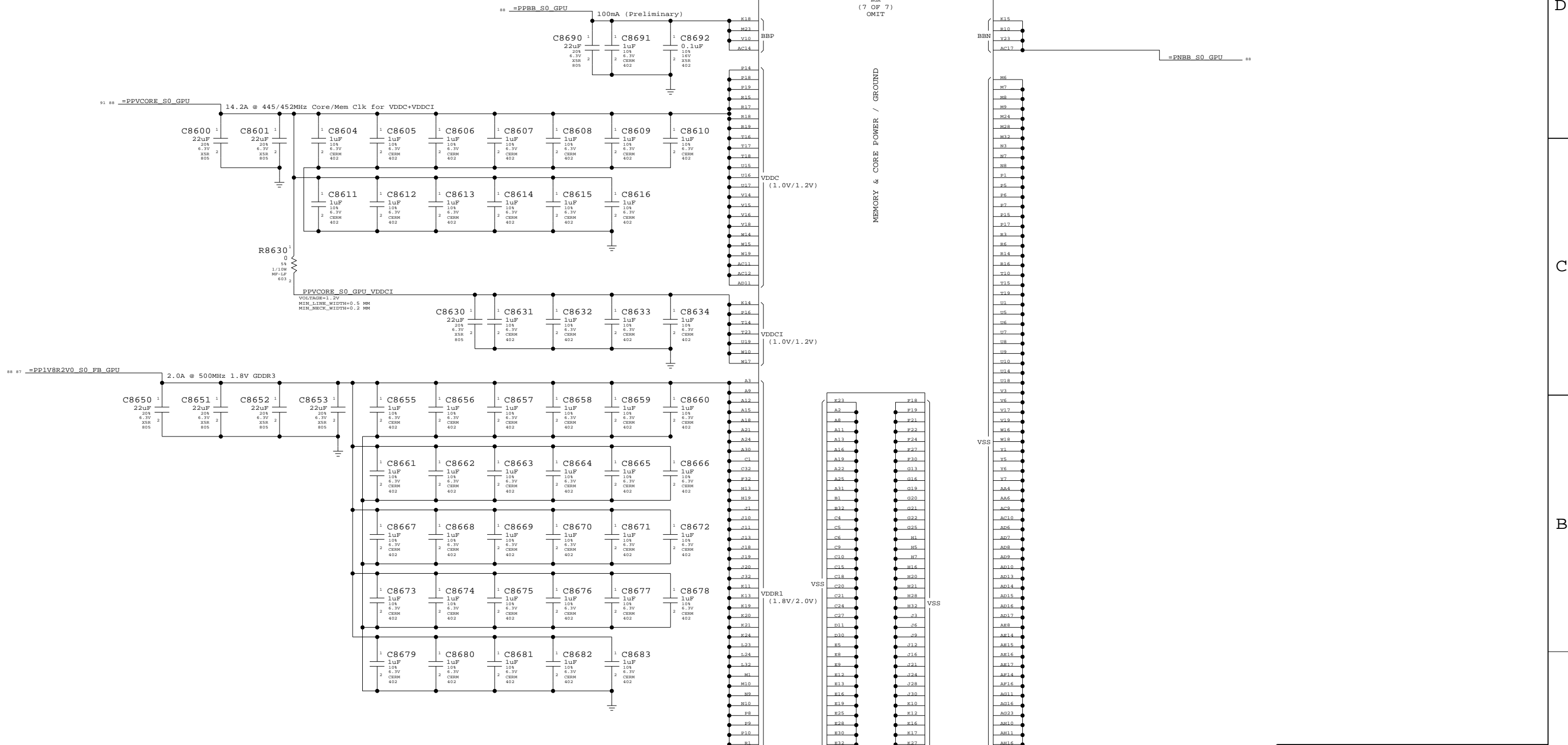
APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHEET OF 85 OF 110	

Page Notes

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

Signal aliases required by this page:
 (NONE)

BOM options provided by this page:
 (NONE)



ATI M56 Core Power

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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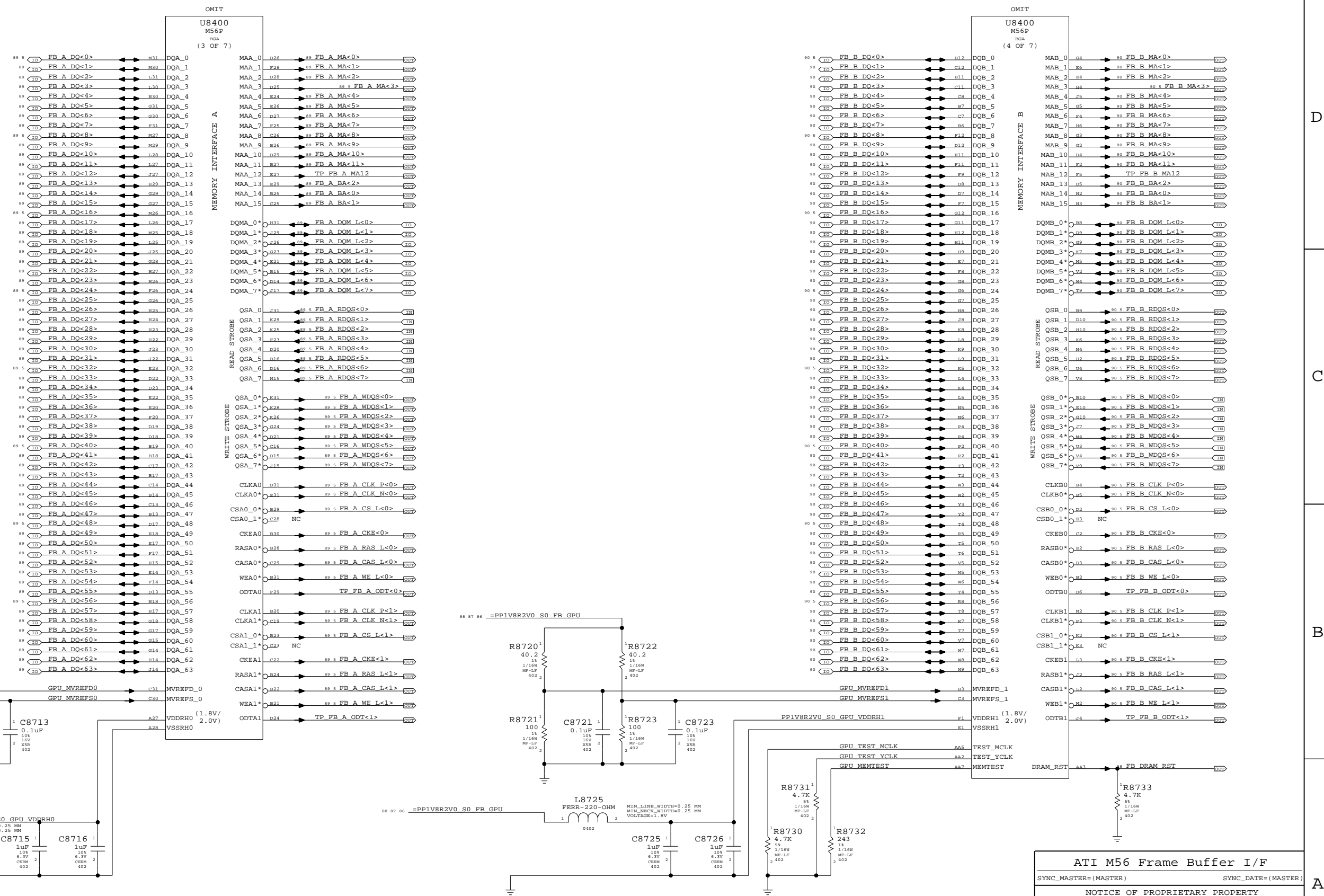
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-7148	13
SCALE	SHT	OF	
NONE	86	110	

Page Notes

Power aliases required by this page:
 - =PP1V8R2V0_S0_FB_GPU

Signal aliases required by this page:
 (NONE)

BOM options provided by this page:
 (NONE)



ATI M56 Frame Buffer I/F

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-7148	REV. 13
	SCALE NONE	SHEET 87	OF 110

8

7

6

5

4

3

2

1

"S0" GPU RAILS

ONLY ON IN RUN

59 EP1V0R1V2_S0_GPU
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=1.2V

85 PP5V_S0_GPUVCORE_VCC
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=5V

PP1V2_GPU_IO_S0
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=1.2V

PPBB_S0_GPU
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=1.2V

PNBB_S0_GPU
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.2MM
 VOLTAGE=0

76 61 59 41 26 11 10 6 PP3V3_S0
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=3.3V

77 11 6 PP2V5_S0
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=2.5V

PP1V8R2V0_S0_FB_GPU
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=1.8V

83 81 80 79 78 77 11 6 5 PP12V_S5
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=12V

6 PP12V_S0
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=12V

97 76 6 PP5V_S0
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=5V

85 GPUVCORE_EN
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=5V

97 FB_DRAM_RST
 MAKE_BASE=TRUE
 MIN_LINE_WIDTH=0.6MM
 MIN_NECK_WIDTH=0.125MM
 VOLTAGE=5V

M56 GPIOs

94 91 GPU_GPIO_0
 GPIO 0 = TRANSMITTER POWER SAVINGS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_1
 GPIO 1 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_2
 GPIO 2 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_3
 GPIO 3 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_4
 GPIO 4 = DEBUG SIGNALS OUT

91 GPU_GPIO_5
 GPIO 5 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_6
 GPIO 6 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

TP_GPU_GPIO_7
 MAKE_BASE=TRUE
 GPIO 7 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_8
 GPIO 8 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

NC_GPU_GPIO_10
 MAKE_BASE=TRUE
 GPIO 10 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_9
 GPIO 9 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_13
 GPIO 13 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_12
 GPIO 12 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_11
 GPIO 11 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

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

91 GPU_GPIO_24
 GPIO 24 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_27
 GPIO 27 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_28
 GPIO 28 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

91 GPU_GPIO_29
 GPIO 29 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

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

=PP3V3_S0_GPU_VDDR3 88 91

TP_GPU_GPIO_14
 MAKE_BASE=TRUE
 GPIO 14 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

TP_GPU_GPIO_17
 MAKE_BASE=TRUE
 GPIO 17 = TRANSMITTER DE-EMPHASIS ENABLE
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

TP_GPU_VGA_R
 MAKE_BASE=TRUE
 GPU_VGA_R

TP_GPU_VGA_G
 MAKE_BASE=TRUE
 GPU_VGA_G

TP_GPU_VGA_B
 MAKE_BASE=TRUE
 GPU_VGA_B

TP_GPU_VGA_HSYNC
 MAKE_BASE=TRUE
 GPU_VGA_HSYNC

TP_GPU_VGA_VSYNC
 MAKE_BASE=TRUE
 GPU_VGA_VSYNC

TP_GPU_TV_Y
 MAKE_BASE=TRUE
 GPU_TV_Y

TP_GPU_TV_COMP
 MAKE_BASE=TRUE
 GPU_TV_COMP

TP_GPU_TV_C
 MAKE_BASE=TRUE
 GPU_TV_C

TP_GPU_DDC_B_CLK
 MAKE_BASE=TRUE
 GPU_DDC_B_CLK

TP_GPU_DDC_B_DATA
 MAKE_BASE=TRUE
 GPU_DDC_B_DATA

GPU MISC

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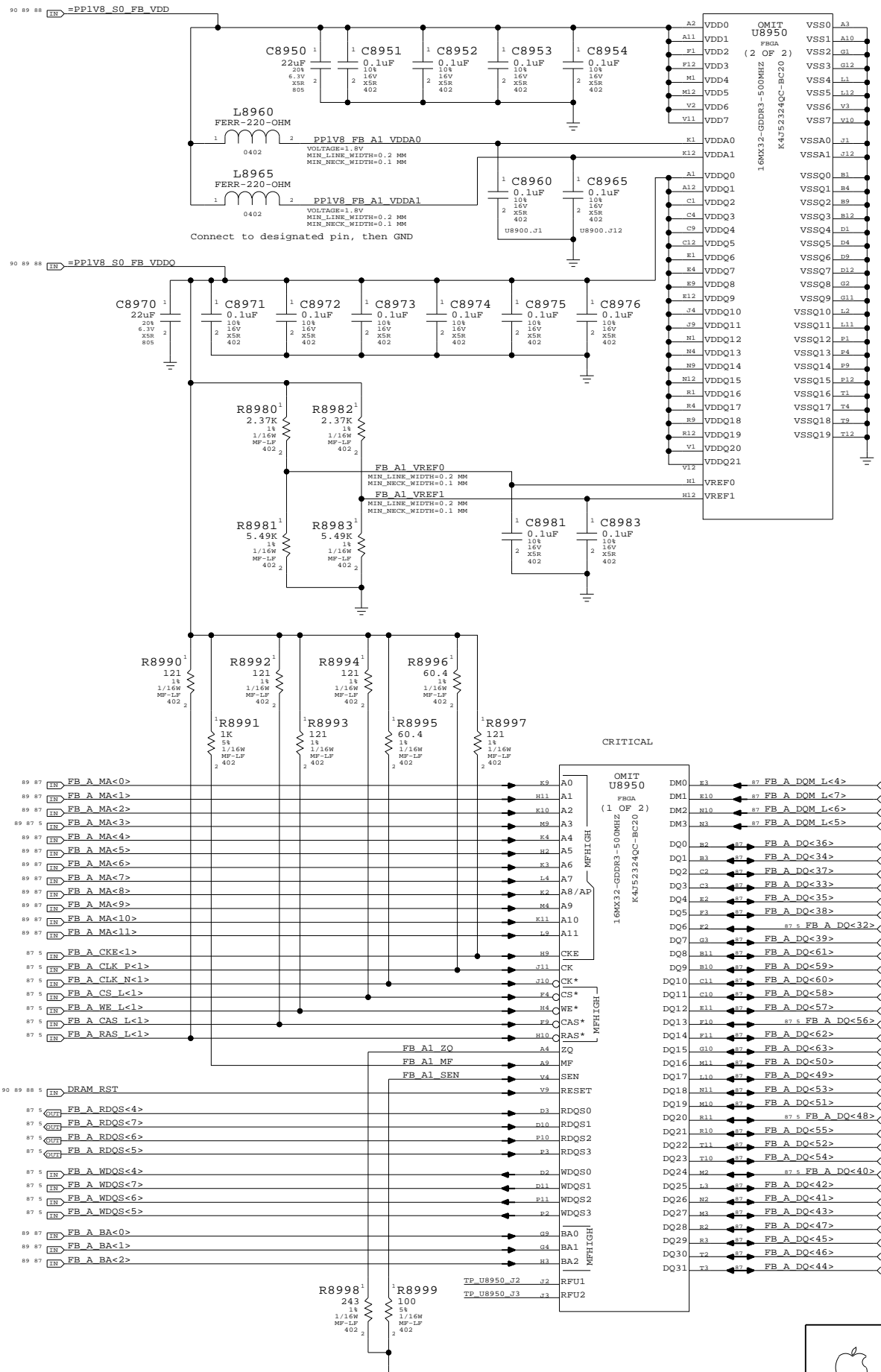
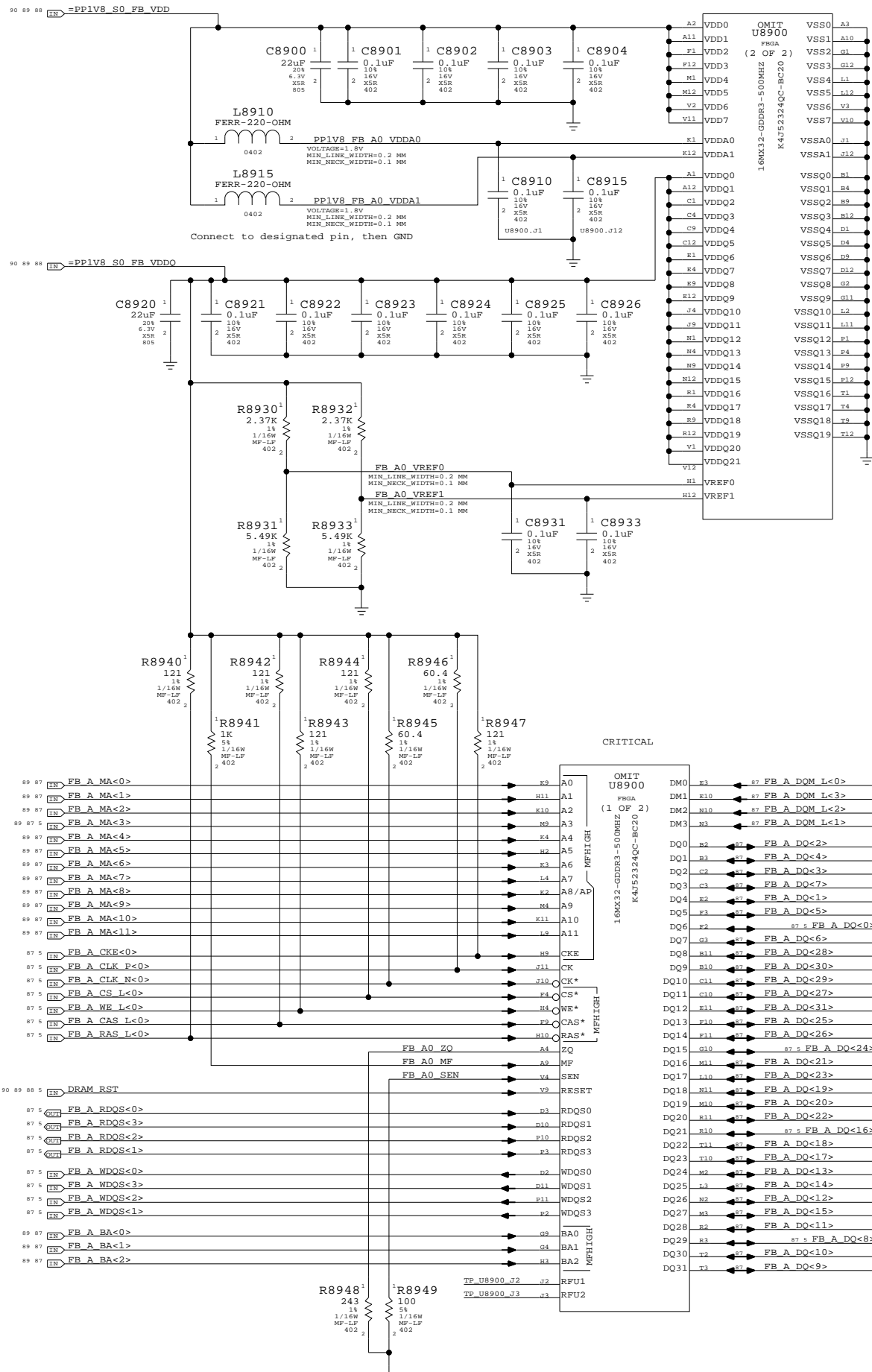
Power aliases required by this page:
 - =PPIV8_S0_FB_VDD
 - =PPIV8_S0_FB_VDDQ

Signal aliases required by this page:
 (NONE)

BOM options provided by this page:
 (NONE)

CRITICAL

CRITICAL



GDDR3 Frame Buffer A

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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D	051-7148	13
SCALE	SHT	OF
NONE	89	110

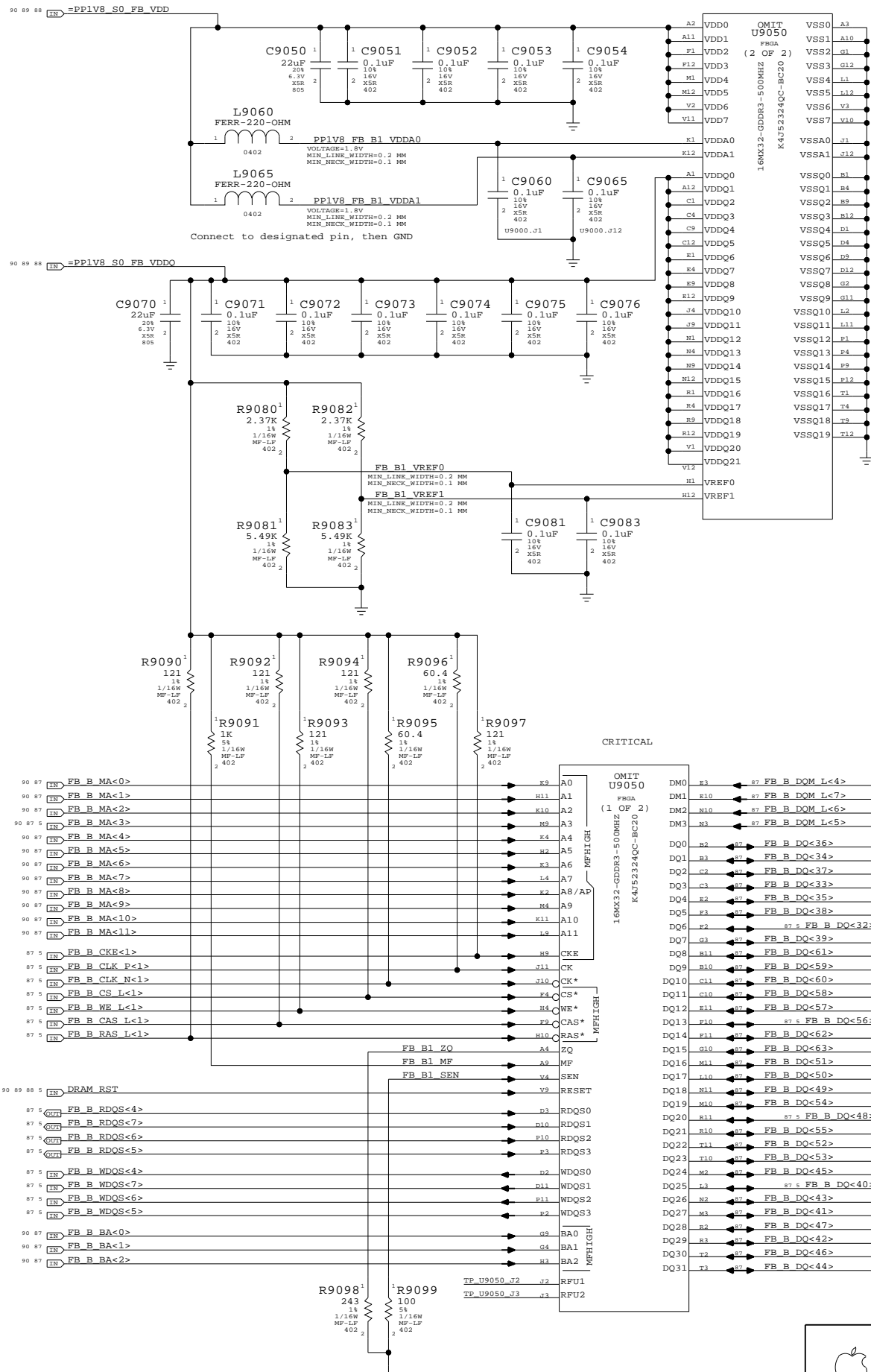
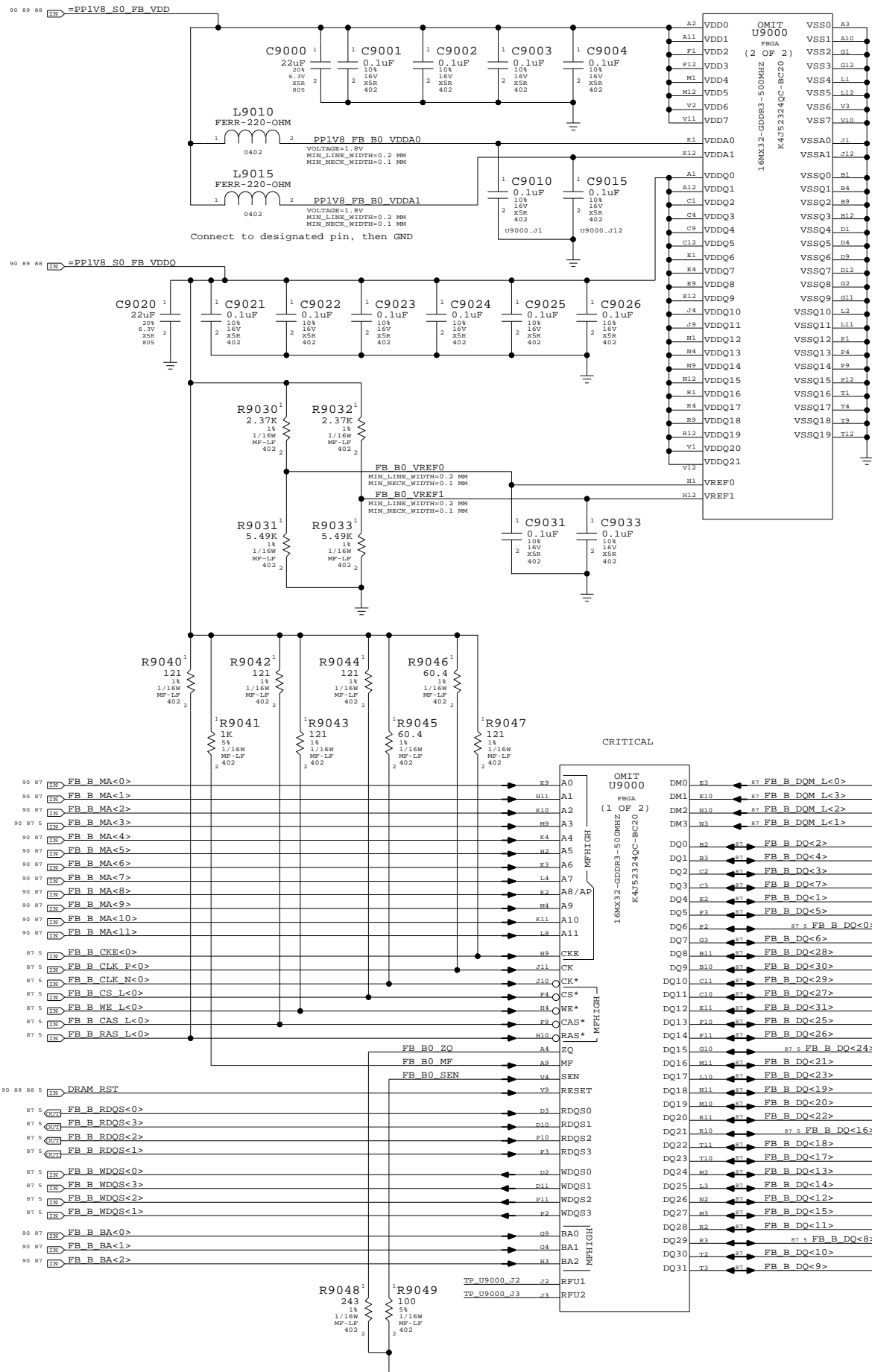
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 - =PPIV8_S0_FB_VDD
 - =PPIV8_S0_FB_VDDQ

Signal aliases required by this page:
 (NONE)

BOM options provided by this page:
 (NONE)

CRITICAL

CRITICAL



GDDR3 Frame Buffer B
 SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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SCALE	SHT	OF
NONE	90	110

Page Notes

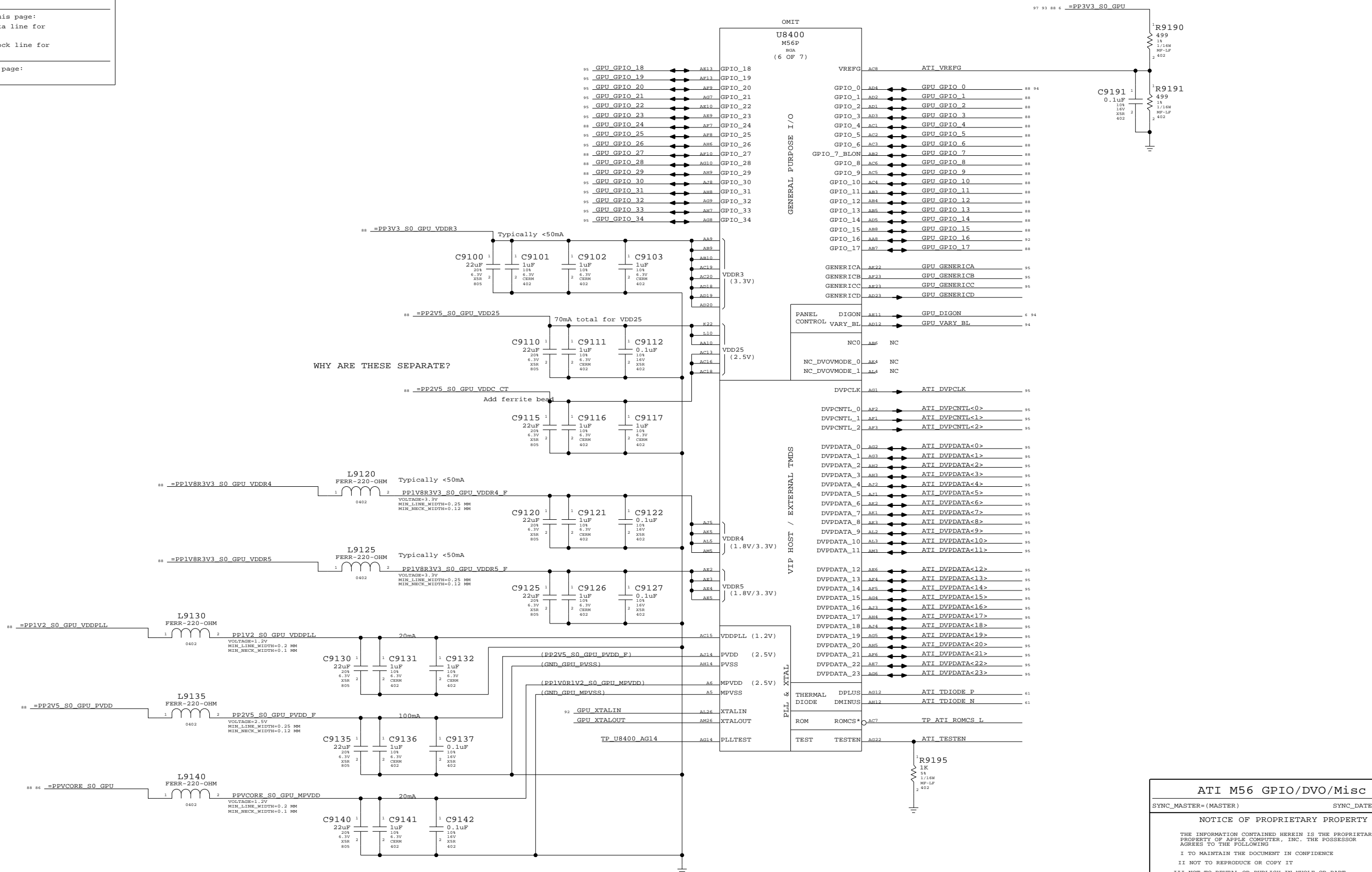
Power aliases required by this page:

- =PP3V3_GPU_GPIOS
- =PP2V5_PVDD
- =PP1V8_GPU_LVDS_PLL

Signal aliases required by this page:

- =I2C_GPU_TMDS_SDA - I2C data line for external TMDS transmitters
- =I2C_GPU_TMDS_SCL - I2C clock line for external TMDS transmitters

BOM options provided by this page:
(NONE)



ATI M56 GPIO/DVO/Misc
 SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)
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SCALE	SHT	OF	
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Page Notes

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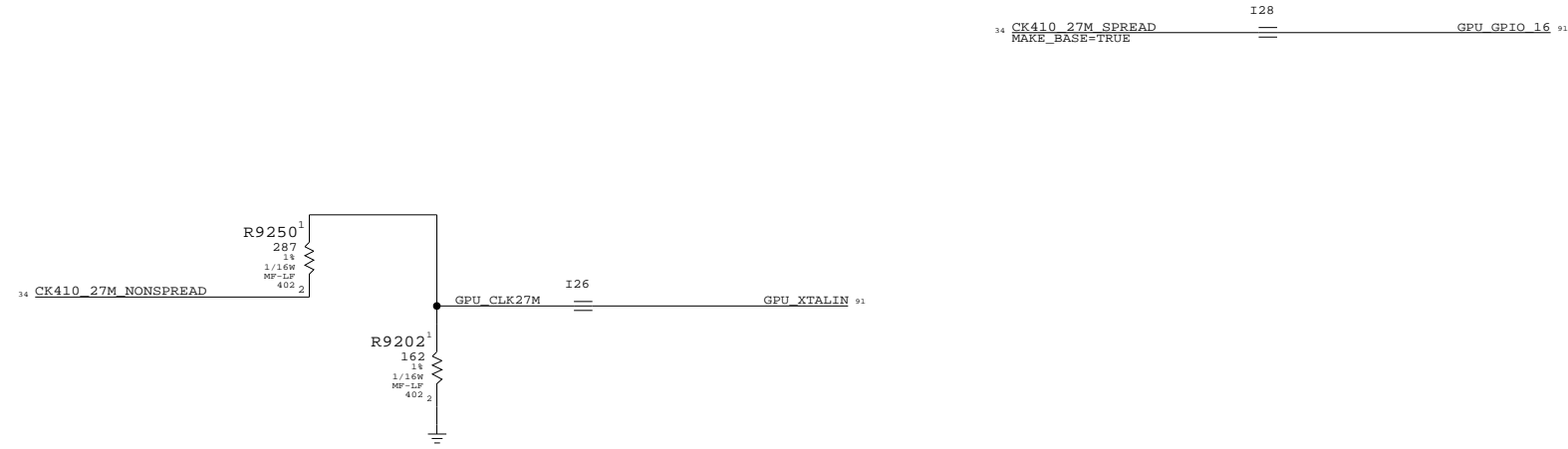
- =PP3V3_GPU_CLOCKS - =PP3V3_GPU_PWRSEQ
- =PPVIN_GPU_LVDDR_LDO - =PP2V5_GPU_PWRSEQ
- =PP2V5_GPU_LVDDR_LDO - =PP1V8_GPU_PWRSEQ
- =PP1V5_GPU_PWRSEQ

Signal aliases required by this page:

(NONE)

BOM options provided by this page:

- GPU_SS - GPU_LVDDR_2V8




GPU CLOCKS

SYNC_MASTER=BOZEMAN SYNC_DATE=05/21/2005

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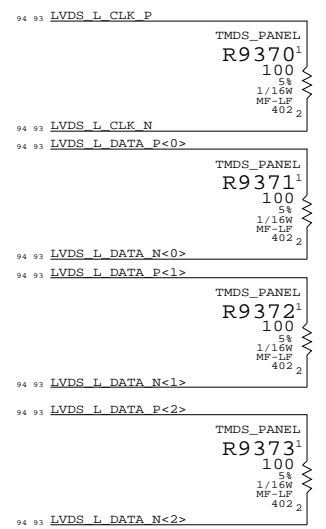
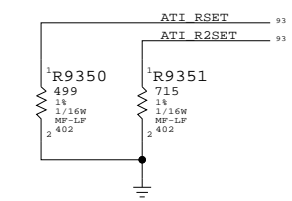
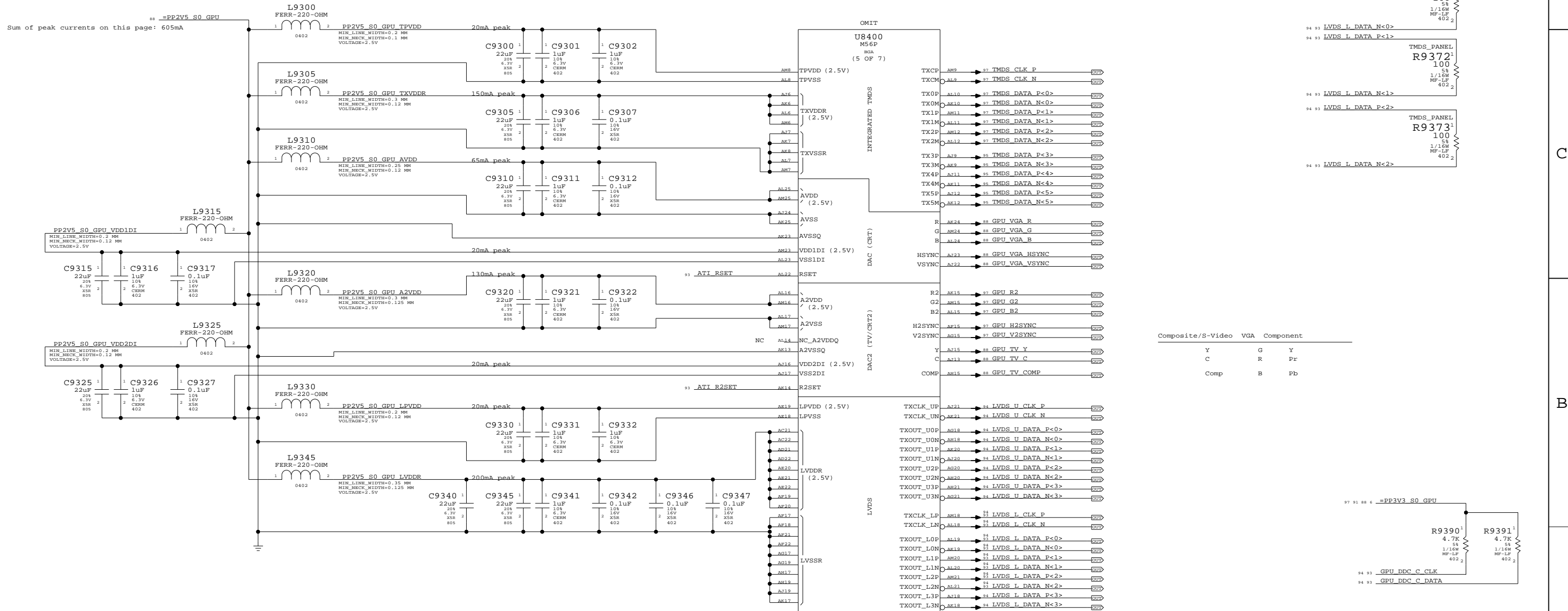
Page Notes

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

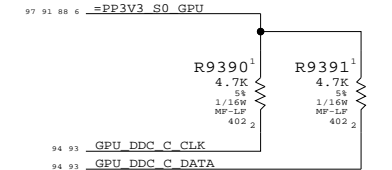
Signal aliases required by this page:
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BOM options provided by this page:
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TERMINATION FOR TMDS USAGE OF LVDS PINS
 PLACE CLOSE TO GPU (U8400)



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



ATI M56 Video Interfaces

SYNC_MASTER=(MASTER) SYNC_DATE=(MASTER)

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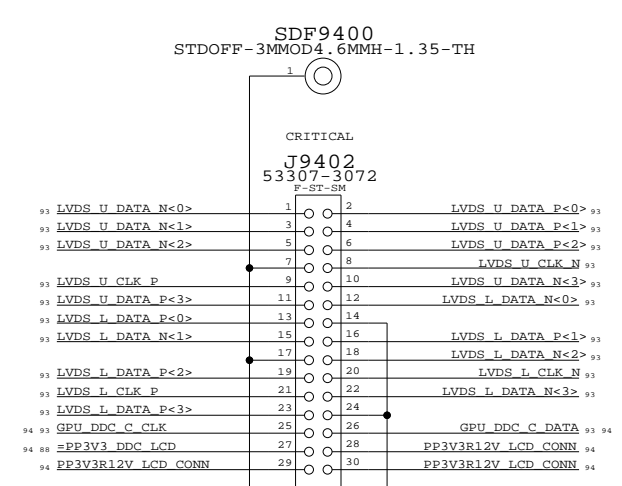
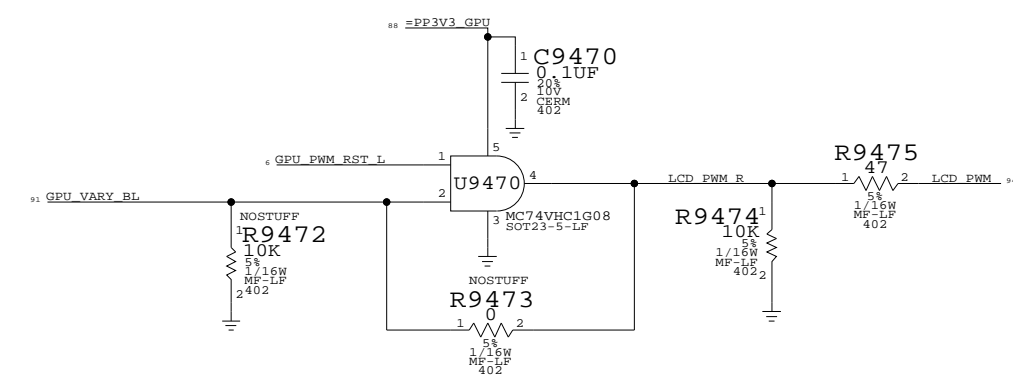
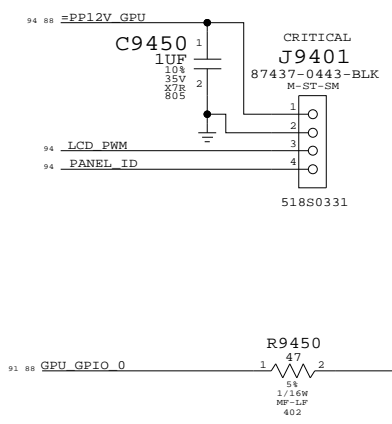
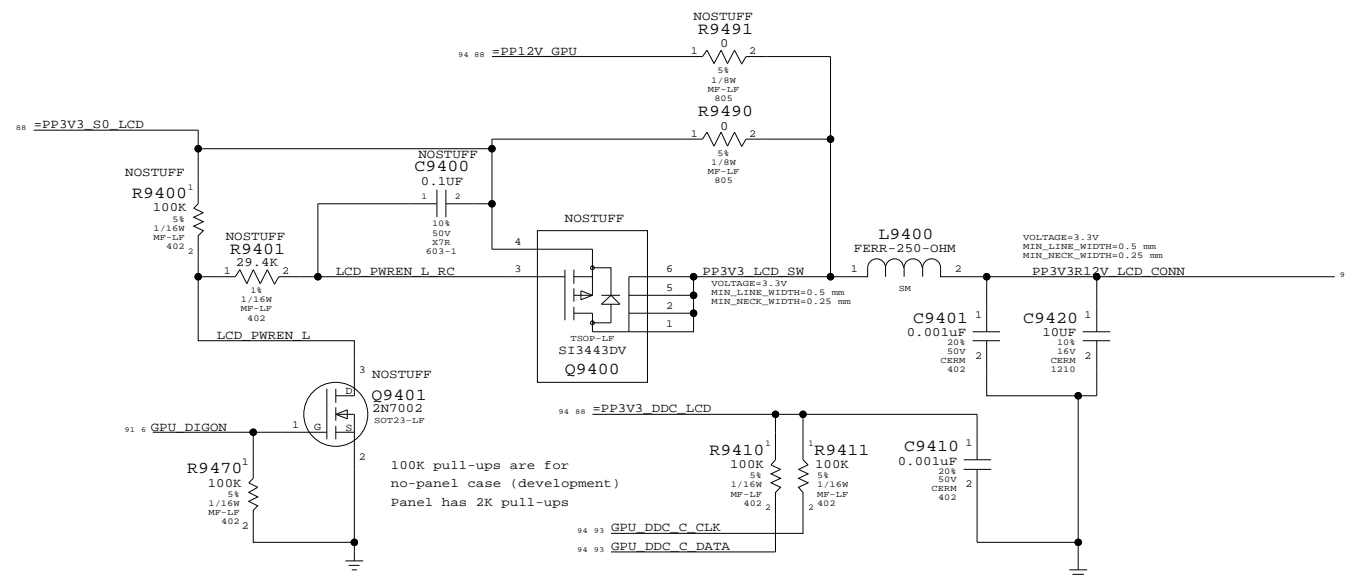
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	NONE	93	110	13

LCD (LVDS) INTERFACE

INVERTER INTERFACE



Internal Display Conns
 SYNC_MASTER=BOZEMAN SYNC_DATE=04/27/2005
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NONE	94	110	

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 MAKE_BASE=TRUE

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 MAKE_BASE=TRUE

M56 TPS


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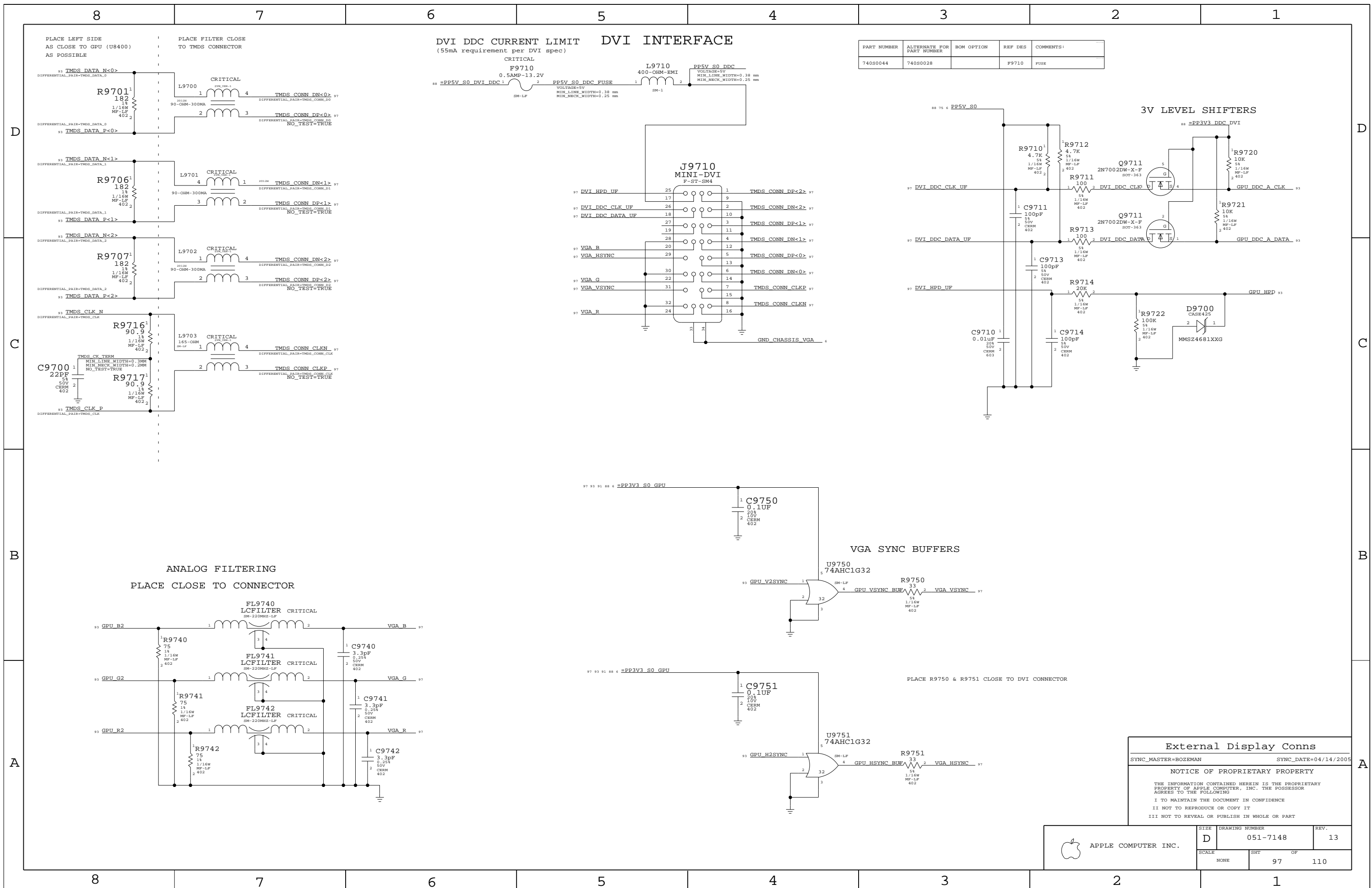
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	SMC_XDP_TCK	SMC_XDP_TCK - @m38a_lib.M38A	58C7	TP_NB_XOR_FSB2_H7	TP_NB_XOR_FSB2_H7 - @m38a_lib.M38A	14D6		
	SMC_XDP_TCK_3_3	SMC_XDP_TCK_3_3 - @m38a_lib.M38A	58B5 59A5	TP_NB_XOR_LVDS_A34	TP_NB_XOR_LVDS_A34 - @m38a_lib.M38A	14C6		
	SMC_XDP_TDO_3_3_L	SMC_XDP_TDO_3_3_L - @m38a_lib.M38A	58B7 59A5	TP_NB_XOR_LVDS_A35	TP_NB_XOR_LVDS_A35 - @m38a_lib.M38A	14C6		
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	SMC_XDP_TRST_L	SMC_XDP_TRST_L - @m38a_lib.M38A	58C7	TP_NB_XOR_LVDS_D28	TP_NB_XOR_LVDS_D28 - @m38a_lib.M38A	14C6		
	SMC_XTAL	SMC_XTAL - @m38a_lib.M38A	58C3 5988	TP_PCI_CLK_SPARE	TP_PCI_CLK_SPARE - @m38a_lib.M38A	5A4 34C4		
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C	SMS_ONOFF_L	SMS_ONOFF_L - @m38a_lib.M38A	58A5 5984	TP_PCI_GNT4_L	TP_PCI_GNT4_L - @m38a_lib.M38A	2286		
	SMS_X_AXIS	SMS_X_AXIS - @m38a_lib.M38A	58B7 5986	TP_PCI_PME_L	TP_PCI_PME_L - @m38a_lib.M38A	22A6		
	SMS_Y_AXIS	NC_SMS_X_AXIS - @m38a_lib.M38A	59B5	TP_SB_ACZ_SDIN1	TP_SB_ACZ_SDIN1 - @m38a_lib.M38A	21C6		
	SMS_Z_AXIS	SMS_Y_AXIS - @m38a_lib.M38A	58B7 5986	TP_SB_ACZ_SDIN2	TP_SB_ACZ_SDIN2 - @m38a_lib.M38A	21C6		
	SPARE_SRC3_N	NC_SMS_Z_AXIS - @m38a_lib.M38A	59B5	TP_SB_DRQ0_L	TP_SB_DRQ0_L - @m38a_lib.M38A	21D4		
	SPARE_SRC3_P	SMS_Z_AXIS - @m38a_lib.M38A	58A7 5986	TP_SB_GPI06	TP_SB_GPI06 - @m38a_lib.M38A	23C5		
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	SPARE_SRC7_P	SPARE_SRC3_N - @m38a_lib.M38A	34D2	TP_SB_GPI025_DO_NOT_USE	TP_SB_GPI025_DO_NOT_USE - @m38a_lib.M38A	23C3		
	SPI_ARB	SPARE_SRC3_P - @m38a_lib.M38A	34D2	TP_SB_GPI038	TP_SB_GPI038 - @m38a_lib.M38A	23C3		
	SPI_CE_L	SPARE_SRC7_N - @m38a_lib.M38A	34D2	TP_SB_RSVD9	TP_SB_RSVD9 - @m38a_lib.M38A	22A6		
B	SPI_HOLD_L	SPARE_SRC7_P - @m38a_lib.M38A	34D2	TP_SB_SATALED_L	TP_SB_SATALED_L - @m38a_lib.M38A	21C6		
	SPI_SCLK	SPI_ARB - @m38a_lib.M38A	22C6 58D5	TP_SB_XOR_AD5	TP_SB_XOR_AD5 - @m38a_lib.M38A	22A7		
	SPI_SCLK_R	SPI_CE_L - @m38a_lib.M38A	22C6 58D5 63C7	TP_SB_XOR_AD9	TP_SB_XOR_AD9 - @m38a_lib.M38A	22A7		
	SPI_SI	SPI_HOLD_L - @m38a_lib.M38A	63C4	TP_SB_XOR_AE5	TP_SB_XOR_AE5 - @m38a_lib.M38A	22A7		
	SPI_SO	SPI_SCLK - @m38a_lib.M38A	22C6 58D5 63C7	TP_SB_XOR_AE9	TP_SB_XOR_AE9 - @m38a_lib.M38A	22A7		
	SPI_SO_R	SPI_SCLK_R - @m38a_lib.M38A	63C4	TP_SB_XOR_AG4	TP_SB_XOR_AG4 - @m38a_lib.M38A	22A6		
	SPKRAMP_MUTE	SPI_SI - @m38a_lib.M38A	22C6 58D5 63C1	TP_SB_XOR_AG8	TP_SB_XOR_AG8 - @m38a_lib.M38A	22A6		
	SPKRAMP_SS	SPI_SO - @m38a_lib.M38A	22C6 58D5 63C1	TP_SB_XOR_AH4	TP_SB_XOR_AH4 - @m38a_lib.M38A	22A7		
	SUS_CLK_SB	SPI_SO_R - @m38a_lib.M38A	63C3	TP_SB_XOR_AH8	TP_SB_XOR_AH8 - @m38a_lib.M38A	22A6		
	SV_SET_UP	SPI_WP_L - @m38a_lib.M38A	63C4	TP_SB_XOR_T5	TP_SB_XOR_T5 - @m38a_lib.M38A	21C6		
A	SW_RST_BFM_L	SPKRAMP_MUTE - @m38a_lib.M38A	72B5	TP_SB_XOR_U3	TP_SB_XOR_U3 - @m38a_lib.M38A	21C6		
	SW_RST_DEBNC	SPKRAMP_SS - @m38a_lib.M38A	72B4	TP_SB_XOR_U5	TP_SB_XOR_U5 - @m38a_lib.M38A	21C6		
	SYS_LED_BRT_D	SUS_CLK_SB - @m38a_lib.M38A	23C3 59B5	TP_SB_XOR_U7	TP_SB_XOR_U7 - @m38a_lib.M38A	21C6		
	SYS_LED_C	SMC_SUS_CLK - @m38a_lib.M38A	58C5 59B6	TP_SB_XOR_V3	TP_SB_XOR_V3 - @m38a_lib.M38A	21C6		
	SYS_LED_CTL_B	SV_SET_UP - @m38a_lib.M38A	23B6 23C3 60C1	TP_SB_XOR_V4	TP_SB_XOR_V4 - @m38a_lib.M38A	21C6		
	SYS_LED_CTL_C	SW_RST_BFM_L - @m38a_lib.M38A	5D1 26C6	TP_SB_XOR_V6	TP_SB_XOR_V6 - @m38a_lib.M38A	21C6		
	SYS_LED_CTL_D	SW_RST_DEBNC - @m38a_lib.M38A	26C4	TP_SB_XOR_V7	TP_SB_XOR_V7 - @m38a_lib.M38A	21C6		
	SYS_ONEWIRE	SYS_LED_BRT_D - @m38a_lib.M38A	60B8	TP_SB_XOR_W1	TP_SB_XOR_W1 - @m38a_lib.M38A	21C6		
	SYS_POWERFAIL_L	SYS_LED_C - @m38a_lib.M38A	60A6	TP_SB_XOR_W3	TP_SB_XOR_W3 - @m38a_lib.M38A	21C6		
	SYSTEM_FAILURE	SYS_LED_CTL_B - @m38a_lib.M38A	60B7	TP_SB_XOR_Y1	TP_SB_XOR_Y1 - @m38a_lib.M38A	21C6		
TP_NB_TESTIN_L	SYS_LED_CTL_C - @m38a_lib.M38A	60B6	TP_SB_XOR_Y2	TP_SB_XOR_Y2 - @m38a_lib.M38A	21C6			
TP_NB_XOR_FSB2_H7	SYS_LED_CTL_D - @m38a_lib.M38A	60A6	TP_U8400_AG14	TP_U8400_AG14 - @m38a_lib.M38A	91A5			
TP_NB_XOR_LVDS_A34	SYS_ONEWIRE - @m38a_lib.M38A	58B7 5984	TP_U8900_J2	TP_U8900_J2 - @m38a_lib.M38A	89A7			
TP_NB_XOR_LVDS_A35	SYS_POWERFAIL_L - @m38a_lib.M38A	6D8 76D2	TP_U8900_J3	TP_U8900_J3 - @m38a_lib.M38A	89A7			
TP_NB_XOR_LVDS_D27	SYSTEM_FAILURE - @m38a_lib.M38A	6C7	TP_U8950_J2	TP_U8950_J2 - @m38a_lib.M38A	89A4			
TP_NB_XOR_LVDS_D28	TP_NB_TESTIN_L - @m38a_lib.M38A	10B5 10C5	TP_U9000_J2	TP_U9000_J2 - @m38a_lib.M38A	90A7			
TP_PCI_CLK_SPARE	TP_NB_XOR_FSB2_H7 - @m38a_lib.M38A	10B5 10C5	TP_U9000_J3	TP_U9000_J3 - @m38a_lib.M38A	90A7			
TP_PCI_GNT0_L	TP_NB_XOR_LVDS_A34 - @m38a_lib.M38A	10D3	TP_U9050_J2	TP_U9050_J2 - @m38a_lib.M38A	90A4			
TP_PCI_GNT2_L	TP_NB_XOR_LVDS_A35 - @m38a_lib.M38A	10C4	TP_U9050_J3	TP_U9050_J3 - @m38a_lib.M38A	90A4			
TP_PCI_GNT3_L	TP_NB_XOR_LVDS_D27 - @m38a_lib.M38A	97C8	TSSENSE_GPU_DXP	TSSENSE_GPU_DXP - @m38a_lib.M38A	61C5			
TP_PCI_GNT4_L	TP_NB_XOR_LVDS_D28 - @m38a_lib.M38A	93C3 97C8	TSSENSE_NB_DXP	TSSENSE_NB_DXP - @m38a_lib.M38A	61B5			
TP_PCI_PME_L	TP_PCI_CLK_SPARE - @m38a_lib.M38A	97C4 97C7	TSSENSE_NB_GPU_DXP	TSSENSE_NB_GPU_DXP - @m38a_lib.M38A	6185			
TP_SB_ACZ_SDIN1	TP_PCI_GNT0_L - @m38a_lib.M38A	97C4 97C7	TV_DACC_OUT	TV_DACC_OUT - @m38a_lib.M38A	13C5 19B1			
TP_SB_ACZ_SDIN2	TP_PCI_GNT2_L - @m38a_lib.M38A	97C4 97D7	TV_DACB_OUT	TV_DACB_OUT - @m38a_lib.M38A	13C5 19B1			
TP_SB_DRQ0_L	TP_PCI_GNT3_L - @m38a_lib.M38A	97C4 97D7	TV_IRTNAC	TV_IRTNAC - @m38a_lib.M38A	13C5 19B1			
TP_SB_GPI06	TP_PCI_GNT4_L - @m38a_lib.M38A	97C4 97D7	TV_IRTNB	TV_IRTNB - @m38a_lib.M38A	13C5 19B1			
TP_SB_GPI023	TP_PCI_PME_L - @m38a_lib.M38A	97C7 97D4	TV_IRTNC	TV_IRTNC - @m38a_lib.M38A	13C5 19B1			
TP_SB_GPI025_DO_NOT_USE	TP_SB_ACZ_SDIN1 - @m38a_lib.M38A	97C7 97D4	TV_IREF	TV_IREF - @m38a_lib.M38A	13C5 19B1			
TP_SB_GPI038	TP_SB_ACZ_SDIN2 - @m38a_lib.M38A	93C3 97D8	PP3V3_S0_NB_VCCA_TVVB	PP3V3_S0_NB_VCCA_TVVB - @m38a_lib.M38A	17C6 19B1			
TP_SB_RSVD9	TP_SB_DRQ0_L - @m38a_lib.M38A	93C3 97D8	PP3V3_S0_NB_VCCA_TVVDACC	PP3V3_S0_NB_VCCA_TVVDACC - @m38a_lib.M38A	17C6 19B1			
TP_SB_SATALED_L	TP_SB_GPI06 - @m38a_lib.M38A	93C3 97C8	PPIV5_S0_NB_VCCD_TVVDAC	PPIV5_S0_NB_VCCD_TVVDAC - @m38a_lib.M38A	17C6 19B1			
TP_SB_XOR_AD5	TP_SB_GPI023 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_VCCD_QTVVDAC	PPIV5_S0_NB_VCCD_QTVVDAC - @m38a_lib.M38A	17B6 19A1			
TP_SB_XOR_AD9	TP_SB_GPI025_DO_NOT_USE - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_AIRPORT	PP1V5_S0_AIRPORT - @m38a_lib.M38A	6C4 53D3			
TP_SB_XOR_AE5	TP_SB_GPI038 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0	PP1V5_S0 - @m38a_lib.M38A	6C6 11A7 11B7 80C2			
TP_SB_XOR_AE9	TP_SB_RSVD9 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A	PP1V5_S0_SB_VCC1_5_A - @m38a_lib.M38A	6C4 25A8 25C8			
TP_SB_XOR_AG4	TP_SB_SATALED_L - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_USB_CORE	PP1V5_S0_SB_VCC1_5_A_USB_CORE - @m38a_lib.M38A	6C4 24A3 25C1			
TP_SB_XOR_AG8	TP_SB_XOR_AD5 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_ARX	PP1V5_S0_SB_VCC1_5_A_ARX - @m38a_lib.M38A	6C4 24A5 25C6			
TP_SB_XOR_AH4	TP_SB_XOR_AD9 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_ATX	PP1V5_S0_SB_VCC1_5_A_ATX - @m38a_lib.M38A	6C4 24A5 25C6			
TP_SB_XOR_AH8	TP_SB_XOR_AE5 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_USB_CORE	PP1V5_S0_SB_VCC1_5_A_USB_CORE - @m38a_lib.M38A	6C4 24A3 25B1			
TP_SB_XOR_T5	TP_SB_XOR_AE9 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_ARX	PP1V5_S0_SB_VCC1_5_A_ARX - @m38a_lib.M38A	6C4 24B5 25D6			
TP_SB_XOR_U3	TP_SB_XOR_AG4 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_3GPLL	PP1V5_S0_NB_3GPLL - @m38a_lib.M38A	6C4 19A6 19A6			
TP_SB_XOR_U5	TP_SB_XOR_AG8 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_PLL	PP1V5_S0_NB_PLL - @m38a_lib.M38A	6C4 19C8 19D7			
TP_SB_XOR_U7	TP_SB_XOR_AH4 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCC1_5_A	PP1V5_S0_NB_VCC1_5_A - @m38a_lib.M38A	6C4 6C4 16D1 17B6 19A7 19D7			
TP_SB_XOR_V3	TP_SB_XOR_AH8 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCCD_HMPLL	PP1V5_S0_NB_VCCD_HMPLL - @m38a_lib.M38A	6C4 17C6 19D7			
TP_SB_XOR_V4	TP_SB_XOR_T5 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCCD_QTVVDAC	PP1V5_S0_NB_VCCD_QTVVDAC - @m38a_lib.M38A	17B6 19A1			
TP_SB_XOR_V6	TP_SB_XOR_U3 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_PCIE	PP1V5_S0_NB_PCIE - @m38a_lib.M38A	6C4 13D2 19D7			
TP_SB_XOR_V7	TP_SB_XOR_U5 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_CPU	PP1V5_S0_CPU - @m38a_lib.M38A	6C4 8B6 8C5			
TP_SB_XOR_W1	TP_SB_XOR_U7 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0	PP1V5_S0 - @m38a_lib.M38A	6C6 11A7 11B7 80C2			
TP_SB_XOR_W3	TP_SB_XOR_V3 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A	PP1V5_S0_SB_VCC1_5_A - @m38a_lib.M38A	6C4 24A5 25B6			
TP_SB_XOR_Y1	TP_SB_XOR_V4 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_SB_VCC1_5_A_ARX	PP1V5_S0_SB_VCC1_5_A_ARX - @m38a_lib.M38A	6C4 24B5 25D6			
TP_SB_XOR_Y2	TP_SB_XOR_V6 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_3GPLL	PP1V5_S0_NB_3GPLL - @m38a_lib.M38A	6C4 19A6 19A6			
TP_U8400_AG14	TP_SB_XOR_V7 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_PLL	PP1V5_S0_NB_PLL - @m38a_lib.M38A	6C4 19C8 19D7			
TP_U8900_J2	TP_SB_XOR_W1 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCC1_5_A	PP1V5_S0_NB_VCC1_5_A - @m38a_lib.M38A	6C4 6C4 16D1 17B6 19A7 19D7			
TP_U8900_J3	TP_SB_XOR_W3 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCCD_HMPLL	PP1V5_S0_NB_VCCD_HMPLL - @m38a_lib.M38A	6C4 17C6 19D7			
TP_U8950_J2	TP_SB_XOR_Y1 - @m38a_lib.M38A	93C3 95D6	PP1V5_S0_NB_VCCD_QTVVDAC	PP1V5_S0_NB_VCCD_QTVVDAC - @m38a_lib.M38A	17B6 19A1			
TP_U9000_J2	TP_SB_XOR_Y2 - @m38a_lib.M38A	93C3 95D6	PP3V3_S0_NB_VCCA_TVVDAC	PP3V3_S0_NB_VCCA_TVVDAC - @m38a_lib.M38A	17C6 19B1			
TP_U9000_J3	TP_U8400_AG14 - @m38a_lib.M38A	93C3 95D6	PP3V3_S0_NB_VCCA_TVVDACC	PP3V3_S0_NB_VCCA_TVVDACC - @m38a_lib.M38A	17C6 19B1			
TP_U9050_J2	TP_U8900_J2 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_AIRPORT	PPIV5_S0_AIRPORT - @m38a_lib.M38A	6C4 53D3			
TP_U9050_J3	TP_U8900_J3 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0	PPIV5_S0 - @m38a_lib.M38A	6C6 11A7 11B7 80C2			
TSSENSE_GPU_DXP	TP_U8950_J2 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_SB_VCC1_5_A	PPIV5_S0_SB_VCC1_5_A - @m38a_lib.M38A	6C4 25A8 25C8			
TSSENSE_NB_DXP	TP_U9000_J2 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_SB_VCC1_5_A_USB_CORE	PPIV5_S0_SB_VCC1_5_A_USB_CORE - @m38a_lib.M38A	6C4 24A3 25C1			
TSSENSE_NB_GPU_DXP	TP_U9000_J3 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_SB_VCC1_5_A_ARX	PPIV5_S0_SB_VCC1_5_A_ARX - @m38a_lib.M38A	6C4 24B5 25D6			
TV_DACC_OUT	TP_U9050_J2 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_3GPLL	PPIV5_S0_NB_3GPLL - @m38a_lib.M38A	6C4 19A6 19A6			
TV_DACB_OUT	TP_U9050_J3 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_PLL	PPIV5_S0_NB_PLL - @m38a_lib.M38A	6C4 19C8 19D7			
TV_IRTNAC	TP_U9050_J3 - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_VCC1_5_A	PPIV5_S0_NB_VCC1_5_A - @m38a_lib.M38A	6C4 6C4 16D1 17B6 19A7 19D7			
TV_IRTNB	TSSENSE_GPU_DXP - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_VCCD_HMPLL	PPIV5_S0_NB_VCCD_HMPLL - @m38a_lib.M38A	6C4 17C6 19D7			
TV_IRTNC	TSSENSE_NB_DXP - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_NB_VCCD_QTVVDAC	PPIV5_S0_NB_VCCD_QTVVDAC - @m38a_lib.M38A	17B6 19A1			
TV_IREF	TSSENSE_NB_GPU_DXP - @m38a_lib.M38A	93C3 95D6	PP3V3_S0_NB_VCCA_TVVDAC	PP3V3_S0_NB_VCCA_TVVDAC - @m38a_lib.M38A	17C6 19B1			
PP3V3_S0_NB_VCCA_TVVB	TV_DACC_OUT - @m38a_lib.M38A	93C3 95D6	PP3V3_S0_NB_VCCA_TVVDACC	PP3V3_S0_NB_VCCA_TVVDACC - @m38a_lib.M38A	17C6 19B1			
PP3V3_S0_NB_VCCA_TVVDACC	TV_IRTNAC - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_AIRPORT	PPIV5_S0_AIRPORT - @m38a_lib.M38A	6C4 53D3			
PPIV5_S0_NB_VCCD_TVVDAC	TV_IRTNB - @m38a_lib.M38A	93C3 95D6	PPIV5_S0	PPIV5_S0 - @m38a_lib.M38A	6C6 11A7 11B7 80C2			
PPIV5_S0_NB_VCCD_QTVVDAC	TV_IRTNC - @m38a_lib.M38A	93C3 95D6	PPIV5_S0_SB_VCC1_5_A	PPIV5_S0_SB_VCC1_5_A - @				

	8	7	6	5	4	3	2	1
D	Title: Cref Part Report		C2503 CAP_402 m38a[25D8]	C3806 CAP_805-2 m38a[38C1]	C5901 CAP_402 m38a[59D8]			
	Design: m38a		C2504 CAP_402 m38a[25C8]	C4101 CAP_402 m38a[41D7]	C5902 CAP_402 m38a[59B7]			
	Date: Jun 21 19:41:15 2006		C2505 CAP_402 m38a[25B7]	C4102 CAP_402 m38a[41D6]	C5903 CAP_402 m38a[59A8]			
	C85A0 CAP_402 m38a[85D1]	C2506 CAP_402 m38a[25B7]	C4103 CAP_402 m38a[41D6]	C5919 CAP_402 m38a[59A4]	C5941 CAP_402 m38a[59A3]			
C600 CAP_402 m38a[6C7]	C2507 CAP_402 m38a[25B7]	C4104 CAP_402 m38a[41D5]	C5942 CAP_805-1 m38a[59A3]	C5943 CAP_402 m38a[59A5]				
C601 CAP_402 m38a[6A3]	C2508 CAP_805-1 m38a[25A6]	C4105 CAP_402 m38a[41D5]	C5944 CAP_402 m38a[59A6]	C5951 CAP_402 m38a[59B6]				
C602 CAP_402 m38a[6A3]	C2509 CAP_402 m38a[25B8]	C4106 CAP_402 m38a[41D2]	C6000 CAP_402 m38a[60D4]	C6001 CAP_402 m38a[60D4]				
C603 CAP_402 m38a[6A3]	C2510 CAP_402 m38a[25C1]	C4107 CAP_402 m38a[41D2]	C6002 CAP_402 m38a[60D4]	C6003 CAP_402 m38a[60D4]				
C604 CAP_402 m38a[6A4]	C2511 CAP_402 m38a[25D6]	C4110 CAP_402 m38a[41D4]	C6003 CAP_402 m38a[60D4]	C6100 CAP_402 m38a[61B5]				
C610 CAP_402 m38a[6C7]	C2512 CAP_402 m38a[25B1]	C4111 CAP_402 m38a[41C4]	C6003 CAP_402 m38a[60D4]	C6101 CAP_402 m38a[61B5]				
C650 CAP_402 m38a[6A7]	C2513 CAP_402 m38a[25C6]	C4112 CAP_402 m38a[41C4]	C6003 CAP_402 m38a[60D4]	C6301 CAP_402 m38a[63C2]				
C699 CAP_P_CASE-C1 m38a[6D7]	C2514 CAP_402 m38a[25C6]	C4113 CAP_402 m38a[41C4]	C6003 CAP_402 m38a[60D4]	C6308 CAP_402 m38a[63C5]				
C0800 CAP_402 m38a[8B5]	C2515 CAP_402 m38a[25B6]	C4115 CAP_402 m38a[41B5]	C6003 CAP_402 m38a[60D4]	C6309 CAP_402 m38a[63C6]				
C0801 CAP_603 m38a[8B5]	C2516 CAP_P_CASE-C2 m38a[25D3]	C4116 CAP_402 m38a[41B5]	C6003 CAP_402 m38a[60D4]	C6311 CAP_402 m38a[63C2]				
C900 CAP_805 m38a[9B6]	C2517 CAP_402 m38a[25D6]	C4117 CAP_402 m38a[41B2]	C6003 CAP_402 m38a[60D4]	C6312 CAP_402 m38a[63D3]				
C901 CAP_805 m38a[9A6]	C2518 CAP_402 m38a[25D4]	C4118 CAP_402 m38a[41B2]	C6003 CAP_402 m38a[60D4]	C6500 CAP_603 m38a[65D5]				
C902 CAP_805 m38a[9A6]	C2519 CAP_402 m38a[25D3]	C4126 CAP_402 m38a[41A8]	C6003 CAP_402 m38a[60D4]	C6501 CAP_805 m38a[65D5]				
C903 CAP_805 m38a[9A6]	C2520 CAP_402 m38a[25C3]	C4127 CAP_402 m38a[41A8]	C6003 CAP_402 m38a[60D4]	C6502 CAP_603 m38a[65B4]				
C904 CAP_805 m38a[9A6]	C2521 CAP_402 m38a[25B3]	C4128 CAP_402 m38a[41A8]	C6003 CAP_402 m38a[60D4]	C6503 CAP_805 m38a[65B5]				
C905 CAP_805 m38a[9A6]	C2522 CAP_402 m38a[25B3]	C4129 CAP_402 m38a[41A8]	C6003 CAP_402 m38a[60D4]	C6504 CAP_P_6_3X11-TH-LF1 m38a[65C4]				
C906 CAP_805 m38a[9A6]	C2523 CAP_402 m38a[25B4]	C4130 CAP_402 m38a[41A7]	C6003 CAP_402 m38a[60D4]	C6505 CAP_P_6_3X11-TH-LF1 m38a[65B3]				
C907 CAP_805 m38a[9B5]	C2524 CAP_603 m38a[25B3]	C4131 CAP_402 m38a[41A7]	C6003 CAP_402 m38a[60D4]	C6600 CAP_603 m38a[66D4]				
C908 CAP_805 m38a[9B7]	C2525 CAP_402 m38a[25B3]	C4132 CAP_402 m38a[41A7]	C6003 CAP_402 m38a[60D4]	C6601 CAP_805 m38a[66C5]				
C909 CAP_805 m38a[9B5]	C2526 CAP_402 m38a[25A4]	C4133 CAP_402 m38a[41A6]	C6003 CAP_402 m38a[60D4]	C6602 CAP_P_SM-LF m38a[66C3]				
C910 CAP_805 m38a[9B7]	C2527 CAP_402 m38a[25A3]	C4134 CAP_402 m38a[41A6]	C6003 CAP_402 m38a[60D4]	C6650 CAP_402 m38a[66B5]				
C911 CAP_805 m38a[9B7]	C2528 CAP_402 m38a[25A3]	C4135 CAP_402 m38a[41A5]	C6003 CAP_402 m38a[60D4]	C6651 CAP_402 m38a[66A5]				
C912 CAP_805 m38a[9A7]	C2529 CAP_402 m38a[25A3]	C4136 CAP_402 m38a[41A5]	C6003 CAP_402 m38a[60D4]	C6652 CAP_402 m38a[66B3]				
C913 CAP_805 m38a[9A7]	C2530 CAP_402 m38a[25A3]	C4137 CAP_402 m38a[41A5]	C6003 CAP_402 m38a[60D4]	C6653 CAP_402 m38a[66A3]				
C914 CAP_805 m38a[9A7]	C2531 CAP_402 m38a[25D1]	C4138 CAP_402 m38a[41A4]	C6003 CAP_402 m38a[60D4]	C6654 CAP_402 m38a[66B4]				
C915 CAP_805 m38a[9A7]	C2532 CAP_402 m38a[25C1]	C4139 CAP_402 m38a[41A4]	C6003 CAP_402 m38a[60D4]	C6655 CAP_402 m38a[66B2]				
C916 CAP_805 m38a[9A7]	C2533 CAP_402 m38a[25C1]	C4140 CAP_402 m38a[41B3]	C6003 CAP_402 m38a[60D4]	C6700 CAP_402 m38a[67C4]				
C917 CAP_805 m38a[9A7]	C2534 CAP_402 m38a[25D1]	C4141 CAP_402 m38a[41B3]	C6003 CAP_402 m38a[60D4]	C6701 CAP_402 m38a[67C4]				
C918 CAP_805 m38a[9A7]	C2605 CAP_402 m38a[26C7]	C4142 CAP_402 m38a[41D5]	C6003 CAP_402 m38a[60D4]	C6702 CAP_402 m38a[67C3]				
C919 CAP_805 m38a[9A7]	C2607 CAP_402 m38a[26D5]	C4200 CAP_1210 m38a[42D8]	C6003 CAP_402 m38a[60D4]	C6703 CAP_402 m38a[67C3]				
C920 CAP_805 m38a[9A5]	C2608 CAP_402 m38a[26D8]	C4201 CAP_402 m38a[42D7]	C6003 CAP_402 m38a[60D4]	C6704 CAP_402 m38a[67C3]				
C921 CAP_805 m38a[9A7]	C2609 CAP_402 m38a[26C7]	C4202 CAP_1210 m38a[42D7]	C6003 CAP_402 m38a[60D4]	C6705 CAP_402 m38a[67C3]				
C922 CAP_805 m38a[9A7]	C2610 CAP_402 m38a[26C7]	C4203 CAP_1206-1 m38a[42D6]	C6003 CAP_402 m38a[60D4]	C6706 CAP_402 m38a[67C3]				
C923 CAP_805 m38a[9B7]	C2611 CAP_402 m38a[26B7]	C4204 CAP_402 m38a[42D6]	C6003 CAP_402 m38a[60D4]	C6707 CAP_402 m38a[67C3]				
C924 CAP_805 m38a[9A7]	C2698 CAP_402 m38a[26C4]	C4205 CAP_1210 m38a[42C5]	C6003 CAP_402 m38a[60D4]	C6708 CAP_402 m38a[67C3]				
C925 CAP_805 m38a[9A7]	C2699 CAP_402 m38a[26C5]	C4206 CAP_402 m38a[42C5]	C6003 CAP_402 m38a[60D4]	C6709 CAP_402 m38a[67C3]				
C926 CAP_402 m38a[9B7]	C2800 CAP_402 m38a[28D6]	C4209 CAP_603 m38a[42B7]	C6003 CAP_402 m38a[60D4]	C6800 CAP_603 m38a[68D6]				
C928 CAP_805 m38a[9B6]	C2801 CAP_603 m38a[28B2]	C4210 CAP_402 m38a[42B6]	C6003 CAP_402 m38a[60D4]	C6801 CAP_402 m38a[68D6]				
C929 CAP_805 m38a[9B5]	C2802 CAP_603 m38a[28B2]	C4300 CAP_402 m38a[43D7]	C6003 CAP_402 m38a[60D4]	C6802 CAP_603 m38a[68D4]				
C930 CAP_805 m38a[9A6]	C2803 CAP_603 m38a[28B1]	C4301 CAP_402 m38a[43D6]	C6003 CAP_402 m38a[60D4]	C6803 CAP_P_6_3X5.5-SM m38a[68D3]				
C931 CAP_805 m38a[9A5]	C2804 CAP_603 m38a[28B1]	C4304 CAP_402 m38a[43C6]	C6003 CAP_402 m38a[60D4]	C6804 CAP_P_SMA-LF m38a[68B4]				
C932 CAP_805 m38a[9A6]	C2810 CAP_402 m38a[28B2]	C4305 CAP_402 m38a[43B6]	C6003 CAP_402 m38a[60D4]	C6805 CAP_805 m38a[68B3]				
C934 CAP_402 m38a[9B7]	C2811 CAP_402 m38a[28B2]	C4401 CAP_402 m38a[44D1]	C6003 CAP_402 m38a[60D4]	C6806 CAP_805 m38a[68B3]				
C935 CAP_402 m38a[9B7]	C2812 CAP_402 m38a[28B1]	C4410 CAP_402 m38a[44D1]	C6003 CAP_402 m38a[60D4]	C6807 CAP_P_SMA-LF m38a[68B3]				
C936 CAP_402 m38a[9B7]	C2813 CAP_402 m38a[28B1]	C4412 CAP_402 m38a[44D1]	C6003 CAP_402 m38a[60D4]	C6810 CAP_P_SMA-LF m38a[68B3]				
C937 CAP_402 m38a[9B6]	C2814 CAP_402 m38a[28B2]	C4500 CAP_402 m38a[45D4]	C6003 CAP_402 m38a[60D4]	C6812 CAP_402 m38a[68B4]				
C938 CAP_402 m38a[9B6]	C2815 CAP_402 m38a[28B2]	C4501 CAP_402 m38a[45D3]	C6003 CAP_402 m38a[60D4]	C6813 CAP_402 m38a[68B3]				
C939 CAP_805 m38a[9A5]	C2816 CAP_402 m38a[28B1]	C4502 CAP_402 m38a[45D3]	C6003 CAP_402 m38a[60D4]	C6821 CAP_402 m38a[68C6]				
C940 CAP_P_CASE-C1 m38a[9C7]	C2817 CAP_402 m38a[28B1]	C4503 CAP_805-1 m38a[45C6]	C6003 CAP_402 m38a[60D4]	C6822 CAP_603 m38a[68A5]				
C941 CAP_P_3P_D2T m38a[9A7]	C2818 CAP_402 m38a[28B2]	C4504 CAP_402 m38a[45C4]	C6003 CAP_402 m38a[60D4]	C6823 CAP_402 m38a[68A4]				
C942 CAP_P_3P_D2T m38a[9A7]	C2819 CAP_402 m38a[28B2]	C4505 CAP_402 m38a[45C5]	C6003 CAP_402 m38a[60D4]	C6825 CAP_402 m38a[68A3]				
C943 CAP_P_3P_D2T m38a[9A7]	C2820 CAP_402 m38a[28B1]	C4506 CAP_402 m38a[45C5]	C6003 CAP_402 m38a[60D4]	C6826 CAP_603 m38a[68D2]				
C944 CAP_P_3P_D2T m38a[9A7]	C2821 CAP_402 m38a[28B1]	C4507 CAP_402 m38a[45C5]	C6003 CAP_402 m38a[60D4]	C6830 CAP_402 m38a[68D4]				
C945 CAP_P_3P_D2T m38a[9A6]	C2850 CAP_603 m38a[28D6]	C4508 CAP_402 m38a[45D5]	C6003 CAP_402 m38a[60D4]	C6833 CAP_402 m38a[68B3]				
C946 CAP_P_3P_D2T m38a[9A6]	C2851 CAP_603 m38a[28A6]	C4509 CAP_402 m38a[45D5]	C6003 CAP_402 m38a[60D4]	C6835 CAP_402 m38a[68D6]				
C950 CAP_402 m38a[9D4]	C2852 CAP_402 m38a[28A6]	C4510 CAP_402 m38a[45D5]	C6003 CAP_402 m38a[60D4]	C6836 CAP_402 m38a[68D6]				
C951 CAP_402 m38a[9D3]	C2900 CAP_402 m38a[29D6]	C4515 CAP_805-1 m38a[45D6]	C6003 CAP_402 m38a[60D4]	C7200 CAP_P_6_3X8-SM m38a[72D5]				
C952 CAP_402 m38a[9D3]	C2908 CAP_402 m38a[29B2]	C4520 CAP_402 m38a[45D5]	C6003 CAP_402 m38a[60D4]	C7201 CAP_1210 m38a[72D5]				
C953 CAP_402 m38a[9D2]	C2909 CAP_402 m38a[29B2]	C4521 CAP_402 m38a[45D4]	C6003 CAP_402 m38a[60D4]	C7202 CAP_805 m38a[72D4]				
C1000 CAP_402 m38a[10C6]	C2910 CAP_402 m38a[29B1]	C4522 CAP_402 m38a[45D3]	C6003 CAP_402 m38a[60D4]	C7203 CAP_1210 m38a[72D3]				
C1100 CAP_402 m38a[11A3]	C2911 CAP_402 m38a[29B1]	C4523 CAP_402 m38a[45D3]	C6003 CAP_402 m38a[60D4]	C7204 CAP_805 m38a[72D6]				
C1150 CAP_402 m38a[11D7]	C2912 CAP_402 m38a[29B2]	C4609 CAP_805-1 m38a[46D5]	C6003 CAP_402 m38a[60D4]	C7205 CAP_805 m38a[72C6]				
C1151 CAP_402 m38a[11D7]	C2913 CAP_402 m38a[29D2]	C4610 CAP_402 m38a[46D4]	C6003 CAP_402 m38a[60D4]	C7206 CAP_805 m38a[72C6]				
C1152 CAP_402 m38a[11D7]	C2914 CAP_402 m38a[29B1]	C4611 CAP_402 m38a[46D4]	C6003 CAP_402 m38a[60D4]	C7207 CAP_805 m38a[72C6]				
C1153 CAP_402 m38a[11C7]	C2915 CAP_402 m38a[29B1]	C4612 CAP_402 m38a[46C4]	C6003 CAP_402 m38a[60D4]	C7208 CAP_603-1 m38a[72C4]				
C1154 CAP_402 m38a[11C7]	C2916 CAP_402 m38a[29B2]	C4613 CAP_402 m38a[46C4]	C6003 CAP_402 m38a[60D4]	C7209 CAP_805 m38a[72B4]				
C1155 CAP_402 m38a[11C7]	C2917 CAP_402 m38a[29B2]	C4615 CAP_603-1 m38a[46C2]	C6003 CAP_402 m38a[60D4]	C7210 CAP_402 m38a[72B3]				
C1156 CAP_402 m38a[11B7]	C2918 CAP_402 m38a[29B1]	C4616 CAP_402 m38a[46B2]	C6003 CAP_402 m38a[60D4]	C7211 CAP_402 m38a[72B2]				
C1157 CAP_402 m38a[11B7]	C2919 CAP_402 m38a[29B1]	C4620 CAP_402 m38a[46B4]	C6003 CAP_402 m38a[60D4]	C7212 CAP_402 m38a[72B2]				
C1158 CAP_402 m38a[11B7]	C2920 CAP_402 m38a[29B2]	C4621 CAP_402 m38a[46B4]	C6003 CAP_402 m38a[60D4]	C7213 CAP_402 m38a[72B2]				
C1159 CAP_402 m38a[11B7]	C2921 CAP_402 m38a[29B2]	C4622 CAP_402 m38a[46A4]	C6003 CAP_402 m38a[60D4]	C7214 CAP_402 m38a[72B5]				
C1160 CAP_402 m38a[11A7]	C2922 CAP_402 m38a[29B1]	C4623 CAP_402 m38a[46A4]	C6003 CAP_402 m38a[60D4]	C7215 CAP_402 m38a[72C6]				
C1199 CAP_402 m38a[11B2]	C2923 CAP_402 m38a[29B2]	C4625 CAP_603-1 m38a[46A2]	C6003 CAP_402 m38a[60D4]	C7216 CAP_402 m38a[72C6]				
C1211 CAP_402 m38a[12C3]	C2950 CAP_603 m38a[29D6]	C4626 CAP_402 m38a[46A2]	C6003 CAP_402 m38a[60D4]	C7217 CAP_P_6_3X8-SM m38a[72D6]				
C1226 CAP_402 m38a[12B6]	C2951 CAP_603 m38a[29A7]	C4650 CAP_402 m38a[46C7]	C6003 CAP_402 m38a[60D4]	C7218 CAP_603 m38a[72D5]				
C1236 CAP_402 m38a[12A6]	C2952 CAP_402 m38a[29A6]	C4654 CAP_402 m38a[46B8]	C6003 CAP_402 m38a[60D4]	C7219 CAP_603 m38a[72D4]				
C1610 CAP_402 m38a[16B5]	C3004 CAP_402 m38a[30B4]	C4660 CAP_402 m38a[46C7]	C6003 CAP_402 m38a[60D4]	C7221 CAP_402 m38a[72B7]				
C1611 CAP_402 m38a[16B4]	C3005 CAP_402 m38a[30D4]	C4664 CAP_402 m38a[46B7]	C6003 CAP_402 m38a[60D4]	C7223 CAP_1210 m38a[72D3]				
C1612 CAP_402 m38a[16B4]	C3006 CAP_402 m38a[30B3]	C4700 CAP_805-1 m38a[47C8]	C6003 CAP_402 m38a[60D4]	C7317 CAP_402 m38a[73B4]				
C1613 CAP_402 m38a[16B8]	C3007 CAP_402 m38a[30D3]	C4710 CAP_P_B2 m38a[47D6]	C6003 CAP_402 m38a[60D4]	C7318 CAP_805-1 m38a[73B4]				
C1614 CAP_402 m38a[16B8]	C3008 CAP_402 m38a[30A3]	C4712 CAP_402 m38a[47D5]	C6003 CAP_402 m38a[60D4]	C7412 CAP_603 m38a[74B5]				
C1615 CAP_402 m38a[16B6]	C3010 CAP_402 m38a[30A4]	C4713 CAP_402 m38a[47D4]	C6003 CAP_402 m38a[60D4]	C7400 CAP_402 m38a[74B4]				
C1620 CAP_805-1 m38a[16B5]	C3011 CAP_402 m38a[30D3]	C4722 CAP_402 m38a[47C4]	C6003 CAP_402 m38a[60D4]	C7401 CAP_402 m38a[74D5]				
C1621 CAP_805-1 m38a[16B5]	C3013 CAP_402 m38a[30A4]	C4723 CAP_402 m38a[47C4]	C6003 CAP_402 m38a[60D4]	C7402 CAP_402 m38a[74A4]				
C1711 CAP_402 m38a[17A3]	C3014 CAP_402 m38a[30A4]	C4730 CAP_P_B2 m38a[47B5]	C6003 CAP_402 m38a[60D4]	C7403 CAP_P_6_3X5.5-SM m38a[74B7]				
C1712 CAP_402 m38a[17A3]	C3015 CAP_402 m38a[30A3]	C4732 CAP_402 m38a[47A4]	C6003 CAP_402 m38a[60D4]	C7404 CAP_P_6_3X5.5-SM m38a[74B6]				
C1713 CAP_402 m38a[17B3]	C3030 CAP_402 m38a[30C4]	C4733 CAP_402 m38a[47A4]	C6003 CAP_402 m38a[60D4]	C7405 CAP_P_SMA-LF m38a[74C7]				
C1900 CAP_P_CASE-C1 m38a[19B5]	C3033 CAP_402 m38a[30C3]	C4742 CAP_402 m38a[47D1]						

	8	7	6	5	4	3	2	1	
D	J7301	CON_M7RT_S2MT_SM_M-R m38a[73D1] T-SM	L9702	FILTER_4P_2012H m38a[97C7] L9703	PP673	PROBEPOINT_SM m38a[5C6] PP674	PP9016	PROBEPOINT_SM m38a[5A4] PP9020	
	J7303	CON_F9ANG_S4MT_TH1_F m38a[73B3] -ANG-TH	L9710	IND_SM-1 m38a[97D5] LED601	PP675	PROBEPOINT_SM m38a[5B6] PP676	PP9021	PROBEPOINT_SM m38a[5A4] PP9022	
	J9401	CON_M4ST_S_SM_M-ST-S m38a[94C2] M	LED602	LED_2_0X1_25MM-SM m38a[6A7] LED603	PP677	PROBEPOINT_SM m38a[5B6] PP678	PP9023	PROBEPOINT_SM m38a[5A4] PP9025	
	J9402	CON_F30ST_D_SM_F-ST- m38a[94B6] SM	LED3800	LED_2_0X1_25MM-SM m38a[38B3] LED5950	PP679	PROBEPOINT_SM m38a[5B6] PP680	PP9026	PROBEPOINT_SM m38a[5A4] PP9027	
	J9710	CON_DV1_F32ST_Q2MT_S m38a[97D5] M_F-ST-SM4	LED6000	LED_M33M315_ST-SM m38a[60A6] LED7900	PP681	PROBEPOINT_SM m38a[5B6] PP682	PP9028	PROBEPOINT_SM m38a[5A4] PP9029	
	JC900	CON_M7ST_SATA_SM_M-S m38a[38B8] T-SM	LED8000	LED_2_0X1_25MM-SM m38a[80A4] LED8100	PP683	PROBEPOINT_SM m38a[5B6] PP684	PP9030	PROBEPOINT_SM m38a[5A4] PP9031	
	JC901	CON_F50ST_D2MT_SM_F- m38a[38D2] ST-SM	PP5E1	PROBEPOINT_SM m38a[5B8] PP5E2	PP685	PROBEPOINT_SM m38a[5B6] PP686	PP9032	PROBEPOINT_SM m38a[5A4] PP9033	
	JD600	CON_RJ45_10ANG_S3MT_ m38a[43C6] TH1_F-ANG-TH	PP6A0	PROBEPOINT_SM m38a[5A6] PP6A1	PP687	PROBEPOINT_SM m38a[5B6] PP688	PP9034	PROBEPOINT_SM m38a[5A4] PP9035	
	JE000	CON_F6ST_S4MT_TH1_F- m38a[46C2] ST-TH	PP6A2	PROBEPOINT_SM m38a[5A6] PP6A3	PP689	PROBEPOINT_SM m38a[5B6] PP690	Q4201	TRA_PSS55402_SOT223 m38a[42C6] Q5901	
	JE001	CON_F6ST_S4MT_TH1_F- m38a[46B2] ST-TH	PP6A4	PROBEPOINT_SM m38a[5A6] PP6A5	PP691	PROBEPOINT_SM m38a[5B6] PP692	Q5910	TRA_2N7002DM_SOT-363 m38a[59C7] 59C7] Q5910	
	JE310	CON_F4ST_USB_S3MT_TH m38a[47D4] _F-ST-TH	PP6A6	PROBEPOINT_SM m38a[5A6] PP6A7	PP693	PROBEPOINT_SM m38a[5B6] PP694	Q5911	TRA_2N7002_SOT23-LF m38a[59A4] Q5950	
	JE320	CON_F4ST_USB_S3MT_TH m38a[47B4] _F-ST-TH	PP6A8	PROBEPOINT_SM m38a[5A6] PP6A9	PP695	PROBEPOINT_SM m38a[5B6] PP696	Q5951	TRA_2N7002_SOT23-LF m38a[60A7] Q5951	
	JE330	CON_F4ST_USB_S3MT_TH m38a[47A4] _F-ST-TH	PP6B0	PROBEPOINT_SM m38a[5A6] PP6B1	PP697	PROBEPOINT_SM m38a[5B6] PP698	Q5952	TRA_2N7002_SOT23-LF m38a[60B7] Q5952	
	JE350	CON_M14ST_S2MT_SM_M- m38a[47C1] RT-SM	PP6B2	PROBEPOINT_SM m38a[5A6] PP6B3	PP699	PROBEPOINT_SM m38a[5B6] PP700	Q6500	TRA_NTSS443T1_1206A m38a[65D4] -03-LF	
	C	L1934	IND_0603 m38a[19C7] L1936	PP6B4	PROBEPOINT_SM m38a[5A6] PP6B5	PP701	TP_SM-TF50-TOP m38a[5D3] PP702	Q6502	TRA_2N7002_SOT23-LF m38a[65D6] Q6503
		L1970	IND_1210 m38a[19A5] L1975	PP6B6	PROBEPOINT_SM m38a[5A6] PP6B7	PP707	TP_SM-TF50-TOP m38a[5D3] PP1200	Q6503	TRA_NTSS443T1_1206A m38a[65B4] -03-LF
		L2500	IND_SM-3 m38a[25B8] L2507	PP6B8	PROBEPOINT_SM m38a[5A6] PP6B9	PP1201	TP_SM-TF50-TOP m38a[5D3] PP1202	Q6505	TRA_2N7002_SOT23-LF m38a[65B6] Q6600
		L3301	IND_0402-LF m38a[33D7] L3302	PP6C0	PROBEPOINT_SM m38a[5A6] PP6C1	PP2801	TP_SM-TF50-TOP m38a[5C3] PP2802	Q6602	TRA_2N7002_SOT23-LF m38a[66C5] Q7200
		L4200	IND_0405 m38a[42C2] L4201	PP6C2	PROBEPOINT_SM m38a[5A6] PP6C3	PP4100	PROBEPOINT_SM m38a[5D4] PP4101	Q7400	TRA_2N7002DM_SOT-363 m38a[72B6] 74B3] Q7401
		L4300	IND_SM m38a[43D7] L4301	PP6C4	PROBEPOINT_SM m38a[5C8] PP6C5	PP8400	PROBEPOINT_SM m38a[5C5] PP8401	Q7402	TRA_2N7002DM_SOT-363 m38a[74B2] 74B2] Q7500
		L4409	IND_0402 m38a[44D6] L4610	PP6C6	PROBEPOINT_SM m38a[5C8] PP6C7	PP8700	PROBEPOINT_SM m38a[5D5] PP8701	Q7500	TRA_HAT2165H_LFPK m38a[75D3] Q7501
		L4620	IND_1206-LF m38a[46B2] L4690	PP6C8	PROBEPOINT_SM m38a[5C8] PP6C9	PP8702	PROBEPOINT_SM m38a[5D5] PP8703	Q7502	TRA_HAT2165H_LFPK m38a[75D3] Q7503
		L4710	IND_SM m38a[47D5] L4712	PP6D0	PROBEPOINT_SM m38a[5C8] PP6D1	PP8704	PROBEPOINT_SM m38a[5D5] PP8705	Q7504	TRA_HAT2165H_LFPK m38a[75D3] Q7505
		L4720	IND_SM m38a[47C5] L4721	PP6D2	PROBEPOINT_SM m38a[5B8] PP6D3	PP8706	PROBEPOINT_SM m38a[5D5] PP8707	Q7507	TRA_HAT2165H_LFPK m38a[75D2] Q7572
		L4730	IND_SM m38a[47B5] L4732	PP6D4	PROBEPOINT_SM m38a[5B8] PP6D5	PP8708	PROBEPOINT_SM m38a[5D5] PP8709	Q7701	TRA_S13446DV_TSOP-LF m38a[77A3] Q7703
L4740		IND_SM m38a[47D2] L4742	PP6D6	PROBEPOINT_SM m38a[5B8] PP6D7	PP8708	PROBEPOINT_SM m38a[5D5] PP8709	Q7707	TRA_2N7002DM_SOT-363 m38a[77C7] 77D7] Q7799	
L4752		FILTER_4P_2012 m38a[47C2] L4752	PP6D8	PROBEPOINT_SM m38a[5B8] PP6D9	PP8710	PROBEPOINT_SM m38a[5D5] PP8711	Q7800	TRA_2N7002_SOT23-LF m38a[77A7] Q7800	
L6800		IND_0402-LF m38a[68A5] L6801	PP6D9	PROBEPOINT_SM m38a[5B8] PP6D0	PP8712	PROBEPOINT_SM m38a[5D5] PP8713	Q7801	TRA_NTD60N02R_CASE36 m38a[78C4] 9-LF	
L7200		IND_SM-1 m38a[72D6] L7201	PP6E0	PROBEPOINT_SM m38a[5B8] PP6E1	PP8714	PROBEPOINT_SM m38a[5D5] PP8715	Q7801	TRA_NTD60N02R_CASE36 m38a[78B4] 9-LF	
L7202		IND_0603-LF m38a[72C2] L7203	PP6E2	PROBEPOINT_SM m38a[5D8] PP6E3	PP8716	PROBEPOINT_SM m38a[5D5] PP8717	Q7802	TRA_2N7002_SOT23-LF m38a[78B7] Q7900	
L7204		IND_0603-LF m38a[72C3] L7205	PP6E4	PROBEPOINT_SM m38a[5D8] PP6E5	PP8720	PROBEPOINT_SM m38a[5D5] PP8721	Q7901	TRA_NTD60N02R_CASE36 m38a[79C4] 9-LF	
L7206		IND_0603 m38a[72C6] L7207	PP6E6	PROBEPOINT_SM m38a[5D8] PP6E7	PP8722	PROBEPOINT_SM m38a[5D5] PP8723	Q7902	TRA_2N7002_SOT23-LF m38a[79C7] Q8000	
L7208		IND_0603 m38a[72C6] L7300	PP6E8	PROBEPOINT_SM m38a[5D8] PP6E9	PP8724	PROBEPOINT_SM m38a[5C5] PP8725	Q8001	TRA_NTD60N02R_CASE36 m38a[80D4] 9-LF	
L7301		IND_0603-LF m38a[73D6] L7302	PP6E9	PROBEPOINT_SM m38a[5D8] PP6E10	PP8726	PROBEPOINT_SM m38a[5C5] PP8727	Q8001	TRA_NTD60N02R_CASE36 m38a[80C4] 9-LF	
L7303		IND_0603-LF m38a[73D6] L7304	PP6E11	PROBEPOINT_SM m38a[5D8] PP6E12	PP8728	PROBEPOINT_SM m38a[5C5] PP8729	Q8003	TRA_2N7002_SOT23-LF m38a[80C7] Q8102	
L7305		IND_0603-LF m38a[73D5] L7306	PP6E13	PROBEPOINT_SM m38a[5D8] PP6E14	PP8730	PROBEPOINT_SM m38a[5C5] PP8731	Q8103	TRA_NTD60N02R_CASE36 m38a[81C4] 9-LF	
L7307		IND_0603-LF m38a[73D5] L7309	PP6E15	PROBEPOINT_SM m38a[5D8] PP6E16	PP8732	PROBEPOINT_SM m38a[5C5] PP8733	Q8104	TRA_2N7002_SOT23-LF m38a[81C7] Q8300	
L7310		IND_0603-LF m38a[73C4] L7312	PP6E17	PROBEPOINT_SM m38a[5D8] PP6E18	PP8734	PROBEPOINT_SM m38a[5C5] PP8735	Q8301	TRA_IRP7413_SO-8 m38a[83C4] Q8302	
L7313		IND_0603-LF m38a[73C3] L7314	PP6E19	PROBEPOINT_SM m38a[5D8] PP6E20	PP8736	PROBEPOINT_SM m38a[5C5] PP8737	Q8302	TRA_2N7002DM_SOT-363 m38a[83B5] Q8303	
L7316	IND_0603-LF m38a[73B7] L7317	PP6E21	PROBEPOINT_SM m38a[5C8] PP6E22	PP8900	PROBEPOINT_SM m38a[5B5] PP8901	Q8303	TRA_HAT2165H_LFPK m38a[83C5] Q8520		
L7318	IND_0603-LF m38a[73A7] L7318	PP6E23	PROBEPOINT_SM m38a[5C8] PP6E24	PP8902	PROBEPOINT_SM m38a[5B5] PP8903	Q8521	TRA_HAT2165H_LFPK m38a[85C4] Q8522		
L7319	IND_0603-LF m38a[73B7] L7323	PP6E25	PROBEPOINT_SM m38a[5C8] PP6E25	PP8904	PROBEPOINT_SM m38a[5B5] PP8905	Q9400	TRA_S13443DV_TSOP-LF m38a[94C7] Q9401		
L7324	IND_0603-LF m38a[73B5] L7325	PP6E26	PROBEPOINT_SM m38a[5C8] PP6E27	PP8906	PROBEPOINT_SM m38a[5B5] PP8907	Q9401	TRA_2N7002DM_SOT-363 m38a[94C7] Q9711		
L7326	IND_0603-LF m38a[73B5] L7327	PP6E28	PROBEPOINT_SM m38a[5C8] PP6E29	PP8908	PROBEPOINT_SM m38a[5B5] PP8909	Q9711	TRA_2N7002DM_SOT-363 m38a[97D2] 97C2] R7500		
L7328	IND_0603-LF m38a[73A5] L7500	PP630	PROBEPOINT_SM m38a[5D6] PP631	PP8910	PROBEPOINT_SM m38a[5B5] PP8911	R7500	RES_402 m38a[75C7] R8500		
L7501	IND_SM m38a[75D1] L7501	PP632	PROBEPOINT_SM m38a[5D6] PP633	PP8912	PROBEPOINT_SM m38a[5B5] PP8913	R8500	RES_402 m38a[85D1] RES_402		
L7502	IND_TH-VERT-LF m38a[76D8] L7700	PP634	PROBEPOINT_SM m38a[5D6] PP634	PP8914	PROBEPOINT_SM m38a[5A5] PP8915	R600	RES_402 m38a[6A7] R601		
L7750	IND_SM-LF m38a[77B4] L7800	PP635	PROBEPOINT_SM m38a[5D6] PP636	PP8916	PROBEPOINT_SM m38a[5A5] PP8917	R601	RES_402 m38a[6D8] R602		
L7800	IND_3P_SM m38a[78B3] L7880	PP637	PROBEPOINT_SM m38a[5D6] PP638	PP8918	PROBEPOINT_SM m38a[5A5] PP8919	R602	RES_402 m38a[6A8] R603		
L7900	IND_3P_SM m38a[79C3] L8000	PP639	PROBEPOINT_SM m38a[5D6] PP640	PP8920	PROBEPOINT_SM m38a[5A5] PP8921	R603	RES_402 m38a[6B9] R604		
L8100	IND_IHLF m38a[81C3] L8400	PP641	PROBEPOINT_SM m38a[5D6] PP642	PP8922	PROBEPOINT_SM m38a[5A5] PP8923	R605	RES_402 m38a[6A6] R611		
L8520	IND_IHLF m38a[85C3] L8715	PP643	PROBEPOINT_SM m38a[5D6] PP643	PP8924	PROBEPOINT_SM m38a[5A5] PP8925	R611	RES_402 m38a[6B7] R612		
L8715	IND_0402 m38a[87A7] L8725	PP644	PROBEPOINT_SM m38a[5D6] PP645	PP8926	PROBEPOINT_SM m38a[5A5] PP8927	R612	RES_402 m38a[6B7] R613		
L8910	IND_0402 m38a[89D7] L8915	PP646	PROBEPOINT_SM m38a[5D6] PP647	PP8928	PROBEPOINT_SM m38a[5A5] PP8929	R613	RES_402 m38a[6B7] R614		
L8960	IND_0402 m38a[89D4] L8965	PP648	PROBEPOINT_SM m38a[5D6] PP649	PP8930	PROBEPOINT_SM m38a[5A5] PP8931	R614	RES_402 m38a[6B7] R615		
L9015	IND_0402 m38a[90D7] L9060	PP650	PROBEPOINT_SM m38a[5D6] PP651	PP8932	PROBEPOINT_SM m38a[5A5] PP8933	R615	RES_402 m38a[6B7] R616		
L9065	IND_0402 m38a[90D4] L9120	PP652	PROBEPOINT_SM m38a[5D6] PP653	PP8934	PROBEPOINT_SM m38a[5A5] PP8935	R616	RES_402 m38a[6B7] R617		
L9125	IND_0402 m38a[91B6] L9130	PP654	PROBEPOINT_SM m38a[5D6] PP654	PP9000	PROBEPOINT_SM m38a[5B4] PP9001	R617	RES_402 m38a[6C7] R618		
L9135	IND_0402 m38a[91A7] L9140	PP655	PROBEPOINT_SM m38a[5D6] PP656	PP9002	PROBEPOINT_SM m38a[5B4] PP9003	R618	RES_402 m38a[6C7] R619		
L9140	IND_0402 m38a[91A7] L9140	PP657	PROBEPOINT_SM m38a[5D6] PP658	PP9004	PROBEPOINT_SM m38a[5B4] PP9005	R619	RES_402 m38a[6C7] R620		
L9140	IND_0402 m38a[91A7] L9140	PP659	PROBEPOINT_SM m38a[5D6] PP660	PP9006	PROBEPOINT_SM m38a[5B4] PP9007	R620	RES_402 m38a[6C7] R621		
L9140	IND_0402 m38a[91A7] L9140	PP661	PROBEPOINT_SM m38a[5D6] PP662	PP9008	PROBEPOINT_SM m38a[5B4] PP9009	R621	RES_402 m38a[6C7] R622		
L9140	IND_0402 m38a[91A7] L9140	PP663	PROBEPOINT_SM m38a[5D6] PP664	PP9010	PROBEPOINT_SM m38a[5B4] PP9011	R622	RES_402 m38a[6C7] R623		
L9140	IND_0402 m38a[91A7] L9140	PP665	PROBEPOINT_SM m38a[5D6] PP666	PP9012	PROBEPOINT_SM m38a[5B4] PP9013	R623	RES_402 m38a[6C7] R624		
L9140	IND_0402 m38a[91A7] L9140	PP667	PROBEPOINT_SM m38a[5D6] PP668	PP9014	PROBEPOINT_SM m38a[5B4] PP9015	R624	RES_402 m38a[6C7] R625		
L9140	IND_0402 m38a[91A7] L9140	PP669	PROBEPOINT_SM m38a[5D6] PP670	PP9016	PROBEPOINT_SM m38a[5B4] PP9017	R625	RES_402 m38a[6C7] R626		
L9140	IND_0402 m38a[91A7] L9140	PP671	PROBEPOINT_SM m38a[5D6] PP672	PP9018	PROBEPOINT_SM m38a[5B4] PP9019	R626	RES_402 m38a[6C7] R627		
L9140	IND_0402 m38a[91A7] L9140	PP673	PROBEPOINT_SM m38a[5D6] PP674	PP9020	PROBEPOINT_SM m38a[5B4] PP9021	R627	RES_402 m38a[6C7] R628		
L9140	IND_0402 m38a[91A7] L9140	PP675	PROBEPOINT_SM m38a[5D6] PP676	PP9022	PROBEPOINT_SM m38a[5B4] PP9023	R628	RES_402 m38a[6C7] R629		
L9140	IND_0402 m38a[91A7] L9140	PP677	PROBEPOINT_SM m38a[5D6] PP678	PP9024	PROBEPOINT_SM m38a[5B4] PP9025	R629	RES_402 m38a[6C7] R630		
L9140	IND_0402 m38a[91A7] L9140	PP679	PROBEPOINT_SM m38a[5D6] PP680	PP9026	PROBEPOINT_SM m38a[5B4] PP9027	R630	RES_402 m38a[6C7] R631		
L9140	IND_0402 m38a[91A7] L9140	PP681	PROBEPOINT_SM m38a[5D6] PP682	PP9028	PROBEPOINT_SM m38a[5B4] PP9029	R631	RES_402 m38a[6C7] R632		
L9140	IND_0402 m38a[91A7] L9140	PP683	PROBEPOINT_SM m38a[5D6] PP684	PP9030	PROBEPOINT_SM m38a[5B4] PP9031	R632	RES_402 m38a[6C7] R633		
L9140	IND_0402 m38a[91A7] L9140	PP685	PROBEPOINT_SM m38a[5D6] PP686	PP9032	PROBEPOINT_SM m38a[5B4] PP9033	R633	RES_402 m38a[6C7] R634		
L9140	IND_0402 m38a[91A7] L9140	PP687	PROBEPOINT_SM m38a[5D6] PP688	PP9034	PROBEPOINT_SM m38a[5B4] PP9035	R634	RES_402 m38a[6C7] R635		
L9140	IND_0402 m38a[91A7] L9140	PP689	PROBEPOINT_SM m38a[5D6] PP690	PP9036	PROBEPOINT_SM m38a[5B4] PP9037	R635	RES_402 m38a[6C7] R636		
L9140	IND_0402 m38a[91A7] L9140</								

	8			7			6			5			4			3			2			1		
D	R1104	RES_402	m38a[11B5]	R2719	RES_402	m38a[27B7]	R4356	RES_402	m38a[43C7]	R6504	RES_805	m38a[65C5]	D											
	R1106	RES_402	m38a[11A3]	R2750	RES_402	m38a[27C7]	R4357	RES_402	m38a[43B7]	R6505	RES_805	m38a[65D5]												
	R1210	RES_402	m38a[12C3]	R2751	RES_402	m38a[27C7]	R4402	RES_402	m38a[44B3]	R6506	RES_402	m38a[65D6]												
	R1211	RES_402	m38a[12C3]	R2800	RES_402	m38a[28C7]	R4403	RES_402	m38a[44B5]	R6507	RES_805	m38a[65B5]												
	R1220	RES_402	m38a[12B7]	R2801	RES_402	m38a[28C7]	R4407	RES_402	m38a[44A7]	R6508	RES_805	m38a[65B5]												
	R1221	RES_402	m38a[12B7]	R2900	RES_402	m38a[29A3]	R4409	RES_402	m38a[44B3]	R6509	RES_805	m38a[65B5]												
	R1225	RES_402	m38a[12B7]	R3001	RES_402	m38a[30D4]	R4410	RES_402	m38a[44D2]	R6510	RES_1206	m38a[65B6]												
	R1226	RES_402	m38a[12B7]	R3009	RES_402	m38a[30D4]	R4411	RES_402	m38a[44D6]	R6511	RES_402	m38a[65B6]												
	R1230	RES_402	m38a[12A7]	R3011	RES_402	m38a[30C4]	R4412	RES_402	m38a[44C1]	R6512	RES_805	m38a[65C5]												
	R1231	RES_402	m38a[12A7]	R3025	RES_402	m38a[30C4]	R4413	RES_402	m38a[44C3]	R6513	RES_805	m38a[65B5]												
	R1235	RES_402	m38a[12A7]	R3035	RES_402	m38a[30B4]	R4414	RES_402	m38a[44C3]	R6514	RES_805	m38a[65B4]												
	R1236	RES_402	m38a[12A7]	R3100	RES_402	m38a[31C5]	R4416	RES_402	m38a[44A5]	R6515	RES_805	m38a[65C4]												
	R1310	RES_402	m38a[13D3]	R3101	RES_402	m38a[31C5]	R4450	RES_402	m38a[44B3]	R6598	RES_402	m38a[65A7]												
	R1410	RES_402	m38a[14C3]	R3300	RES_402	m38a[33B6]	R4451	RES_402	m38a[44B3]	R6599	RES_402	m38a[65C7]												
	R1411	RES_402	m38a[14C3]	R3301	RES_402	m38a[33B7]	R4452	RES_402	m38a[44B3]	R6600	RES_402	m38a[66C7]												
	R1420	RES_402	m38a[14B6]	R3302	RES_402	m38a[33D4]	R4453	RES_402	m38a[44B3]	R6601	RES_805	m38a[66D5]												
	R1430	RES_402	m38a[14B6]	R3303	RES_402	m38a[33C4]	R4454	RES_402	m38a[44B3]	R6602	RES_805	m38a[66C4]												
	R1440	RES_402	m38a[14D6]	R3304	RES_402	m38a[33C7]	R4455	RES_402	m38a[44B3]	R6603	RES_805	m38a[66D5]												
	R1441	RES_402	m38a[14D6]	R3400	RES_402	m38a[34C5]	R4650	RES_402	m38a[46C8]	R6604	RES_1206	m38a[66D5]												
	R1975	RES_402	m38a[19A4]	R3401	RES_402	m38a[34B5]	R4651	RES_402	m38a[46C7]	R6605	RES_402	m38a[66D6]												
	R1980	RES_402	m38a[19B7]	R3402	RES_402	m38a[34B5]	R4652	RES_402	m38a[46B8]	R6606	RES_805	m38a[66C5]												
	R1981	RES_402	m38a[19B7]	R3403	RES_402	m38a[34C5]	R4653	RES_402	m38a[46B7]	R6607	RES_805	m38a[66C3]												
	R1982	RES_402	m38a[19B8]	R3404	RES_402	m38a[34C5]	R4654	RES_402	m38a[46B7]	R6697	RES_402	m38a[66C8]												
	R1983	RES_402	m38a[19B8]	R3405	RES_402	m38a[34C5]	R4656	RES_2512-1	m38a[46D6]	R6700	RES_402	m38a[67C6]												
R2058	RES_402	m38a[20B4]	R3406	RES_402	m38a[34C5]	R4657	RES_805	m38a[46D6]	R6702	RES_402	m38a[67C4]													
R2059	RES_402	m38a[20B4]	R3407	RES_402	m38a[34B5]	R4660	RES_402	m38a[46C7]	R6703	RES_402	m38a[67C4]													
R2060	RES_402	m38a[20A4]	R3408	RES_402	m38a[34B5]	R4661	RES_402	m38a[46C7]	R6704	RES_805	m38a[67C2]													
R2075	RES_402	m38a[20C7]	R3409	RES_402	m38a[34B5]	R4662	RES_402	m38a[46B7]	R6705	RES_805	m38a[67C3]													
R2077	RES_402	m38a[20B7]	R3410	RES_402	m38a[34B5]	R4663	RES_402	m38a[46B7]	R6798	RES_402	m38a[67B6]													
R2079	RES_402	m38a[20B7]	R3411	RES_402	m38a[34B5]	R4664	RES_402	m38a[46B7]	R6799	RES_402	m38a[67B6]													
R2085	RES_402	m38a[20C4]	R3412	RES_402	m38a[34B5]	R4690	RES_402	m38a[46A7]	R6800	RES_402	m38a[68C6]													
R2100	RES_402	m38a[21C3]	R3413	RES_402	m38a[34B5]	R4712	RES_402	m38a[47C5]	R6802	RES_402	m38a[68A5]													
R2101	RES_402	m38a[21C4]	R3414	RES_402	m38a[34B5]	R4713	RES_402	m38a[47C5]	R6807	RES_402	m38a[68D7]													
R2105	RES_402	m38a[21D6]	R3415	RES_402	m38a[34B5]	R4722	RES_402	m38a[47B5]	R6808	RES_402	m38a[68D3]													
R2107	RES_402	m38a[21C2]	R3416	RES_402	m38a[34B5]	R4723	RES_402	m38a[47B5]	R6810	RES_402	m38a[68A3]													
R2108	RES_402	m38a[21C2]	R3417	RES_402	m38a[34B5]	R4732	RES_402	m38a[47A5]	R6811	RES_402	m38a[68A3]													
R2110	RES_402	m38a[21C2]	R3418	RES_402	m38a[34B5]	R4733	RES_402	m38a[47A5]	R6815	RES_402	m38a[68C7]													
R2194	RES_402	m38a[21D4]	R3419	RES_402	m38a[34A5]	R4742	RES_402	m38a[47C2]	R7208	RES_805	m38a[72A4]													
R2195	RES_402	m38a[21C6]	R3420	RES_402	m38a[34A5]	R4743	RES_402	m38a[47C2]	R7212	RES_402	m38a[72B8]													
R2196	RES_402	m38a[21C6]	R3421	RES_402	m38a[34A5]	R4746	RES_805	m38a[47D2]	R7213	RES_402	m38a[72B7]													
R2197	RES_402	m38a[21C6]	R3422	RES_402	m38a[34A5]	R4754	RES_402	m38a[47C2]	R7214	RES_402	m38a[72C5]													
R2198	RES_402	m38a[21C6]	R3423	RES_402	m38a[34A5]	R4755	RES_402	m38a[47B2]	R7215	RES_402	m38a[72C7]													
R2199	RES_402	m38a[21C3]	R3424	RES_402	m38a[34A5]	R5302	RES_402	m38a[53B4]	R7216	RES_402	m38a[72C5]													
R2200	RES_402	m38a[22D7]	R3429	RES_402	m38a[34C1]	R5303	RES_402	m38a[53B4]	R7217	RES_402	m38a[72B5]													
R2203	RES_402	m38a[22C2]	R3430	RES_402	m38a[34C1]	R5304	RES_402	m38a[53C6]	R7218	RES_402	m38a[72A5]													
R2204	RES_402	m38a[22C2]	R3431	RES_402	m38a[34C1]	R5801	RES_402	m38a[58C2]	R7219	RES_402	m38a[72B6]													
R2205	RES_402	m38a[22C6]	R3432	RES_402	m38a[34C1]	R5802	RES_402	m38a[58C2]	R7302	RES_402	m38a[73A3]													
R2206	RES_402	m38a[22C5]	R3433	RES_402	m38a[34C1]	R5803	RES_402	m38a[58C2]	R7305	RES_402	m38a[73C8]													
R2207	RES_402	m38a[22C5]	R3434	RES_402	m38a[34C1]	R5808	RES_402	m38a[58C2]	R7306	RES_402	m38a[73D4]													
R2211	RES_402	m38a[22B3]	R3435	RES_402	m38a[34C1]	R5809	RES_402	m38a[58C2]	R7308	RES_402	m38a[73B8]													
R2222	RES_402	m38a[22D6]	R3436	RES_402	m38a[34C1]	R5815	RES_402	m38a[58B3]	R7400	RES_402	m38a[74B4]													
R2223	RES_402	m38a[22D6]	R3437	RES_402	m38a[34C1]	R5817	RES_402	m38a[58B3]	R7404	RES_402	m38a[74D5]													
R2225	RES_402	m38a[22D7]	R3438	RES_402	m38a[34C1]	R5818	RES_402	m38a[58B3]	R7405	RES_402	m38a[74D5]													
R2226	RES_402	m38a[22D5]	R3439	RES_402	m38a[34C1]	R5819	RES_402	m38a[58B3]	R7407	RES_402	m38a[74B4]													
R2250	RES_402	m38a[22D7]	R3440	RES_402	m38a[34C1]	R5821	RES_402	m38a[58B3]	R7408	RES_402	m38a[74A4]													
R2251	RES_402	m38a[22D6]	R3441	RES_402	m38a[34C1]	R5822	RES_402	m38a[58B3]	R7409	RES_402	m38a[74B4]													
R2255	RES_402	m38a[22D7]	R3442	RES_402	m38a[34C1]	R5823	RES_402	m38a[58B3]	R7410	RES_805	m38a[74D2]													
R2298	RES_402	m38a[22B5]	R3443	RES_402	m38a[34B1]	R5824	RES_402	m38a[58B3]	R7411	RES_805	m38a[74C2]													
R2299	RES_402	m38a[22B5]	R3444	RES_402	m38a[34B1]	R5825	RES_402	m38a[58B3]	R7412	RES_805	m38a[74C2]													
R2302	RES_402	m38a[23D3]	R3445	RES_402	m38a[34B1]	R5826	RES_402	m38a[58B3]	R7413	RES_402	m38a[74B4]													
R2303	RES_402	m38a[23D3]	R3446	RES_402	m38a[34B1]	R5827	RES_402	m38a[59C5]	R7414	RES_805	m38a[74B7]													
R2305	RES_402	m38a[23D3]	R3451	RES_402	m38a[34C4]	R5828	RES_402	m38a[58B3]	R7415	RES_805	m38a[74B8]													
R2306	RES_402	m38a[23B7]	R3452	RES_402	m38a[34B7]	R5829	RES_402	m38a[59C3]	R7416	RES_805	m38a[74C7]													
R2307	RES_402	m38a[23A7]	R3453	RES_402	m38a[34B8]	R5830	RES_402	m38a[59C3]	R7417	RES_805	m38a[74C8]													
R2308	RES_402	m38a[23B7]	R3454	RES_402	m38a[34B7]	R5831	RES_402	m38a[59C3]	R7418	RES_402	m38a[74B6]													
R2309	RES_402	m38a[23A7]	R3455	RES_402	m38a[34B8]	R5832	RES_402	m38a[59C3]	R7419	RES_402	m38a[74B6]													
R2310	RES_402	m38a[23A7]	R3456	RES_402	m38a[34B7]	R5833	RES_402	m38a[58B3]	R7420	RES_402	m38a[74D5]													
R2311	RES_402	m38a[23A7]	R3457	RES_402	m38a[34B7]	R5898	RES_402	m38a[58C2]	R7421	RES_402	m38a[74D8]													
R2313	RES_402	m38a[23A7]	R3458	RES_402	m38a[34B8]	R5899	RES_402	m38a[58D3]	R7422	RES_402	m38a[74D7]													
R2314	RES_402	m38a[23A7]	R3459	RES_402	m38a[34A7]	R5900	RES_402	m38a[59D7]	R7423	RES_402	m38a[74B6]													
R2316	RES_402	m38a[23D7]	R3460	RES_402	m38a[34A7]	R5903	RES_402	m38a[59D2]	R7424	RES_402	m38a[74B6]													
R2317	RES_402	m38a[23D7]	R3461	RES_402	m38a[34A7]	R5904	RES_402	m38a[59D2]	R7425	RES_603	m38a[74A5]													
R2318	RES_402	m38a[23D7]	R3462	RES_402	m38a[34A8]	R5905	RES_402	m38a[59D2]	R7426	RES_402	m38a[74A4]													
R2319	RES_402	m38a[23D2]	R3463	RES_402	m38a[34A7]	R5906	RES_402	m38a[59D2]	R7427	RES_402	m38a[74A4]													
R2320	RES_402	m38a[23D7]	R3470	RES_402	m38a[34A5]	R5907	RES_402	m38a[59B7]	R7430	RES_402	m38a[74C1]													
R2323	RES_402	m38a[23D5]	R3471	RES_402	m38a[34A5]	R5910	RES_402	m38a[59D2]	R7431	RES_402	m38a[74C2]													
R2326	RES_402	m38a[23D6]	R3485	RES_402	m38a[34D1]	R5911	RES_402	m38a[59D2]	R7435	RES_402	m38a[74A3]													
R2327	RES_402	m38a[23D6]	R3486	RES_402	m38a[34D1]	R5912	RES_402	m38a[59D2]	R7437	RES_402	m38a[74C5]													
R2343	RES_402	m38a[23D1]	R3487	RES_402	m38a[34D1]	R5913	RES_402	m38a[59D2]	R7440	RES_805	m38a[74D2]													
R2388	RES_402	m38a[23A3]	R3488	RES_402	m38a[34D1]	R5914	RES_402	m38a[59D2]	R7442	RES_805	m38a[74D3]													
R2389	RES_402	m38a[38D5]	R3489	RES_402	m38a[34D2]	R5915	RES_402	m38a[59D2]	R7443	RES_805	m38a[74D3]													
R2390	RES_402	m38a[23B3]	R3490	RES_402	m38a[34D2]	R5916	RES_402	m38a[59C2]	R7500	RES_402	m38a[75C2]													
R2395	RES_402	m38a[23D7]	R3491	RES_402	m38a[34D2]	R5917	RES_402	m38a[59C2]	R7501	RES_603	m38a[75C2]													
R2396	RES_402	m38a[23D6]	R3492	RES_402	m38a[34D2]	R5919	RES_402	m38a[59B4]	R7502	RES_1206	m38a[75B2]													
R2397	RES_402	m38a[23D6]	R3493	RES_402	m38a[34D7]	R5920	RES_402	m38a[59B5]	R7503	RES_1206	m38a[75D2]													
R2398	RES_402	m38a[23D9]	R3494	RES_402	m38a[34D7]	R5921	RES_402	m38a[59B5]	R7504	RES_402	m38a[75C1]													
R2399	RES_402	m38a[23C1]	R3495	RES_402	m38a[34D7]	R5922	RES_402	m38a[59B5]	R7505	RES_402	m38a[75B2]													
R2500	RES_603	m38a[25A8]	R3496	RES_402	m38a[34C5]	R5923	RES_402	m38a[59B5]	R7506	RES_603	m38													

	8	7	6	5	4	3	2	1				
D	R7612	RES_402	m38a[76B2]	R8807	RES_402	m38a[88C4]	RP7200	RPAK4P_SM-LF	m38a[72A4]	XW8000	SHORT_SM	m38a[80C6]
	R7620	RES_402	m38a[76D2]	R8808	RES_402	m38a[88C4]	SDF4700	PCB_STANDOFF	m38a[47A2]	XW8100	SHORT_SM	m38a[81C6]
	R7623	RES_402	m38a[76D1]	R8809	RES_402	m38a[88C4]	SDF4701	PCB_STANDOFF	m38a[47A2]	XW8500	SHORT_SM	m38a[85C6]
	R7630	RES_402	m38a[76C8]	R8810	RES_402	m38a[88C4]	SDF5300	PCB_STANDOFF	m38a[53A5]	Y2600	CRYSTAL_4PIN_SM-LF	m38a[26D8]
	R7631	RES_402	m38a[76C8]	R8811	RES_402	m38a[88B4]	SDF5301	PCB_STANDOFF	m38a[53A5]	Y3301	CRYSTAL_5X3.2-SM	m38a[33C7]
	R7632	RES_402	m38a[76C7]	R8812	RES_402	m38a[88C4]	SDF9400	PCB_STANDOFF	m38a[94B6]	Y4101	CRYSTAL_SM-3-LF	m38a[41B5]
	R7640	RES_402	m38a[76A7]	R8813	RES_402	m38a[88D4]	SDF9401	PCB_STANDOFF	m38a[94A6]	Y4400	CRYSTAL_HC49-USMD	m38a[44D2]
	R7691	RES_402	m38a[76C7]	R8830	RES_402	m38a[88B4]	SW2600	SWI_TACT_4SM_EVQPH_S	m38a[26C6]	Y5800	CRYSTAL_SM-3	m38a[59B8]
	R7700	RES_402	m38a[77D3]	R8831	RES_402	m38a[88B4]	M-LF			Y5700	CRYSTAL_4PIN_SM-LF	m38a[59B7]
	R7701	RES_402	m38a[77D4]	R8832	RES_402	m38a[88B4]	SW5900	SWI_TACT_4SM_EVQPH_S	m38a[59D8]	ZH500	HOLE_VIA	m38a[5C1]
R7704	RES_402	m38a[77C4]	R8833	RES_402	m38a[88B4]	M-LF			ZH501	HOLE_VIA	m38a[5C1]	
R7705	RES_402	m38a[77C3]	R8850	RES_402	m38a[88B4]	SW5901	SWI_TACT_4SM_EVQPH_S	m38a[59B8]	ZH502	HOLE_VIA	m38a[5C1]	
R7706	RES_402	m38a[77D2]	R8930	RES_402	m38a[89C7]	M-LF			ZH503	HOLE_VIA	m38a[5C1]	
R7707	RES_402	m38a[77D1]	R8931	RES_402	m38a[89C7]	U600	74LC125_TSSOP	m38a[6B7 6B7 6B7 6C7]	ZH504	HOLE_VIA	m38a[5B1]	
R7708	RES_402	m38a[77D1]	R8932	RES_402	m38a[89C7]	U601	SN74LVC1G04_SOT23-5	m38a[6C7]	ZH505	HOLE_VIA	m38a[5B1]	
R7710	RES_402	m38a[77D3]	R8933	RES_402	m38a[89C7]	U650	74AHC1G32_SM-LF	m38a[6A7]	ZH506	HOLE_VIA	m38a[5B1]	
R7710	RES_402	m38a[77D3]	R8940	RES_402	m38a[89B8]	U1000	ADT7461_MSP0P	m38a[10D5]	ZH507	HOLE_VIA	m38a[5B1]	
R7751	RES_402	m38a[77A4]	R8941	RES_402	m38a[89B8]	U1200	NB_945GM_BGA	m38a[12D5]	ZH508	HOLE_VIA	m38a[5B1]	
R7752	RES_402	m38a[77B4]	R8942	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[12D4]	ZH509	HOLE_VIA	m38a[5B1]	
R7753	RES_402	m38a[77A6]	R8943	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[14D5]	ZH510	HOLE_VIA	m38a[5C1]	
R7754	RES_402	m38a[77B7]	R8944	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[15D3 15D7]	ZH511	HOLE_VIA	m38a[5C1]	
R7757	RES_402	m38a[77B7]	R8945	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[16D2 16C8]	ZH512	HOLE_VIA	m38a[5C1]	
R7793	RES_402	m38a[77D7]	R8946	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[17D5]	ZH513	HOLE_VIA	m38a[5C1]	
R7794	RES_402	m38a[77C7]	R8947	RES_402	m38a[89B7]	U1200	NB_945GM_BGA	m38a[18D4 18D7]	ZH514	HOLE_VIA	m38a[5B1]	
R7798	RES_402	m38a[77C7]	R8948	RES_402	m38a[89A7]	U2100	SB_1CH7M_BGA	m38a[21D6]	ZH515	HOLE_VIA	m38a[5B1]	
R7799	RES_402	m38a[77D7]	R8949	RES_402	m38a[89A7]	U2100	SB_1CH7M_BGA	m38a[22B7 22D3]	ZH516	HOLE_VIA	m38a[5B1]	
R7800	RES_402	m38a[78C7]	R8980	RES_402	m38a[89C4]	U2100	SB_1CH7M_BGA	m38a[23D4]	ZH517	HOLE_VIA	m38a[5B1]	
R7801	RES_402	m38a[78B7]	R8981	RES_402	m38a[89C4]	U2100	SB_1CH7M_BGA	m38a[24D4 24D7]	ZH518	HOLE_VIA	m38a[5B1]	
R7802	RES_402	m38a[78B3]	R8982	RES_402	m38a[89C4]	U2601	MC74VHC1G08_SOT23-5	m38a[26D5]	ZH519	HOLE_VIA	m38a[5B1]	
R7803	RES_402	m38a[78B3]	R8983	RES_402	m38a[89C4]	LF			ZH520	HOLE_VIA	m38a[5C1]	
R7804	RES_1206	m38a[78B4]	R8990	RES_402	m38a[89B5]	U2603	SN74LVC1G04_SOT23-5	m38a[26A7]	ZH521	HOLE_VIA	m38a[5C1]	
R7805	RES_402	m38a[78B5]	R8991	RES_402	m38a[89B4]	U2698	MC74VHC1G08_SOT23-5	m38a[26C4]	ZH522	HOLE_VIA	m38a[5C1]	
R7812	RES_402	m38a[78B3]	R8992	RES_402	m38a[89B4]	LF			ZH523	HOLE_VIA	m38a[5C1]	
R7840	RES_402	m38a[78C5]	R8993	RES_402	m38a[89B4]	U2699	MAX6816_SOT143	m38a[26C5]	ZH524	HOLE_VIA	m38a[5B1]	
R7892	RES_402	m38a[78B7]	R8994	RES_402	m38a[89B4]	U3100	LREG_BD3533FVM_MSOP	m38a[31C5]	ZH525	HOLE_VIA	m38a[5B1]	
R7901	RES_402	m38a[79C3]	R8995	RES_402	m38a[89B4]	8			ZH526	HOLE_VIA	m38a[5B1]	
R7902	RES_1206	m38a[79C4]	R8996	RES_402	m38a[89B4]	U3301	CLK_GEN_CY284455_QFN	m38a[33C5]	ZH527	HOLE_VIA	m38a[5B1]	
R7903	RES_402	m38a[79C3]	R8997	RES_402	m38a[89B4]	U4101	88E8053_QFN	m38a[41D5]	ZH528	HOLE_VIA	m38a[5B1]	
R7904	RES_402	m38a[79C5]	R8998	RES_402	m38a[89A4]	U4102	EEPROM_M24C08_S08	m38a[41A3]	ZH529	HOLE_VIA	m38a[5B1]	
R7905	RES_402	m38a[79D7]	R8999	RES_402	m38a[89A4]	U4400	FW32306_QFP	m38a[44D5]	ZH601	MTGHOLE	m38a[6A3]	
R7906	RES_402	m38a[79A4]	R9030	RES_402	m38a[90C7]	U4700	SWI_TPS2043_SOI	m38a[47C7]	ZH602	MTGHOLE	m38a[6A3]	
R7910	RES_402	m38a[79B2]	R9031	RES_402	m38a[90C7]	U5800	SMC_H8S2116_BGA	m38a[58A8 58C3 58C6 58D6]	ZH603	MTGHOLE	m38a[6A3]	
R7911	RES_402	m38a[79B3]	R9032	RES_402	m38a[90C7]	U5900	VDET_RNSVD_SOT23-5	m38a[59D8]	ZH604	MTGHOLE	m38a[6B3]	
R7912	RES_402	m38a[79B3]	R9033	RES_402	m38a[90C7]	U5940	VREF_REF3133_SOT23-3	m38a[59A4]	ZH606	MTGHOLE	m38a[6A1]	
R7913	RES_402	m38a[79A2]	R9040	RES_402	m38a[90B8]	U5999	COMPPARATOR_LM393_SOI	m38a[59A8 59A8]	ZH607	MTGHOLE	m38a[9D4]	
R7914	RES_402	m38a[79A3]	R9041	RES_402	m38a[90B8]	-1-LF			ZH608	MTGHOLE	m38a[9D3]	
R7915	RES_402	m38a[79A3]	R9042	RES_402	m38a[90B7]	U6100	MAX6695_UMAX	m38a[61C4]	ZH609	MTGHOLE	m38a[9D2]	
R7940	RES_402	m38a[79D5]	R9043	RES_402	m38a[90B7]	U6301	FLASH_SST25VF016B_SO	m38a[63D3]	ZH610	MTGHOLE	m38a[9D2]	
R7991	RES_402	m38a[79C7]	R9044	RES_402	m38a[90B7]	I_SOI			ZH611	MTGHOLE	m38a[9C3]	
R7992	RES_402	m38a[79C7]	R9045	RES_402	m38a[90B7]	U6700	TPM_TSSOP	m38a[67C5]				
R7999	RES_402	m38a[79C3]	R9046	RES_402	m38a[90B7]	U6800	AUDIO_STAC92204XR_LQ	m38a[68D5]				
R8000	RES_402	m38a[80C3]	R9047	RES_402	m38a[90B7]	FP						
R8001	RES_402	m38a[80C7]	R9048	RES_402	m38a[90A7]	U7200	MAX9714_QFN-LF	m38a[72C5]				
R8002	RES_1206	m38a[80C4]	R9049	RES_402	m38a[90A7]	U7400	MAX9890_UCSP1	m38a[74C4]				
R8003	RES_402	m38a[80C3]	R9080	RES_402	m38a[90C4]	U7500	ISL6262_QFN	m38a[75C6]				
R8004	RES_402	m38a[80C5]	R9081	RES_402	m38a[90C4]	U7501	ZXCT1010_SOT23-5	m38a[75D7]				
R8005	RES_402	m38a[80D7]	R9082	RES_402	m38a[90C4]	U7700	LC73411_MSP0P-LF	m38a[77D3]				
R8007	RES_402	m38a[80A4]	R9083	RES_402	m38a[90C4]	U7710	MC74VHC1G08_SOT23-5	m38a[77D5]				
R8010	RES_402	m38a[80B2]	R9090	RES_402	m38a[90B5]	LF						
R8011	RES_402	m38a[80B3]	R9091	RES_402	m38a[90B4]	U7711	MC74VHC1G08_SOT23-5	m38a[77C5]				
R8012	RES_402	m38a[80B3]	R9092	RES_402	m38a[90B4]	LF						
R8040	RES_402	m38a[80C5]	R9093	RES_402	m38a[90B4]	U7712	MC74VHC1G08_SOT23-5	m38a[77D4]				
R8092	RES_402	m38a[80C7]	R9094	RES_402	m38a[90B4]	LF						
R8099	RES_402	m38a[80C3]	R9095	RES_402	m38a[90B4]	U7750	SN200505068_SOP	m38a[77B6]				
R8101	RES_402	m38a[81C3]	R9096	RES_402	m38a[90B4]	U7800	ISL6549_QFN	m38a[78C6]				
R8102	RES_1206	m38a[81C4]	R9097	RES_402	m38a[90B4]	U7900	ISL6549_QFN	m38a[79D6]				
R8103	RES_402	m38a[81C3]	R9098	RES_402	m38a[90A4]	U7901	COMPPARATOR_LM339A_SO	m38a[79A5]				
R8104	RES_402	m38a[81C5]	R9099	RES_402	m38a[90A4]	I-LF						
R8105	RES_402	m38a[81D7]	R9190	RES_402	m38a[91D2]	U7901	COMPPARATOR_LM339A_SO	m38a[80A4]				
R8107	RES_402	m38a[81A4]	R9191	RES_402	m38a[91D2]	I-LF						
R8110	RES_402	m38a[81B3]	R9195	RES_402	m38a[91A3]	U7901	COMPPARATOR_LM339A_SO	m38a[81A5]				
R8140	RES_402	m38a[81C5]	R9202	RES_402	m38a[92C6]	I-LF						
R8190	RES_402	m38a[81C3]	R9250	RES_402	m38a[92C6]	U7910	COMPPARATOR_LM339A_SO	m38a[79A3 79B3]				
R8191	RES_402	m38a[81C7]	R9350	RES_402	m38a[93A8]	I-LF						
R8192	RES_402	m38a[81C7]	R9351	RES_402	m38a[93A8]	U7910	COMPPARATOR_LM339A_SO	m38a[80B2]				
R8196	RES_402	m38a[81A5]	R9370	RES_402	m38a[93D1]	I-LF						
R8199	RES_402	m38a[81A5]	R9371	RES_402	m38a[93D1]	U7910	COMPPARATOR_LM339A_SO	m38a[81B3]				
R8300	RES_402	m38a[83B4]	R9372	RES_402	m38a[93C1]	I-LF						
R8301	RES_402	m38a[83C5]	R9373	RES_402	m38a[93C1]	U8000	ISL6549_QFN	m38a[80D6]				
R8302	RES_402	m38a[83B5]	R9390	RES_402	m38a[93A1]	U8100	ISL6549_QFN	m38a[81D6]				
R8303	RES_402	m38a[83C4]	R9391	RES_402	m38a[93A1]	U8400	ATI_M56P_BGA	m38a[84C8 84D4]				
R8495	RES_402	m38a[84A2]	R9400	RES_402	m38a[94C8]	U8400	ATI_M56P_BGA	m38a[86D4]				
R8496	RES_402	m38a[84A2]	R9401	RES_402	m38a[94C7]	U8400	ATI_M56P_BGA	m38a[87D2 87D6]				
R8497	RES_402	m38a[84A2]	R9410	RES_402	m38a[94C6]	U8400	ATI_M56P_BGA	m38a[91D4]				
R8502	RES_402	m38a[85D6]	R9411	RES_402	m38a[94C6]	U8400	ATI_M56P_BGA	m38a[93C4]				
R8503	RES_402	m38a[85D7]	R9450	RES_402	m38a[94C2]	U8500	ISL6269_QFN	m38a[85D6]				
R8504	RES_402	m38a[85D7]	R9470	RES_402	m38a[94C7]	U8595	OPAMP_LMV2011_SOT23-5	m38a[85D2]				
R8505	RES_402	m38a[85C7]	R9472	RES_402	m38a[94B3]	5						
R8506	RES_402	m38a[85C8]	R9473	RES_402	m38a[94B2]	U8900	SGRAM_16MX32					