

# M39 - DVT

## 11/16/05

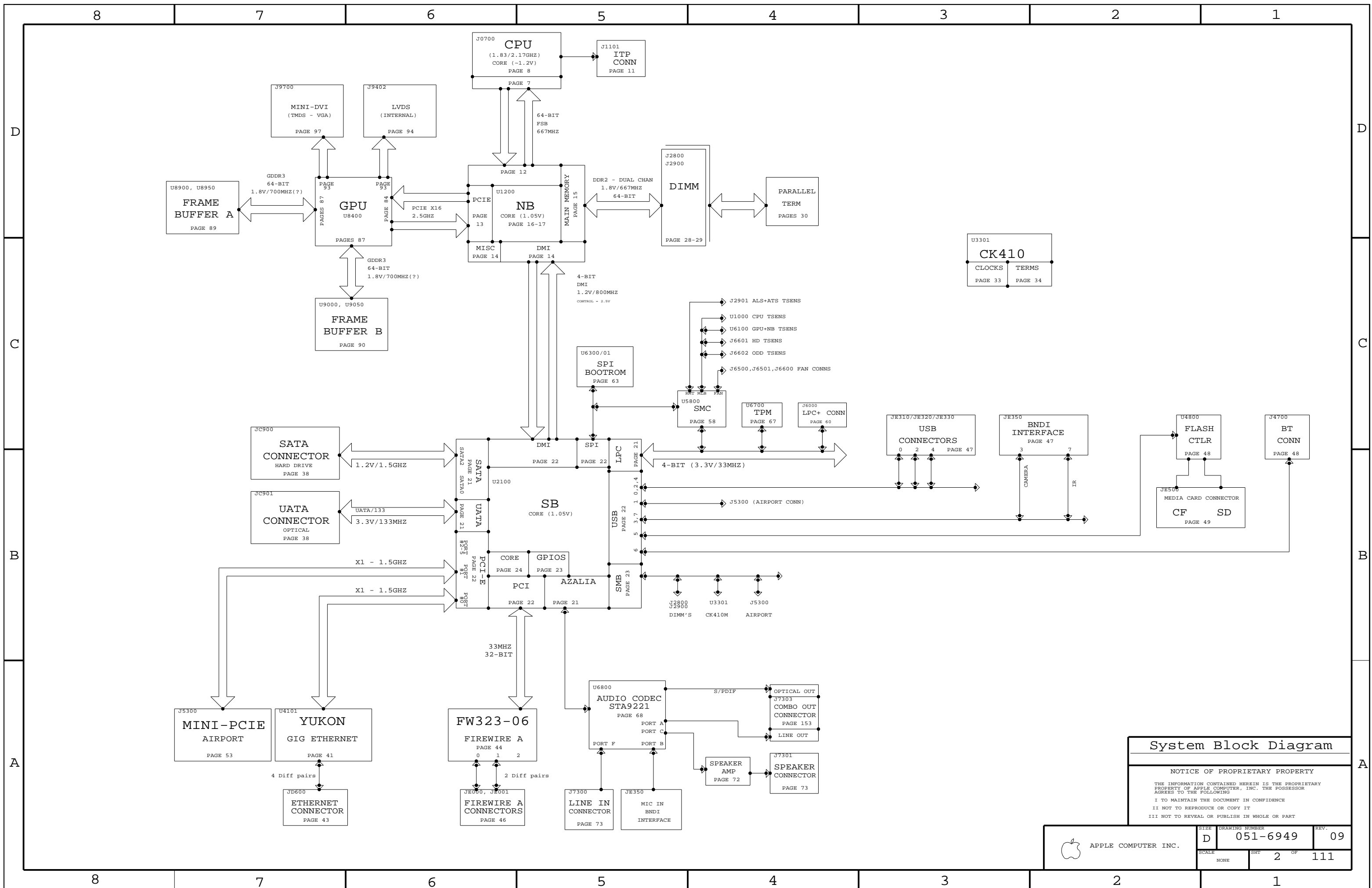
1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.

REV	ZONE	ECN	DESCRIPTION OF CHANGE	CK APPD	ENG APPD
				DATE	DATE
06		400374	ENGINEERING RELEASED	09/16/05	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
49	JD	JD	42	USB - FLASH CONN

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

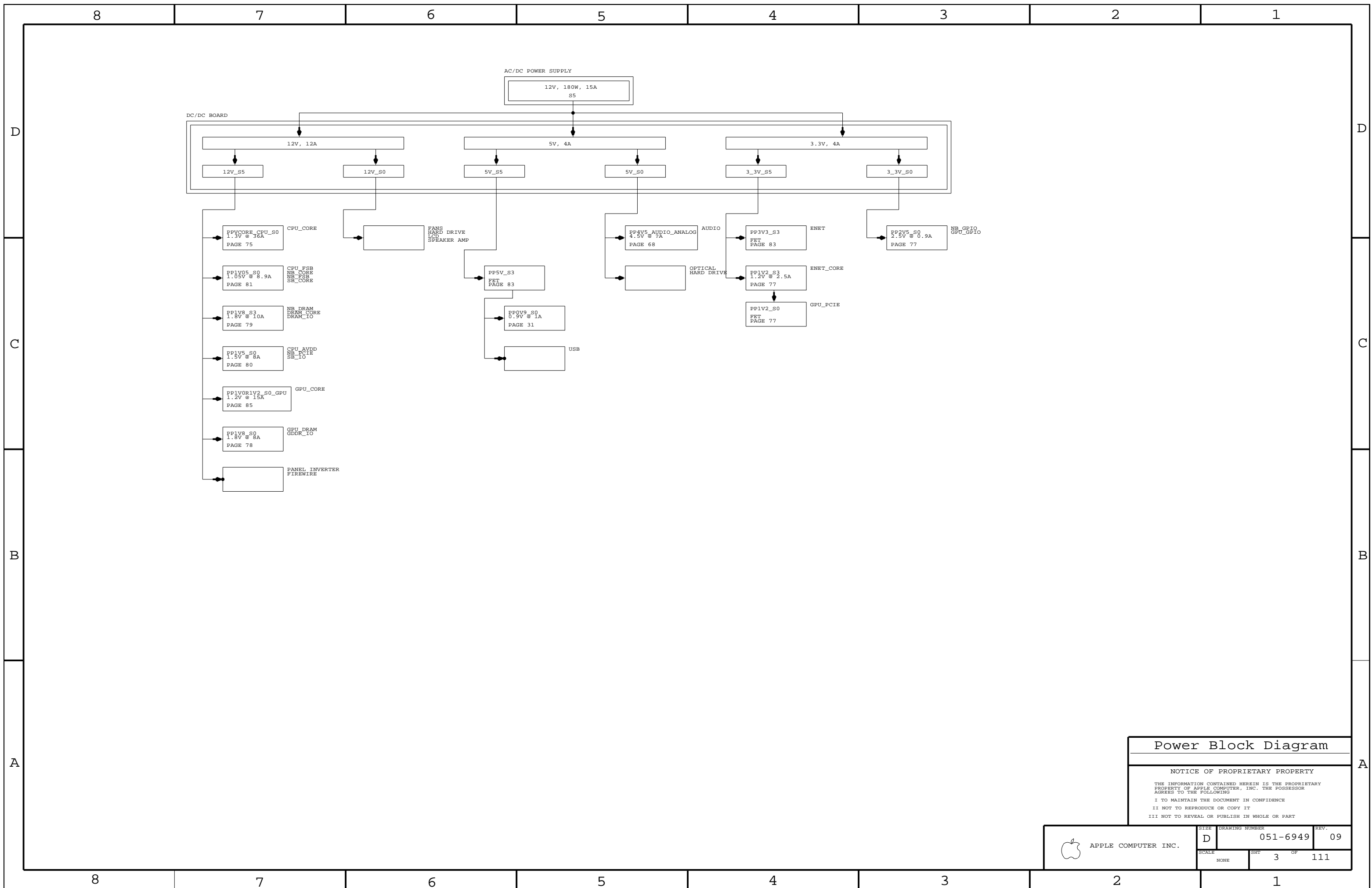
<p style="font-size: small;">DIMENSIONS ARE IN MILLIMETERS</p> <p>XX : _____</p> <p>X.XX : _____</p> <p>X.XXX : _____</p> <p>ANGLES : _____</p> <p style="text-align: center;">DO NOT SCALE DRAWING</p> <div style="text-align: center;"> <p style="font-size: x-small;">THIRD ANGLE PROJECTION</p> </div>	<p><b>METRIC</b></p>	<p>Apple Computer Inc.</p>
<p><b>NOTICE OF PROPRIETARY PROPERTY</b></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</p> <p>II NOT TO REPRODUCE OR COPY IT</p> <p>III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART</p>		
<p>DRAPPER _____</p> <p>DESIGN CR _____</p> <p>ENG APPD _____</p> <p>MFG APPD _____</p> <p>QA APPD _____</p> <p>DESIGNER _____</p> <p>RELEASE _____</p> <p>SCALE _____</p> <p style="text-align: center;">NONE</p>		<p>TITLE</p> <p style="font-size: large;"><b>SCHEM, M39</b></p>
<p>MATERIAL/FINISH NOTED AS APPLICABLE</p> <p>SIZE <b>D</b></p>		<p>DRAWING NUMBER <b>051-6950</b></p> <p>REV. <b>06</b></p>
<p>SHT 1 OF 111</p>		



### System Block Diagram

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	SCALE: NONE	SHEET: 2 OF 111	



Power Block Diagram

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	SCALE NONE	SHEET 3	OF 111

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COMMON

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
511S0025	1	IC,CPU-SKT,479BGA	J0700	CRITICAL	
338S0269	1	IC,945GM,NORTHBRIDGE	U1200	CRITICAL	
343S0385	1	IC,SB,652BGA	U2100	CRITICAL	
742-0048	1	BAT,COIN,3V,220MAH,CR2032	BT2600	CRITICAL	
359S0101	1	IC,CY28445-5,CLK GEN,68PIN QFP	U3301	CRITICAL	
338S0270	1	IC,88E8053,GIGABIT EMT XVR,64P QFN,MD	U4101	CRITICAL	
(335S0382) 341S1797	1	IC,ENET LAN ROM	U4102	CRITICAL	
338S0279	1	IC,FW32306,1394A LINK,TQFP	U4400	CRITICAL	
338S0274	1	IC,SMC,HSS/2116,BLANK	U5800	CRITICAL	
341S1789	1	IC,TPM,TSSOP,28P	U6700	CRITICAL	LEMENU
353S1235	1	IC,CPU VREG,IMVP,TWO PHASE	U7500	CRITICAL	
338S0266	1	IC,ATI,M56P,GRAFIX CTRL,880BGA,LF	U8400	CRITICAL	ATI_B24
338S0305	1	IC,ATI,M56P,GRAFIX CTRL,880BGA,LF	U8400	CRITICAL	ATI_A24
128S0078	3	CAP,EL,AL,330UF,20V,16V,10X12,7MM,SMD,LF	C7517,C7518,C7910	CRITICAL	

M38

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

M39

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-6950	1	PCB,SCHEM,MLB,M39	SCH1		20_INCH_LCD
820-1888	1	PCB,FAB,MLB,M39	MLB1		20_INCH_LCD
(335S0384) 341T0004	1	EFI ROM,M39	U6301	CRITICAL	20_INCH_LCD
337S3243	1	M39 HI-SPEED CPU (QHJ)	CPU	CRITICAL	CPU_M39

M38 / M39

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

M39 - CTO

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

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
126S0096	126S0076		C7801	SANYO W16CK680EX 680UF 16V LFP
126S0086	126S0078		C699,C940,C1900,C1901,C1968	SANYO W6CE330F8 330UF 6.3V LFP
128S0080	128S0078		C7517,C7518,C7910	SANYO 160VP330W 330UF 16V SMD LFP
197S0177	197S0020		Y4101	XTAL,25MHZ,50PPM,16PF,3.2X2.5 SMD,LFP
338S0302	338S0266		U8400	IC,ATI,M36D,GRAFIX CTRL,880BGA,LF

Table Items

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SIZE DRAWING NUMBER REV.

D 051-6949 09

SCALE NONE SH 4 OF 111

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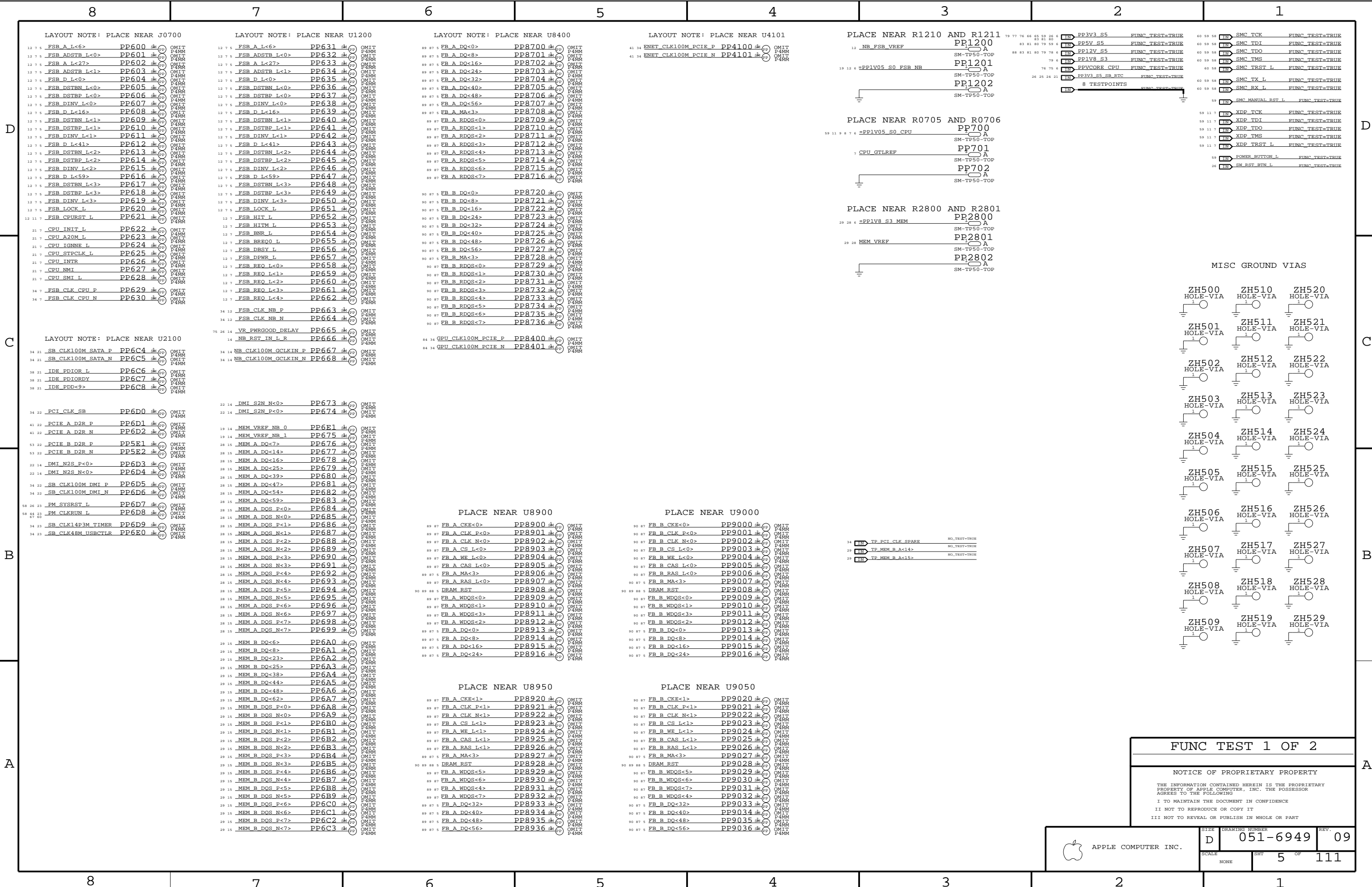
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FUNC TEST 1 OF 2

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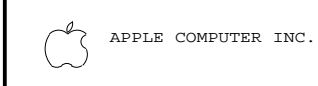
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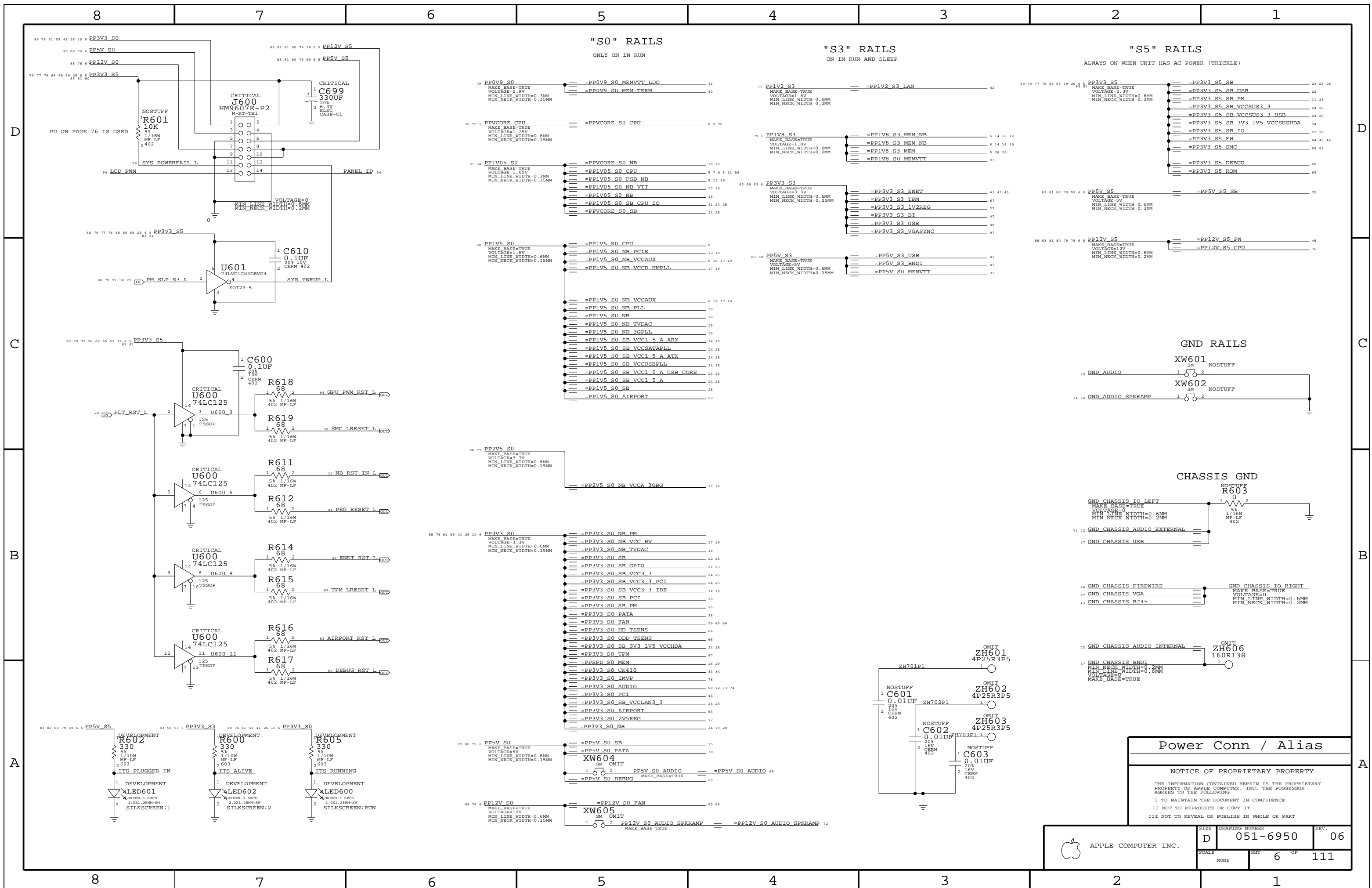
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SCALE	NONE	SHEET	5 OF 111



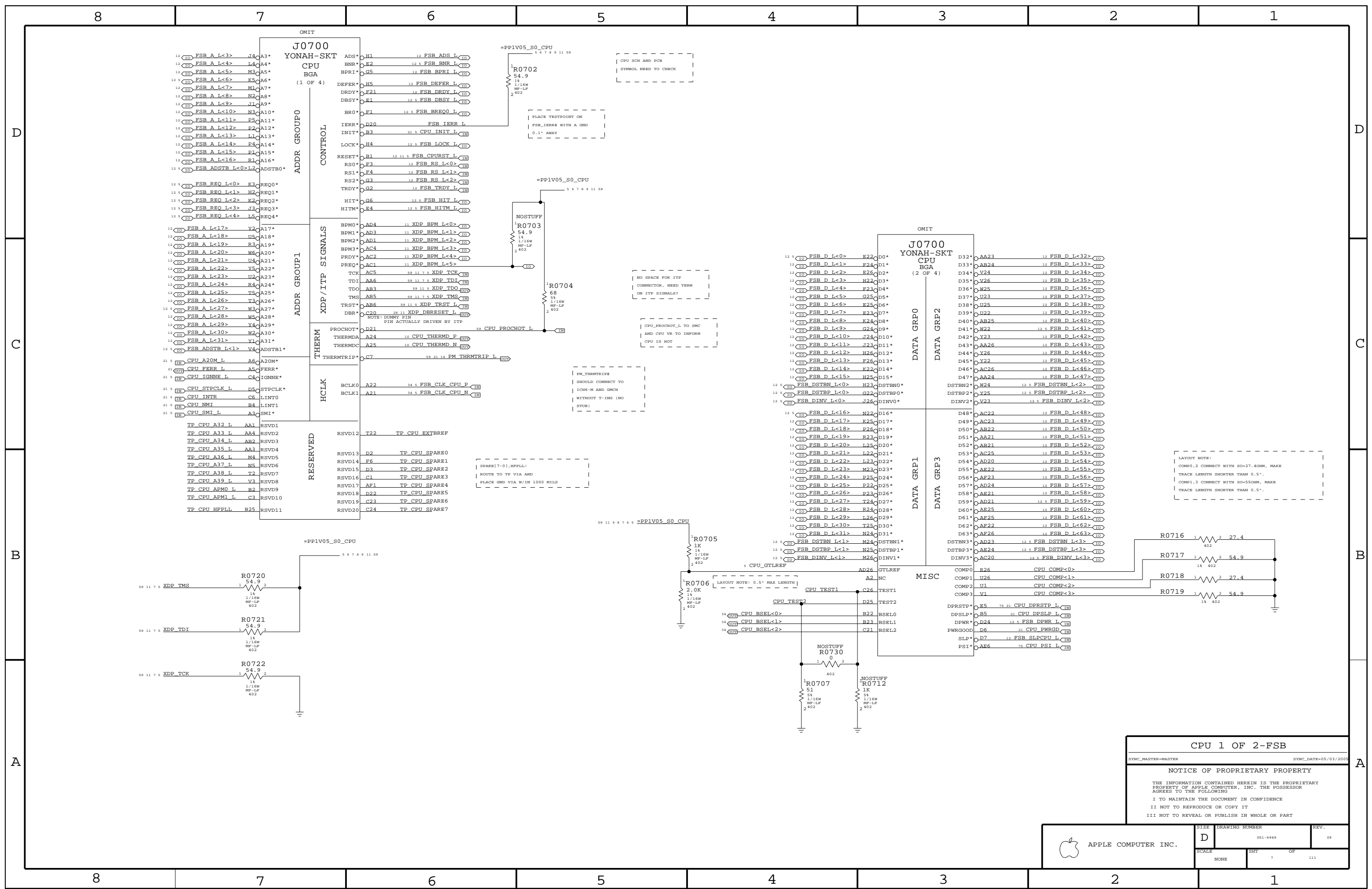


**Power Conn / Alias**

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	SCALE NONE	SHEET <b>6</b>	OF <b>111</b>



**CPU 1 OF 2-FSB**

SYNC\_MASTER=MASTER SYNC\_DATE=05/03/2005

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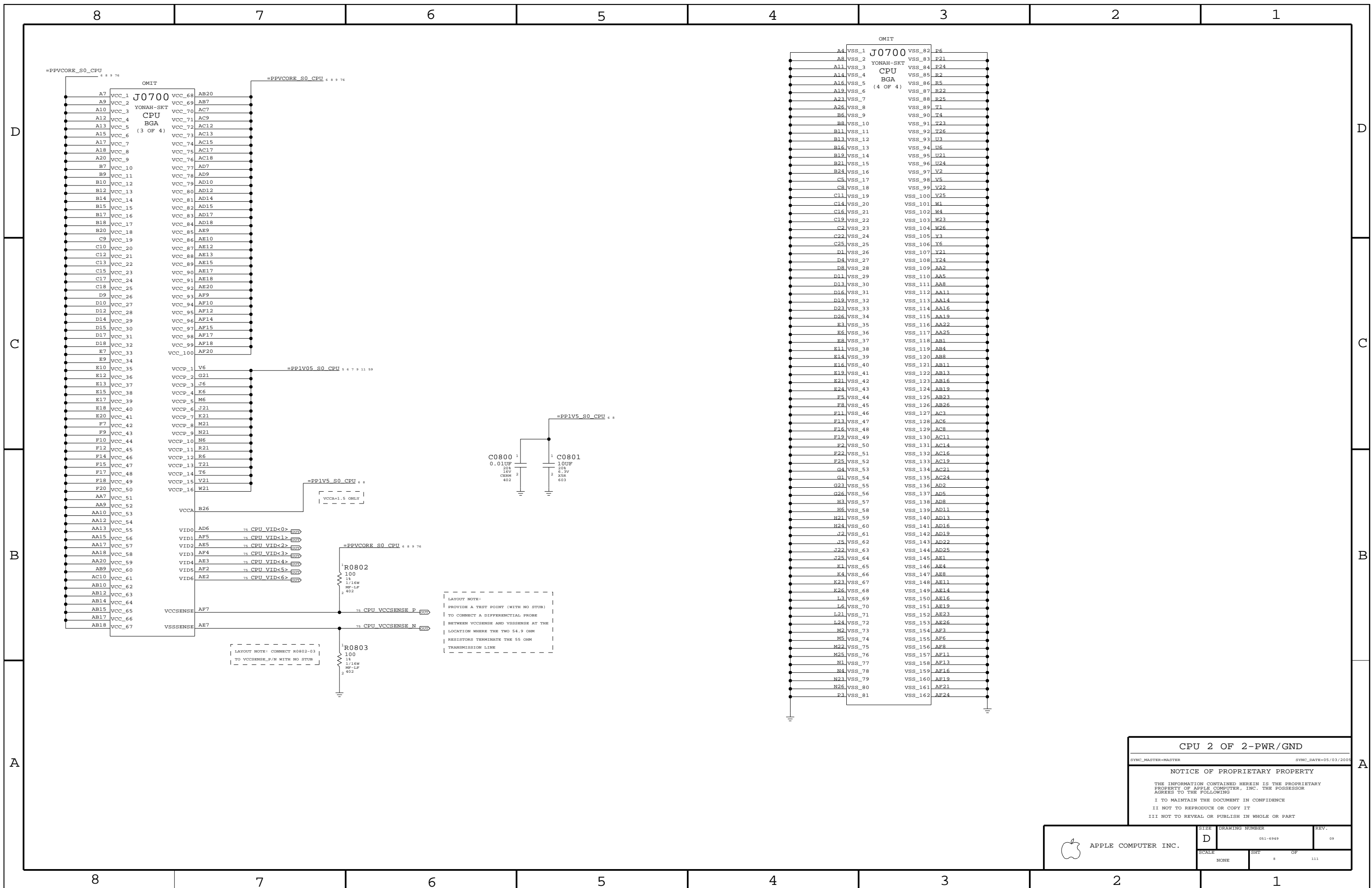
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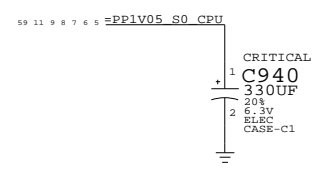
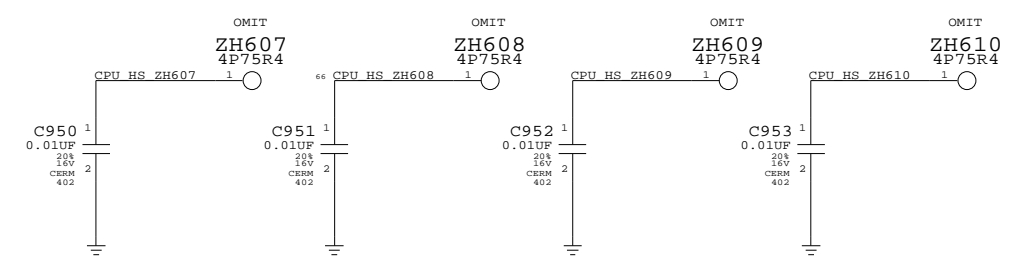


CPU 2 OF 2-PWR/GND  
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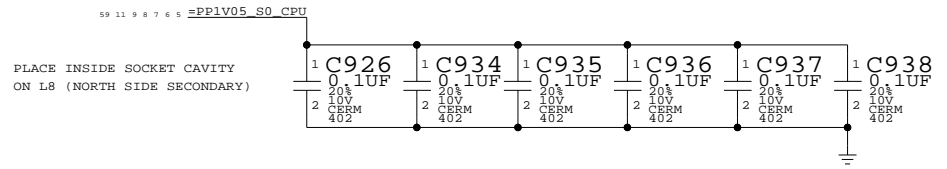
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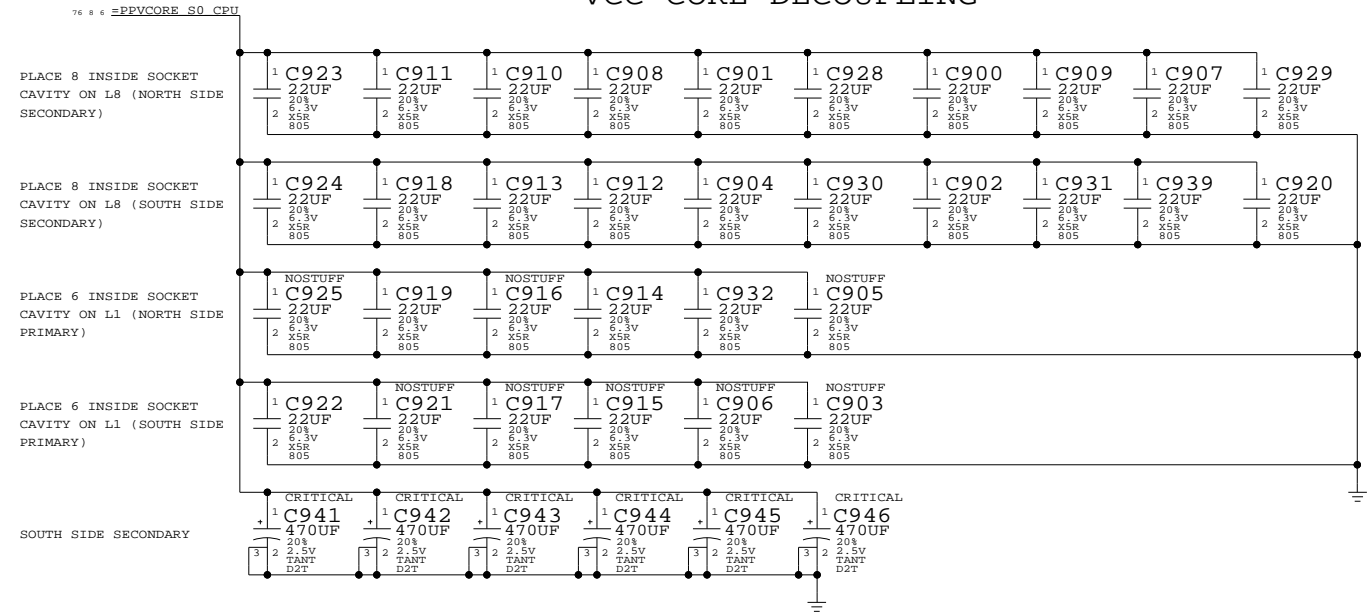
CPU HEATSINK MOUNTING HOLES



VCCP CORE DECOUPLING



VCC CORE DECOUPLING



CPU DECAPS & VID<>

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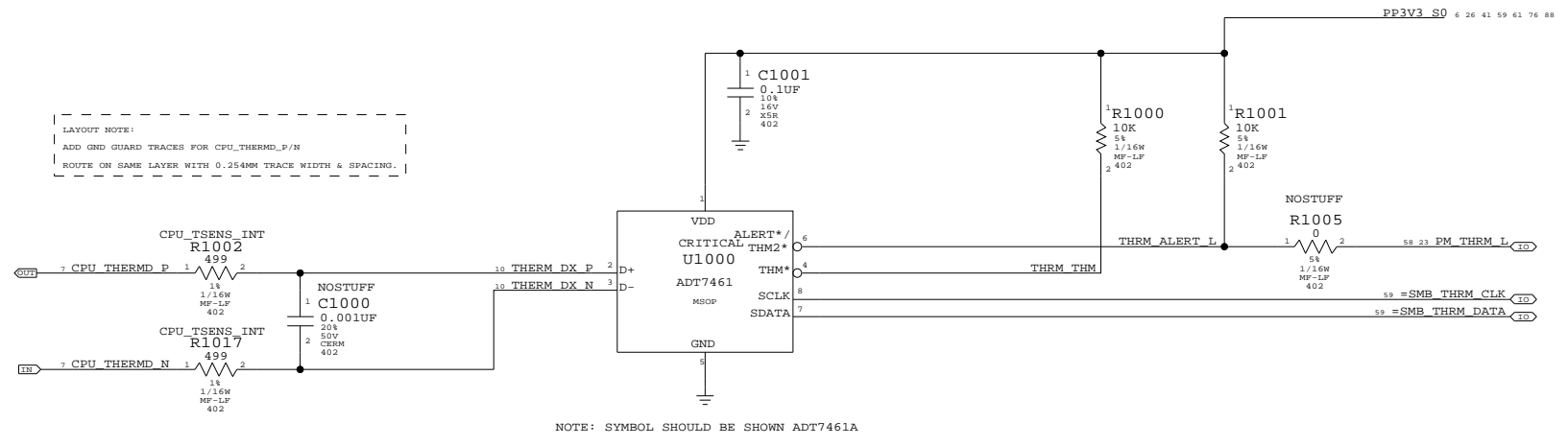
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### CPU THERMAL SENSOR

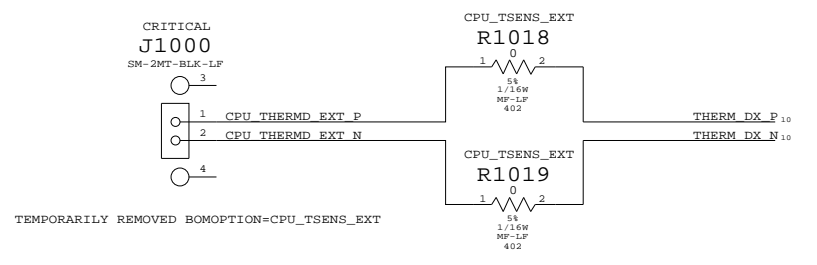
NOTE:  
 IF CPU T DIODE TO BE READ IN OFF STATE,  
 THEN THIS SHOULD BE S5

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



NOTE: SYMBOL SHOULD BE SHOWN ADT7461A

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



CPU TEMP SENSOR

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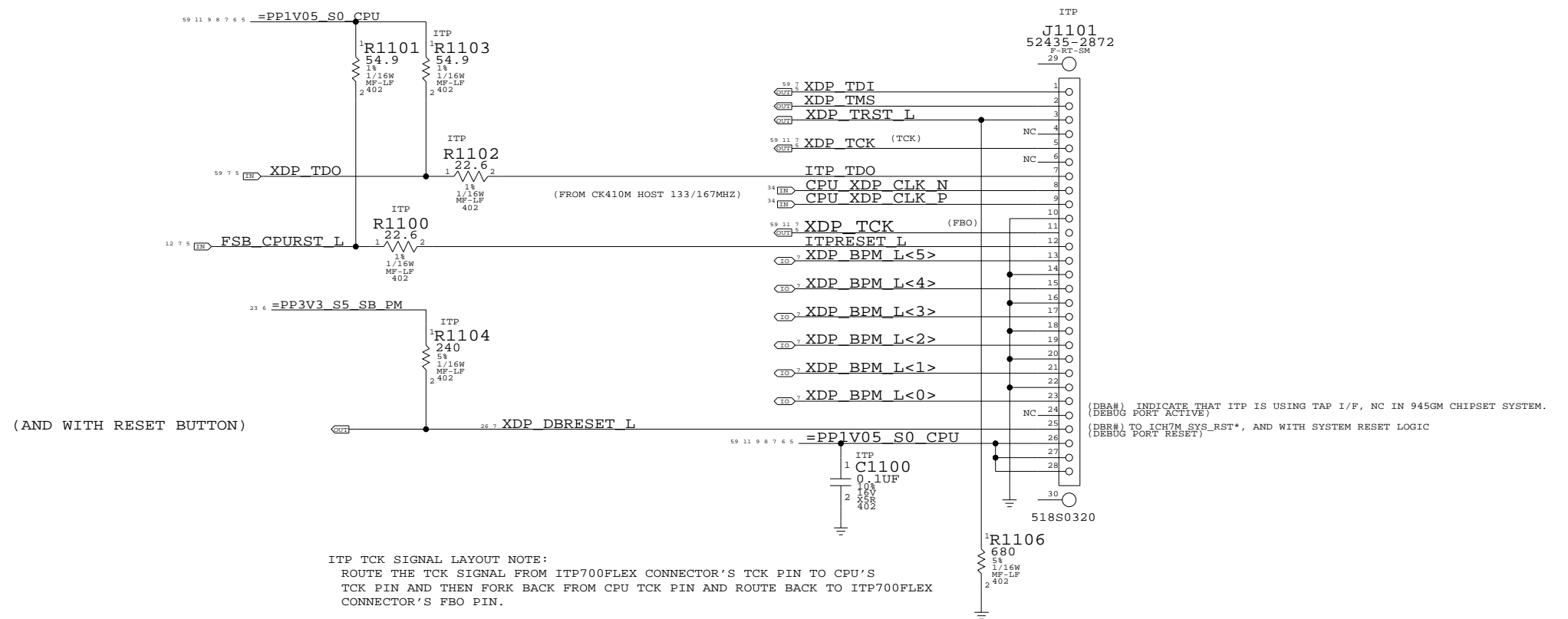
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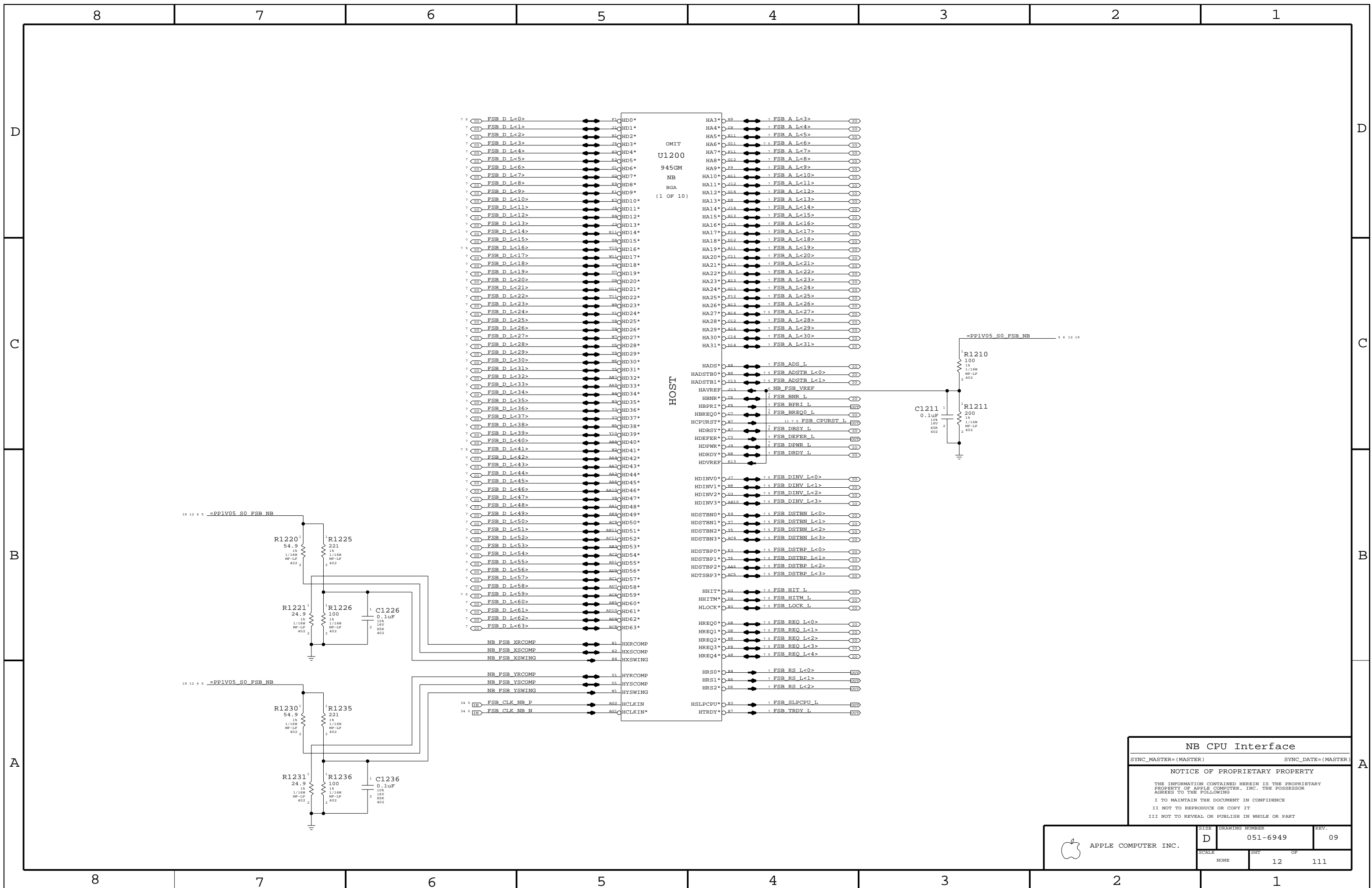
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# CPU ITP700FLEX DEBUG SUPPORT



**CPU ITP700FLEX DEBUG**  
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NONE	11		



**NB CPU Interface**

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	SCALE: NONE	SHEET: <b>12</b>	OF: <b>111</b>

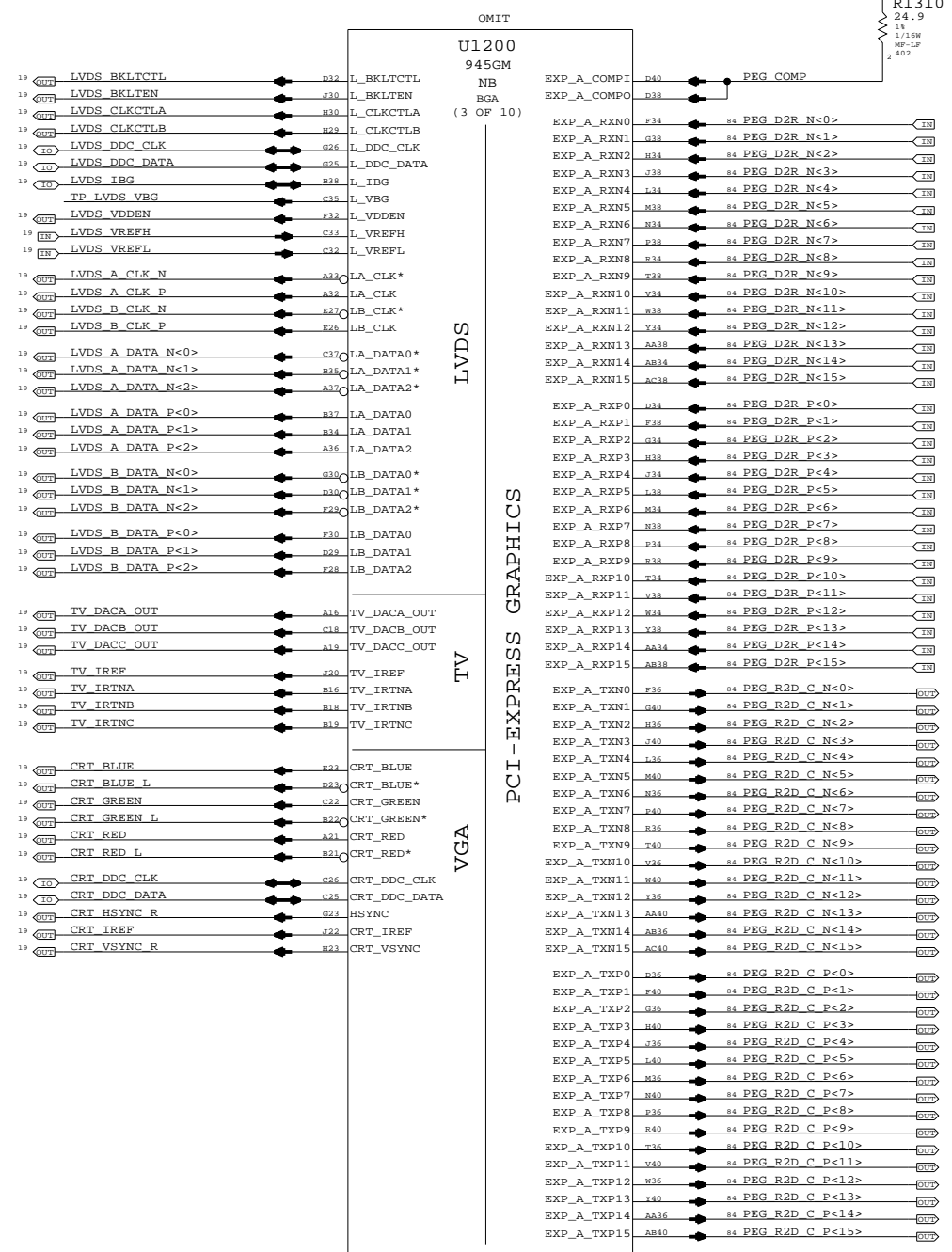
**LVDS Disable**  
 Can leave all signals NC if LVDS is not implemented  
 Tie VCC\_TXLVDS and VCCA\_LVDS to GND. If SDVO is used  
 VCCD\_LVDS must remain powered with proper decoupling.  
 Otherwise, tie VCCD\_LVDS to GND also.

**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

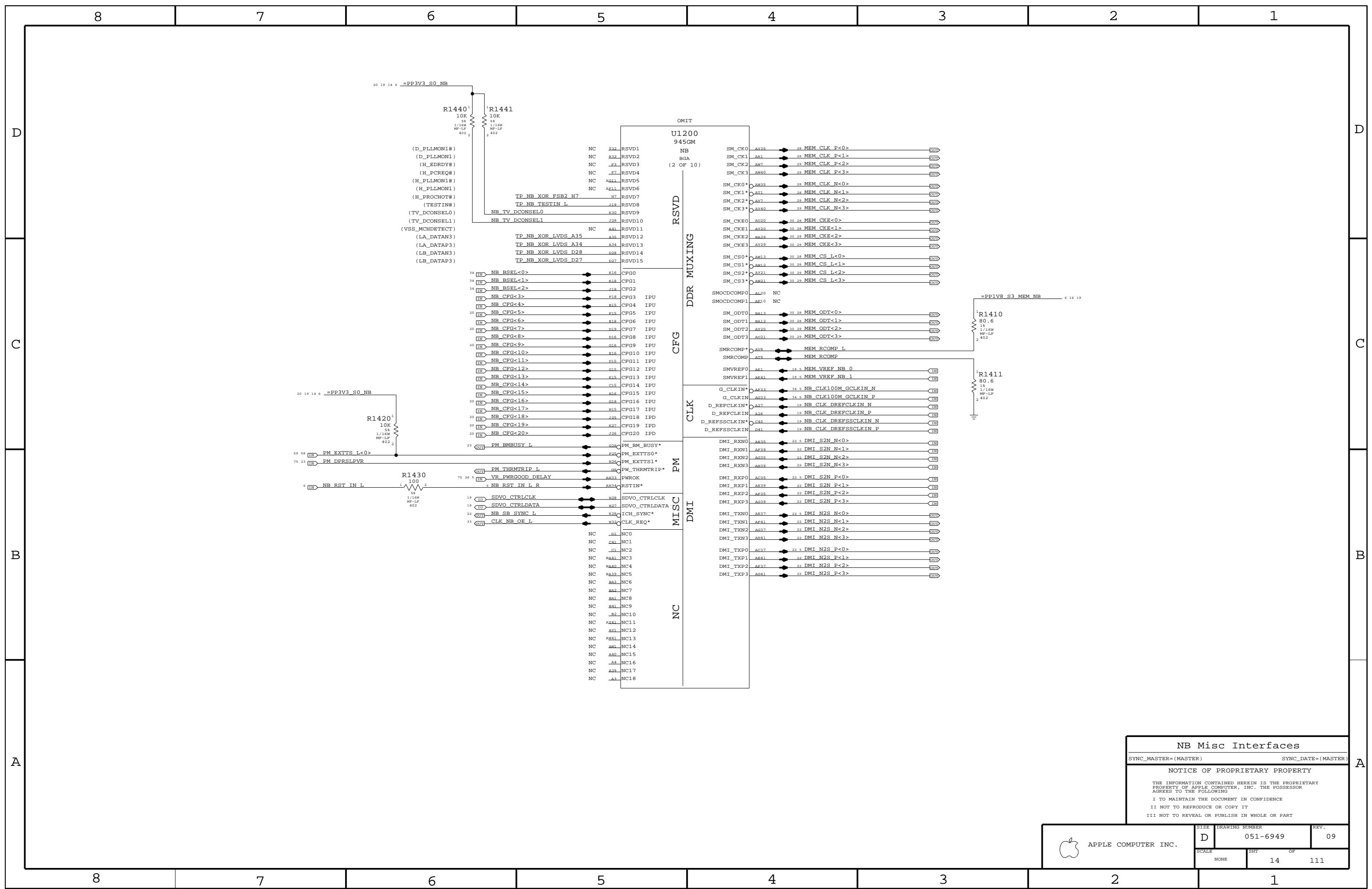
SDVOB\_RED#  
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 SDVOB\_BLUE#  
 SDVOB\_CLKN  
 SDVOC\_RED#  
 SDVOC\_GREEN#  
 SDVOC\_BLUE#  
 SDVOC\_CLKN

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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		13	111



**NB Misc Interfaces**

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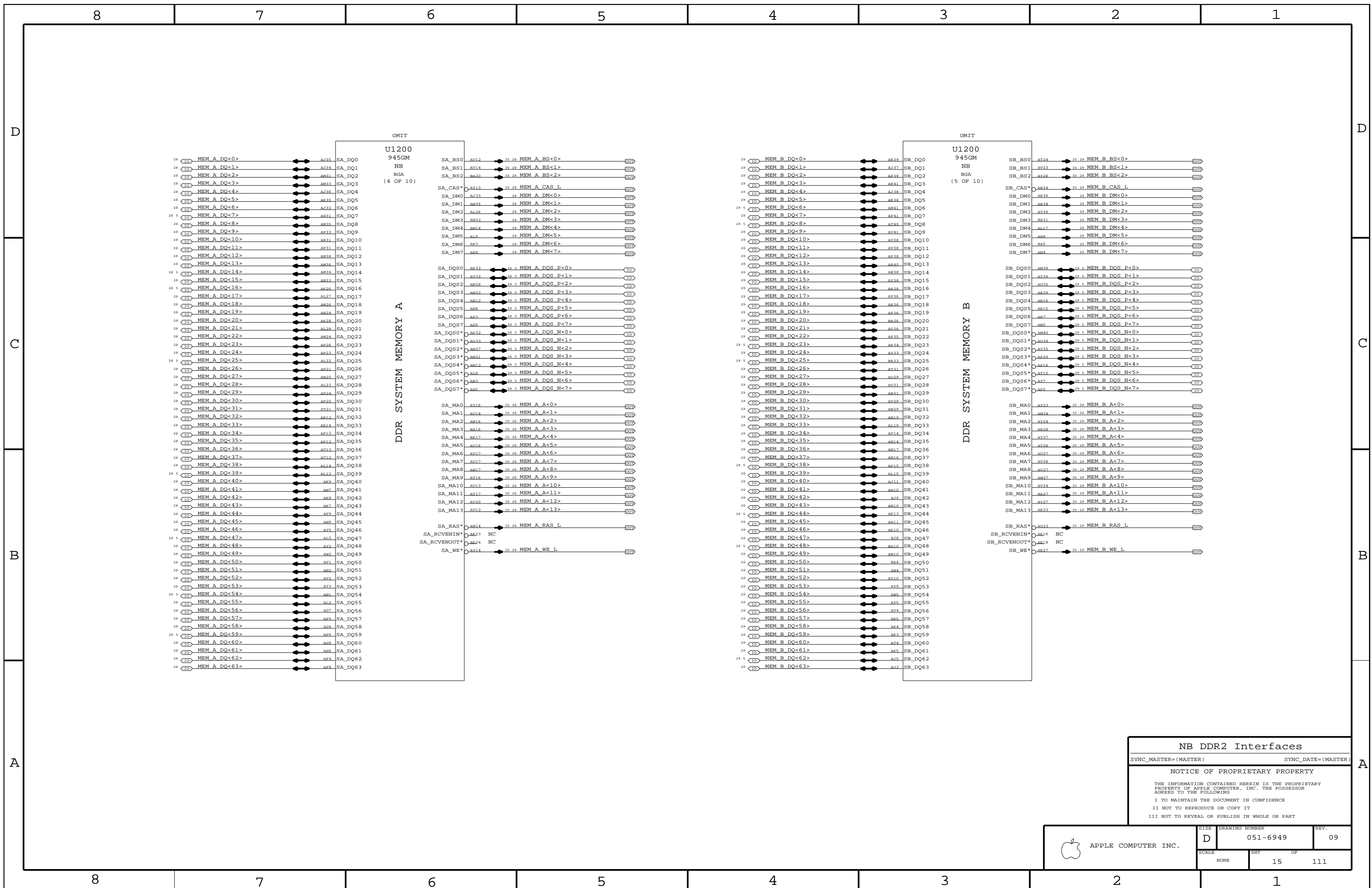
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	SCALE: NONE	SHEET: <b>14</b>	OF: <b>111</b>



**NB DDR2 Interfaces**

SYNC\_MASTER=(MASTER)      SYNC\_DATE=(MASTER)

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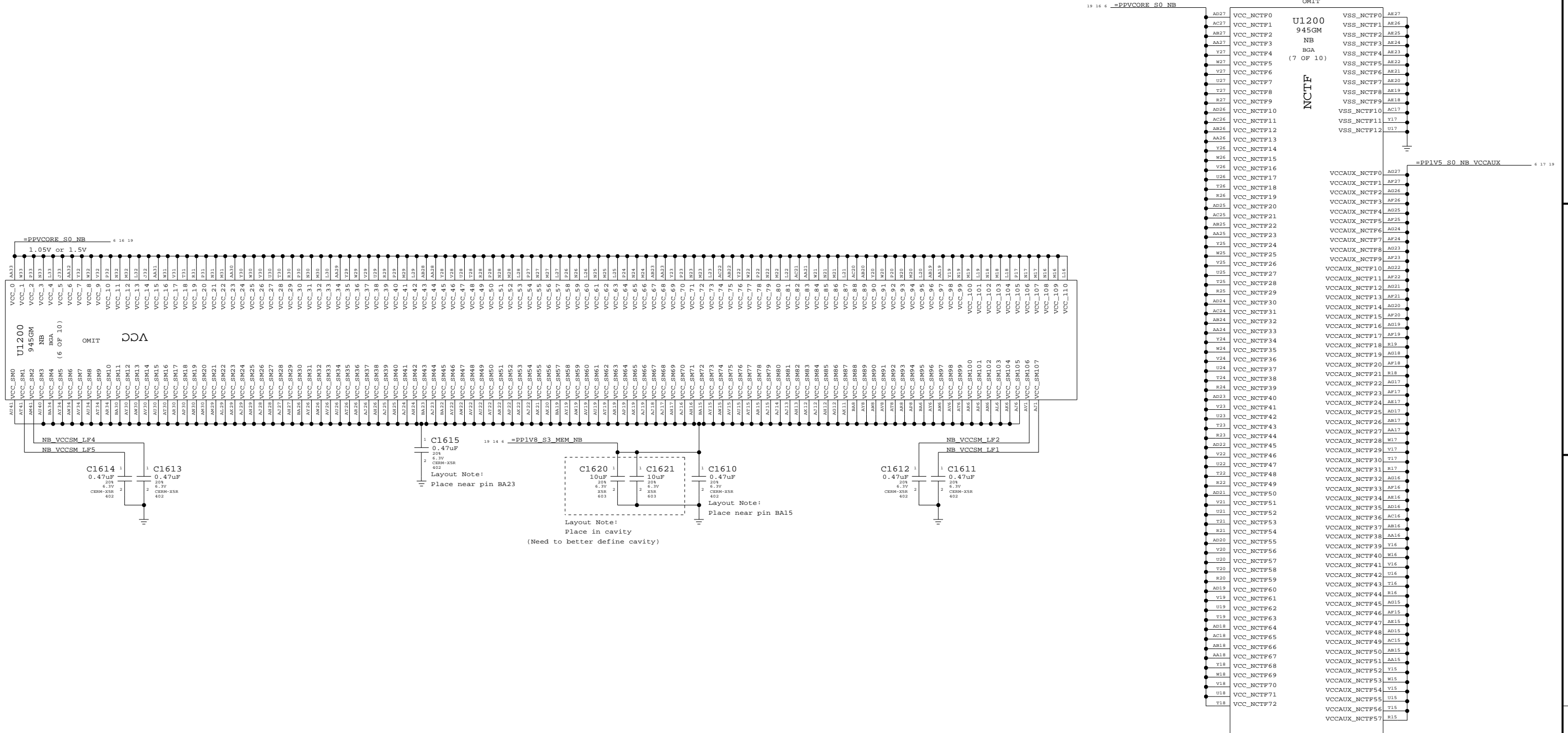
III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.	SIZE: <b>D</b>	DRAWING NUMBER: <b>051-6949</b>	REV.: <b>09</b>
	SCALE: NONE	SHEET: 15	OF: 111

NCTF balls are Not Critical To Function

These connections can break without impacting part performance.

OMIT

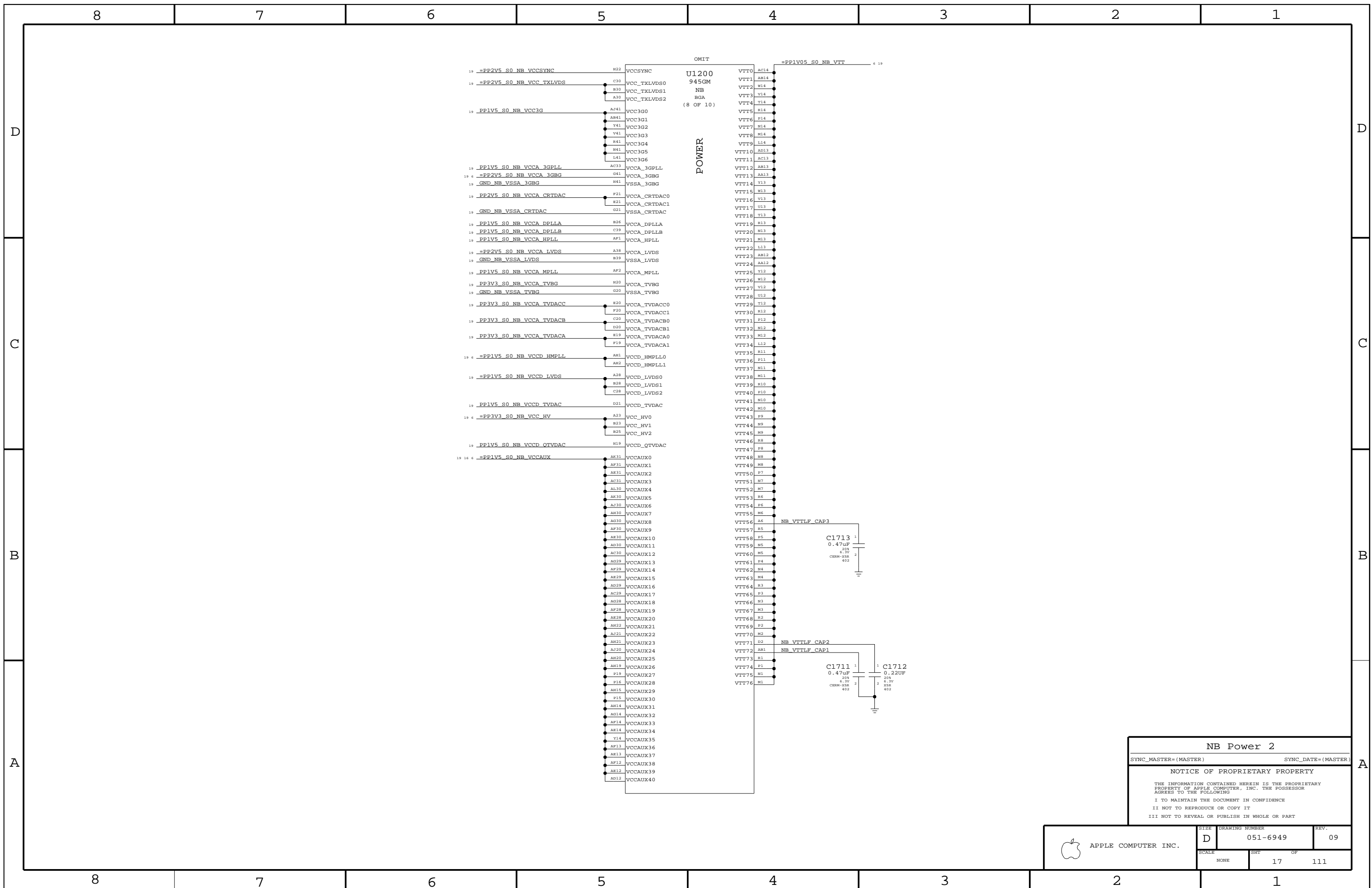


NB Power 1  
 SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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	D	051-6949	09
SCALE	SHT OF		
NONE	16		111





**NB Power 2**

SYNC\_MASTER=(MASTER)      SYNC\_DATE=(MASTER)

**NOTICE OF PROPRIETARY PROPERTY**

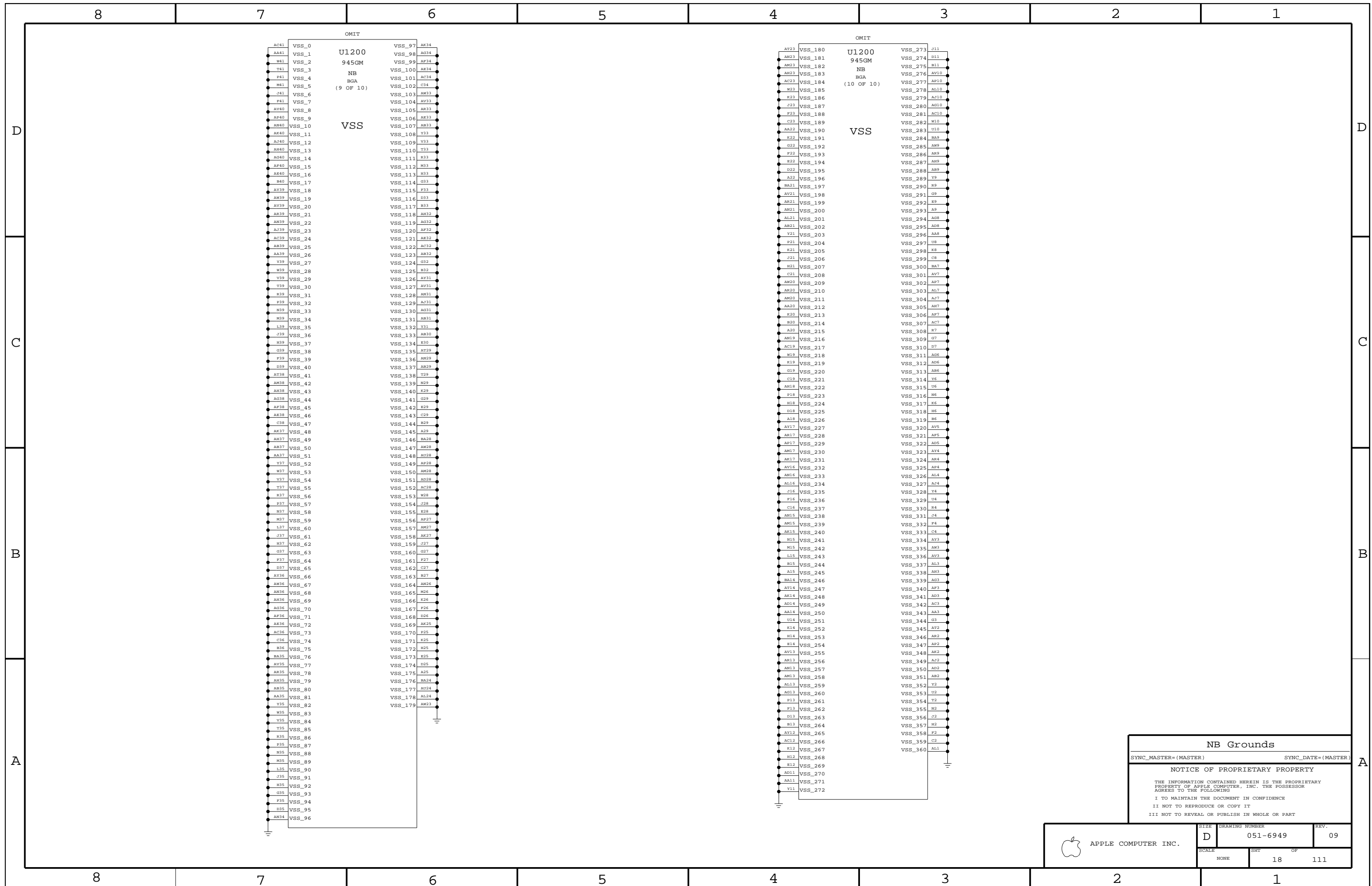
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	SCALE: NONE	SHEETS OF: <b>17</b> OF <b>111</b>	



**NB Grounds**

SYNC\_MASTER=(MASTER)      SYNC\_DATE=(MASTER)

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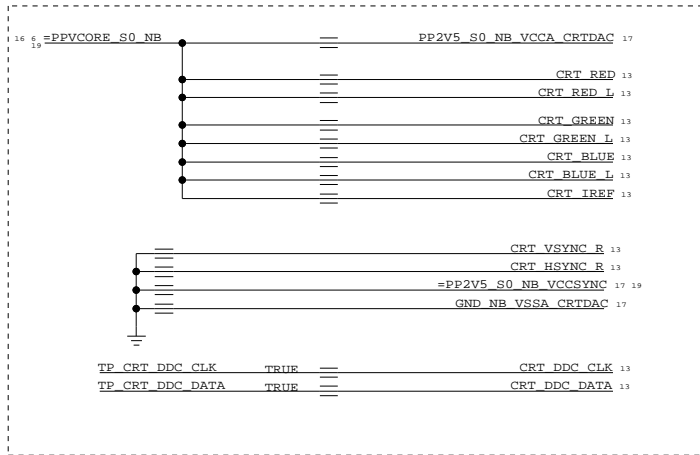
APPLE COMPUTER INC.	SIZE <b>D</b>	DRAWING NUMBER <b>051-6949</b>	REV. <b>09</b>
	SCALE NONE	SHEET <b>18</b>	OF <b>111</b>

### Power Interface

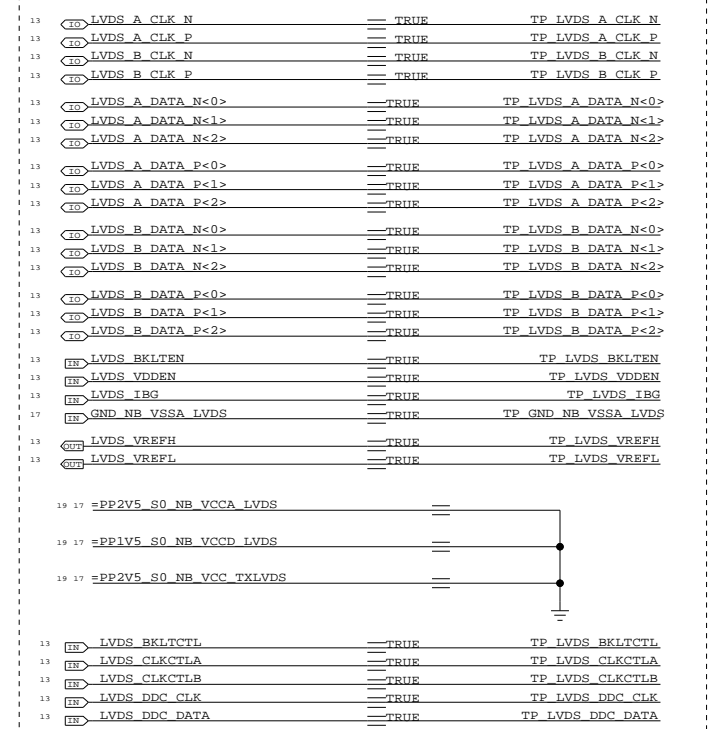
These are the power signals that leave the NB "block"

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_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

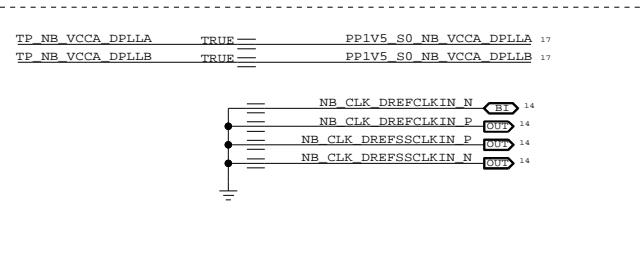
### TVOUT DISABLE



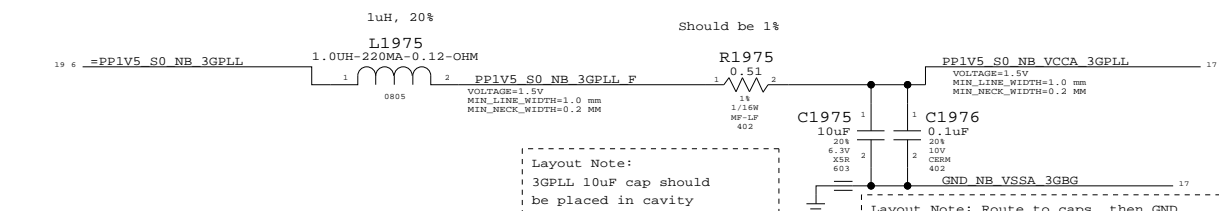
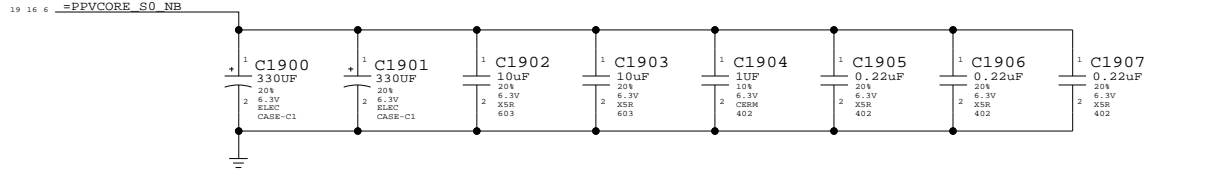
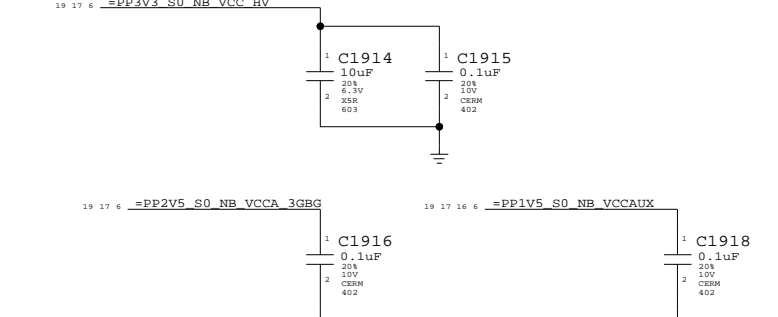
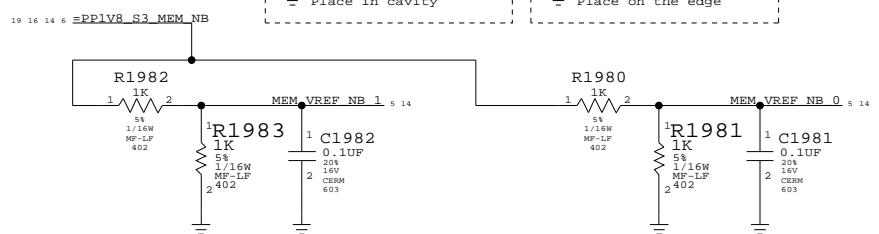
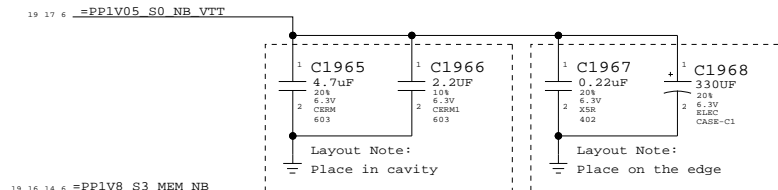
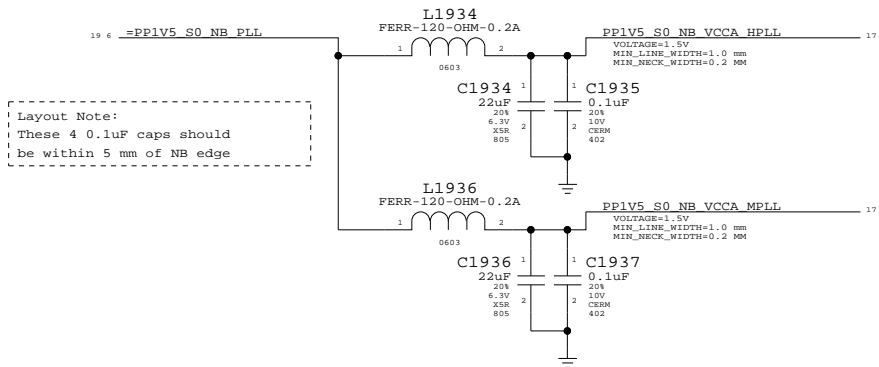
### LVDS DISABLE



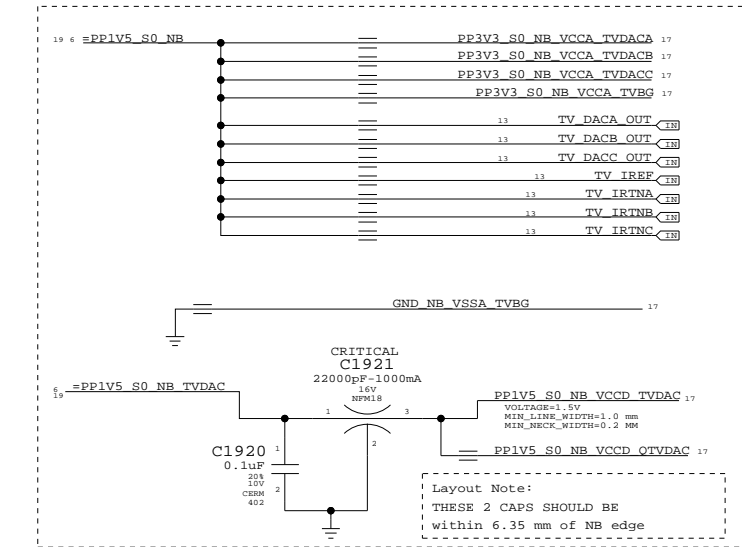
### DISPLAY DISABLE



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**

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

**NOTICE OF PROPRIETARY PROPERTY**

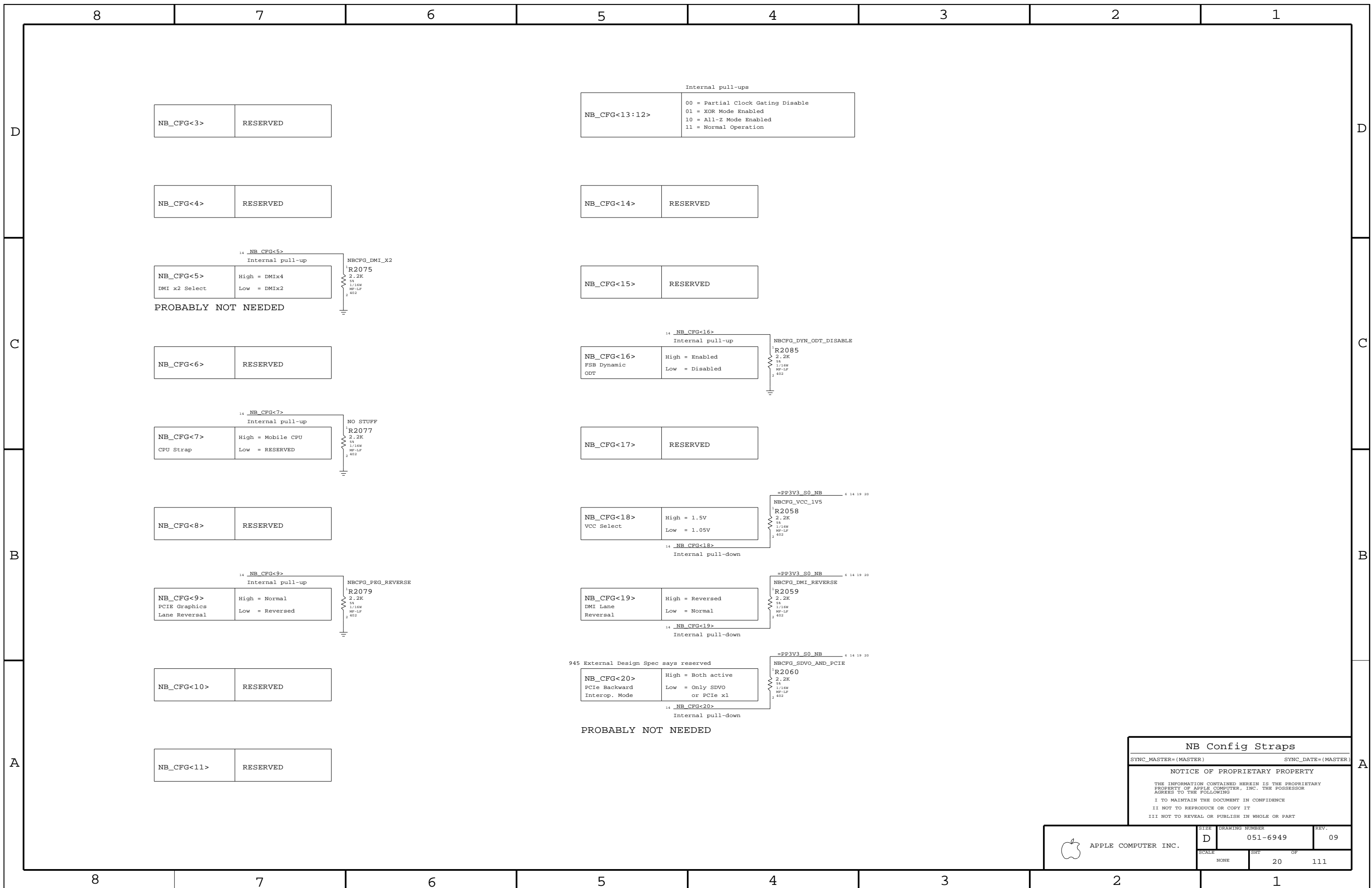
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	NONE	D 051-6949	09
		SHEET	OF
		19	111



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

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
------------	--

14 NB\_CFG<7>  
Internal pull-up

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

NO STUFF

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

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

=PP3V3\_S0\_NB 6 14 19 20  
NBCFG\_VCC\_LV5

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
-----------	---

=PP3V3\_S0\_NB 6 14 19 20  
NBCFG\_DMI\_REVERSE

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

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

14 NB\_CFG<20>  
Internal pull-down

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

PROBABLY NOT NEEDED

**NB Config Straps**

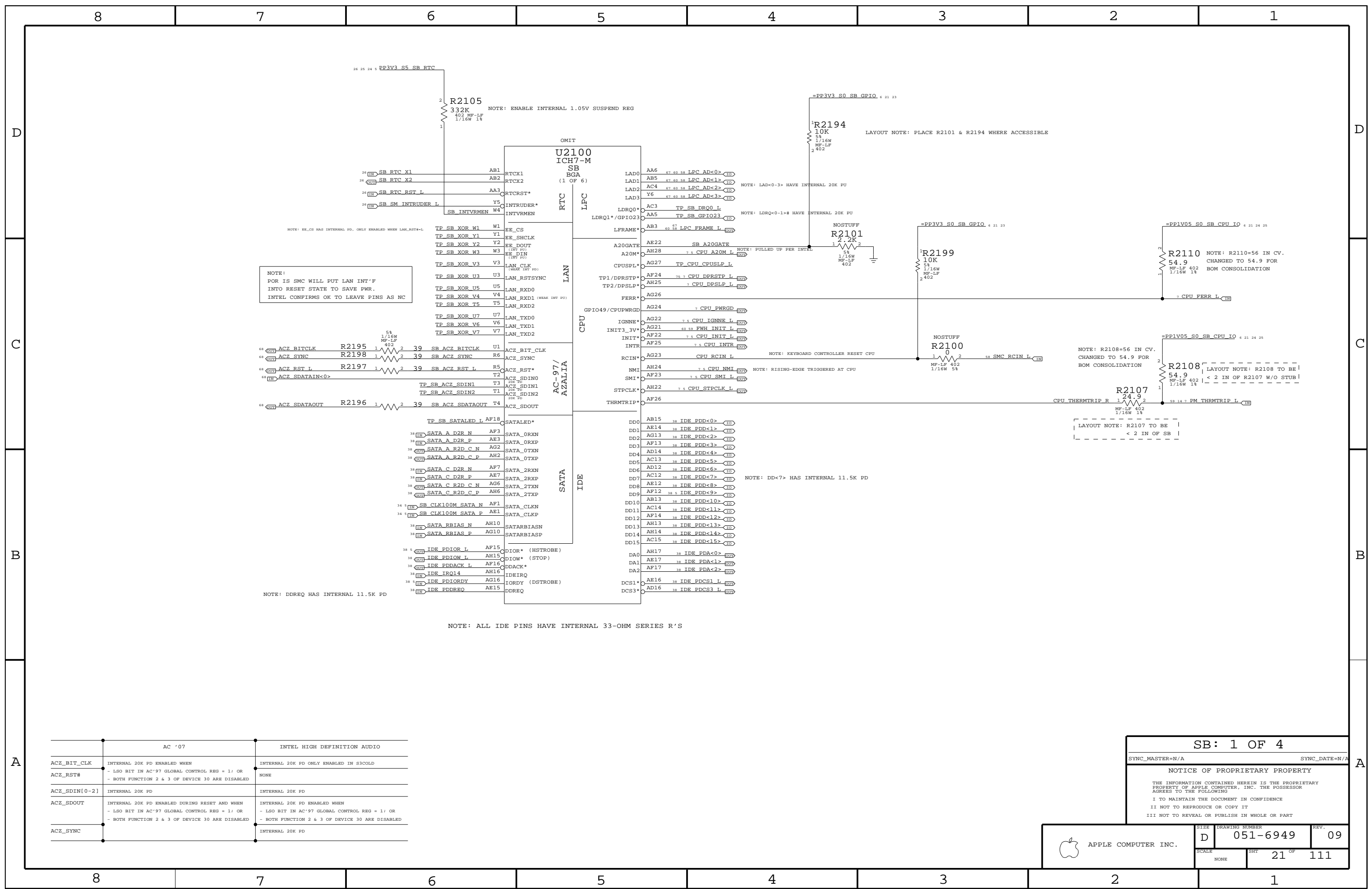
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	D	051-6949	09
SCALE	SHT	OF	
NONE	20	111	



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**

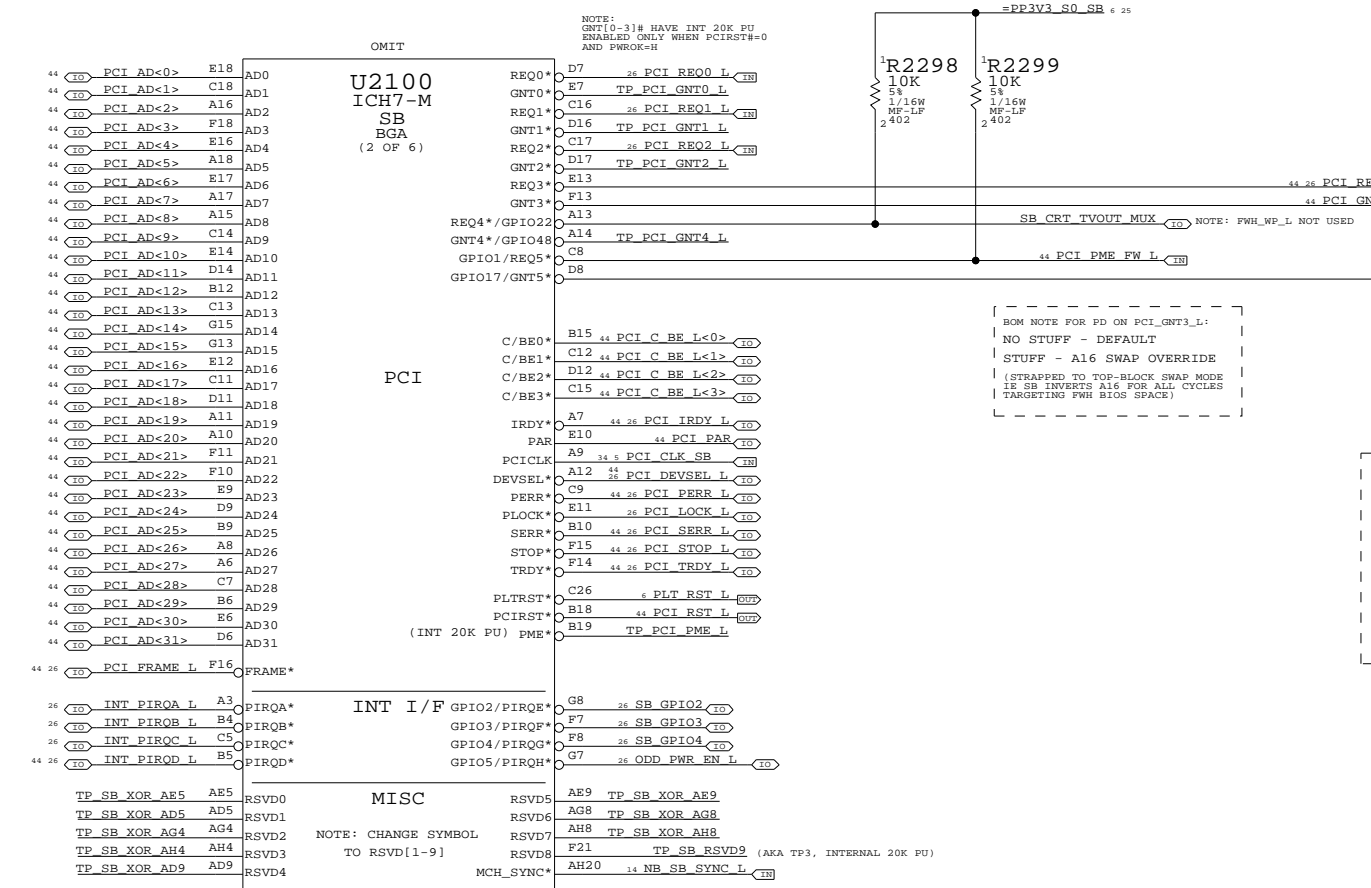
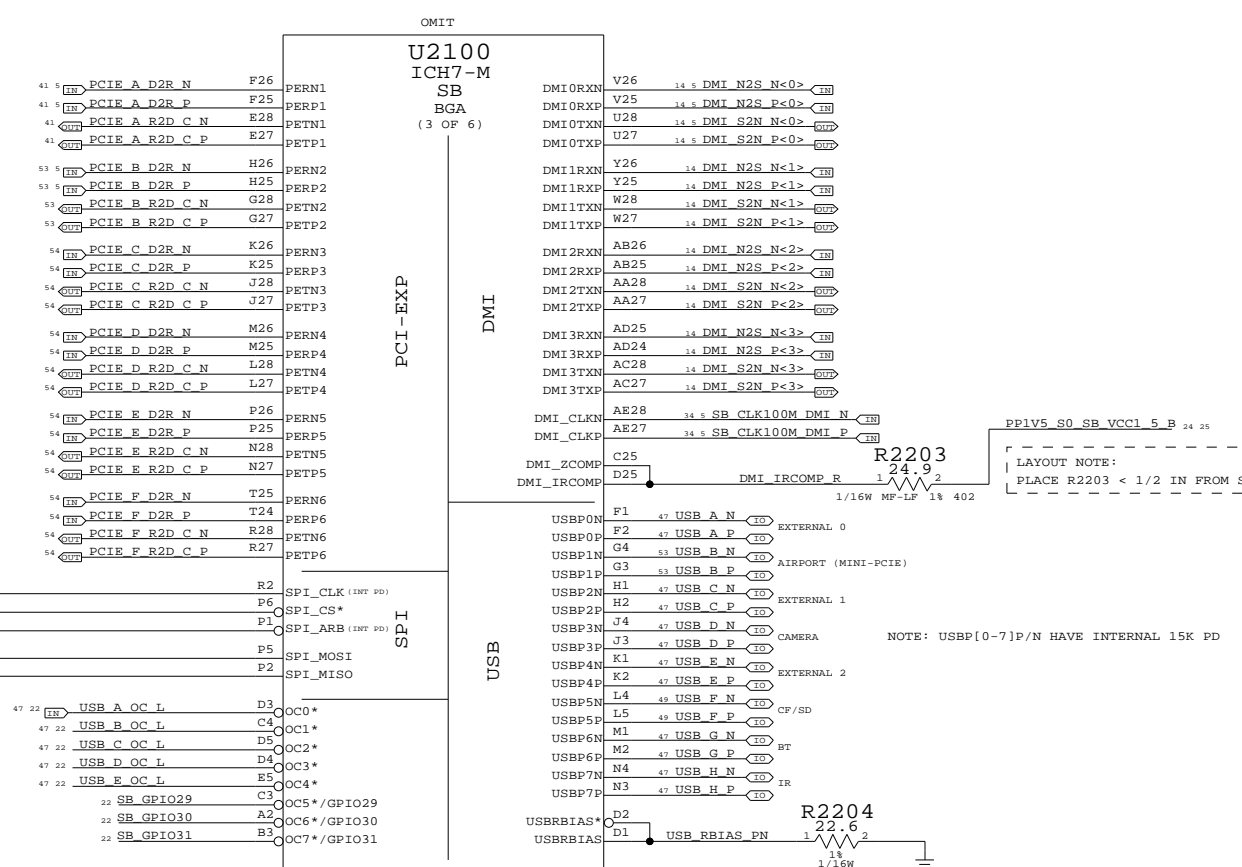
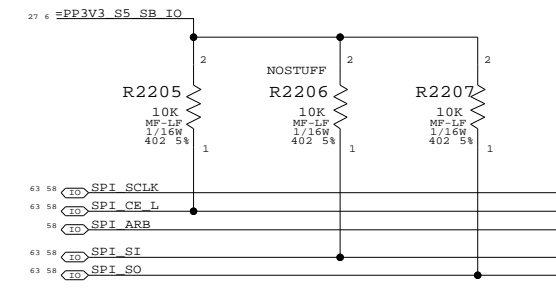
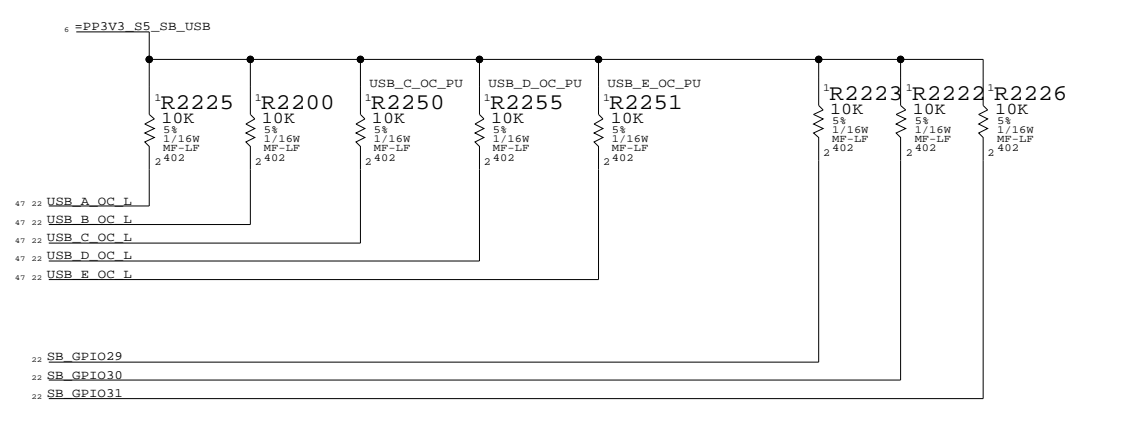
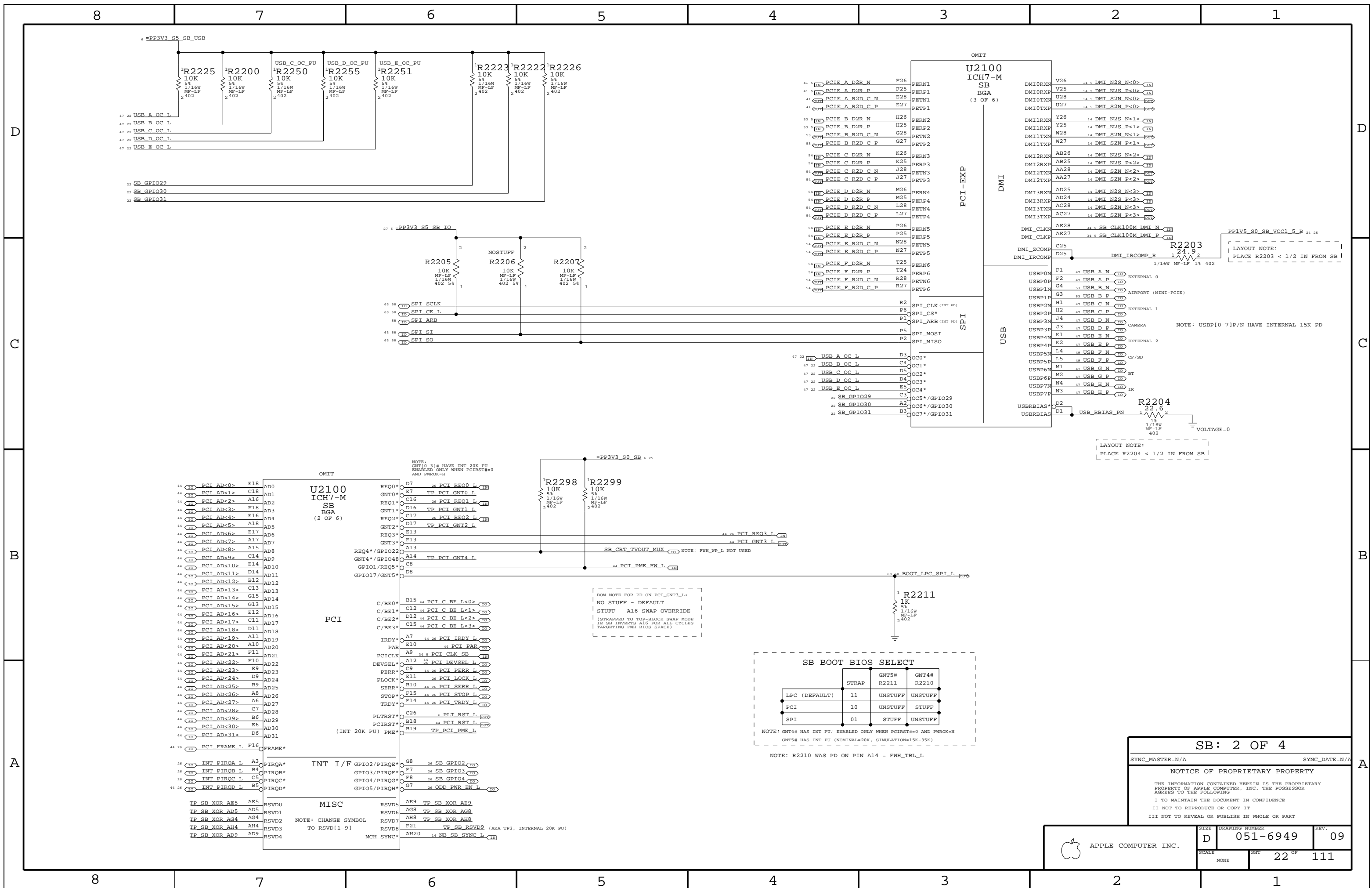
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	D	051-6949	09
SCALE	SHT	21 OF	111
NONE			



SB: 2 OF 4

SYNC\_MASTER=N/A SYNC\_DATE=N/A

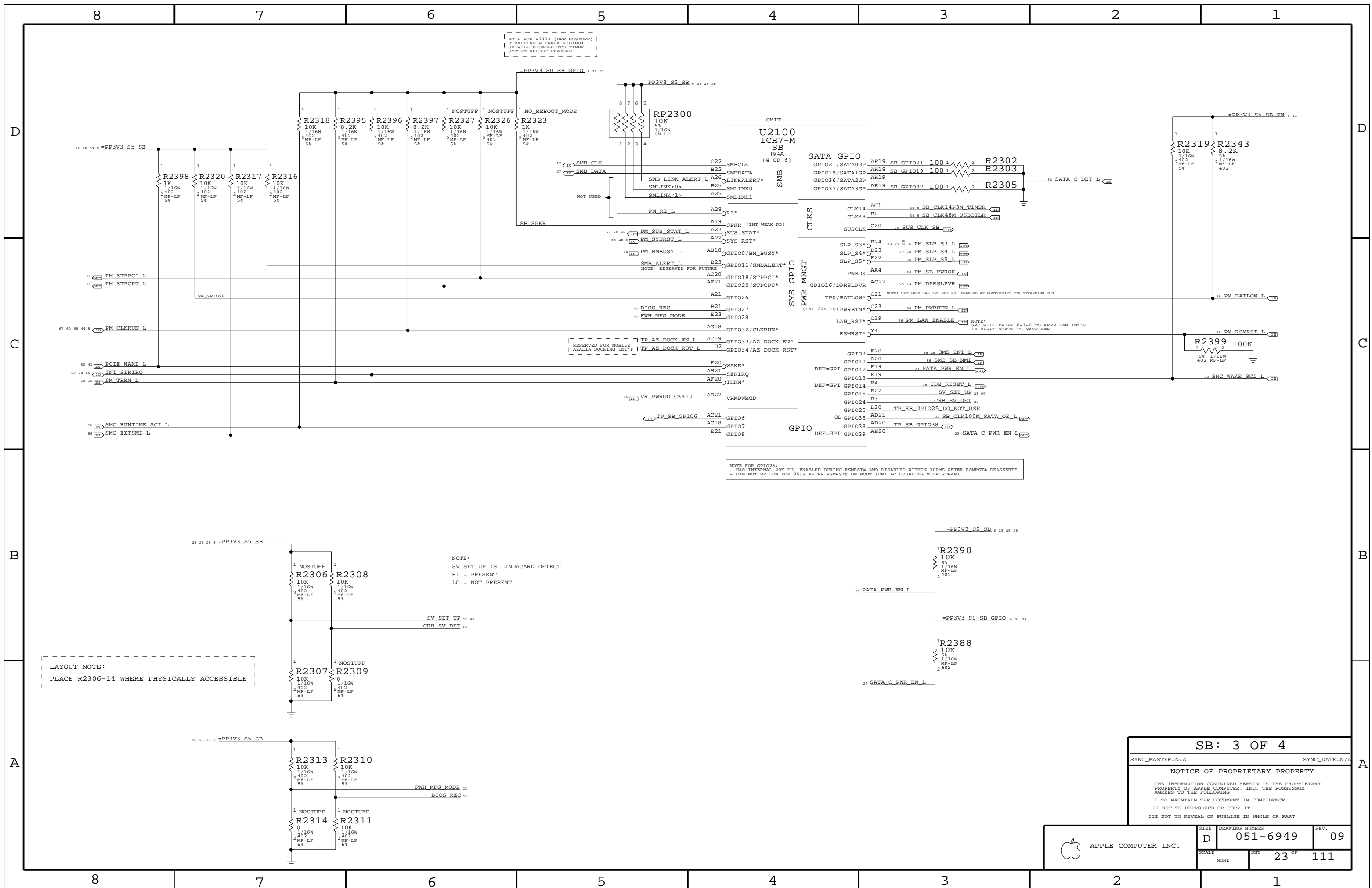
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NOTE FOR R2323 (DEF-NOSTUFF) | STRAPPING @ PWROK RISING: SB WILL DISABLE TCO TIMER SYSTEM REBOOT FEATURE

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

NOTE:  
 SV\_SET\_UP IS LINDACARD DETECT  
 HI = PRESENT  
 LO = NOT PRESENT

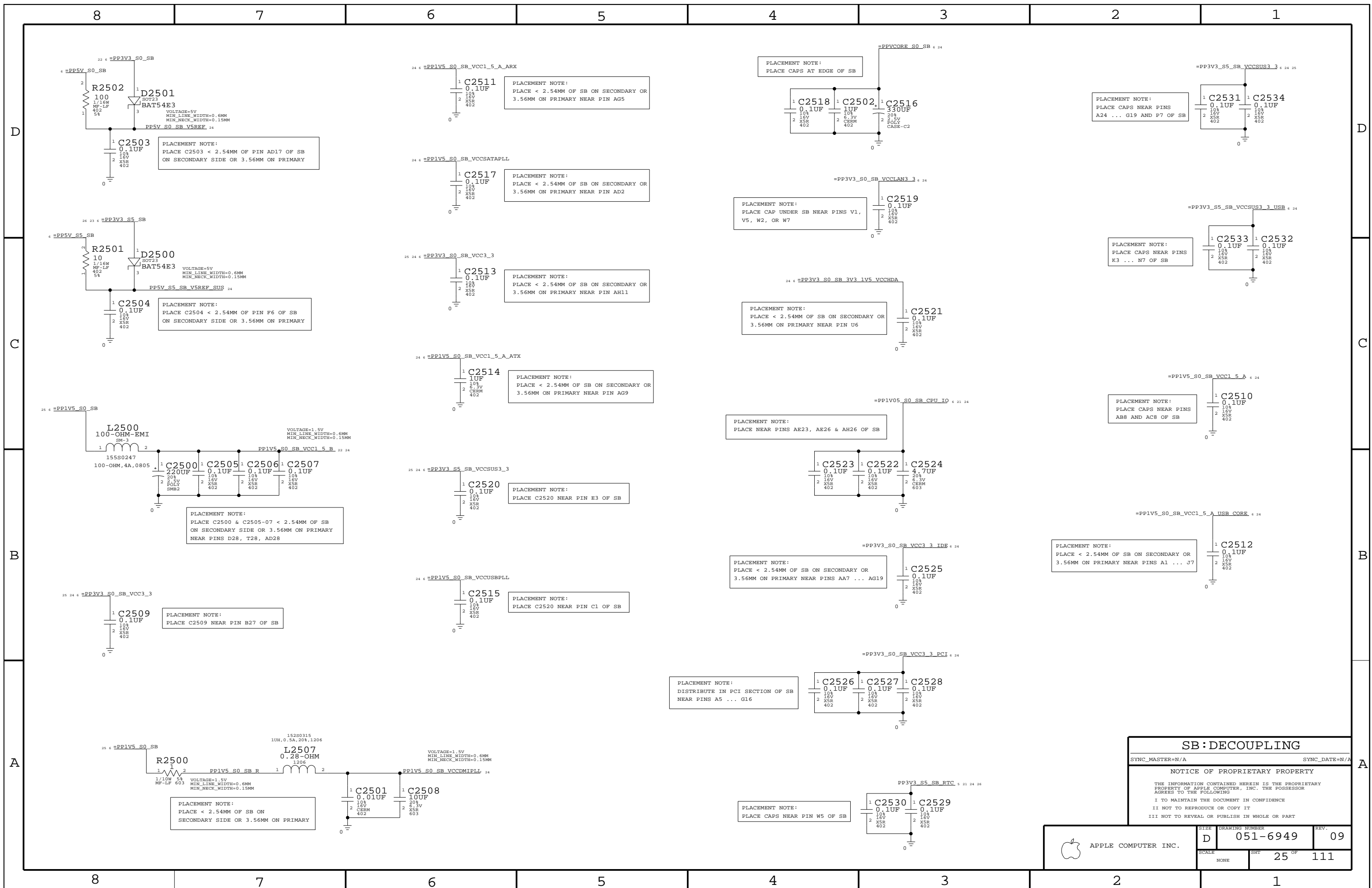
LAYOUT NOTE:  
 PLACE R2306-14 WHERE PHYSICALLY ACCESSIBLE

SB: 3 OF 4  
 SYNC\_MASTER=N/A SYNC\_DATE=N/A  
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	D	051-6949	09
SCALE	NONE	SHT	23 OF 111







**SB: DECOUPLING**

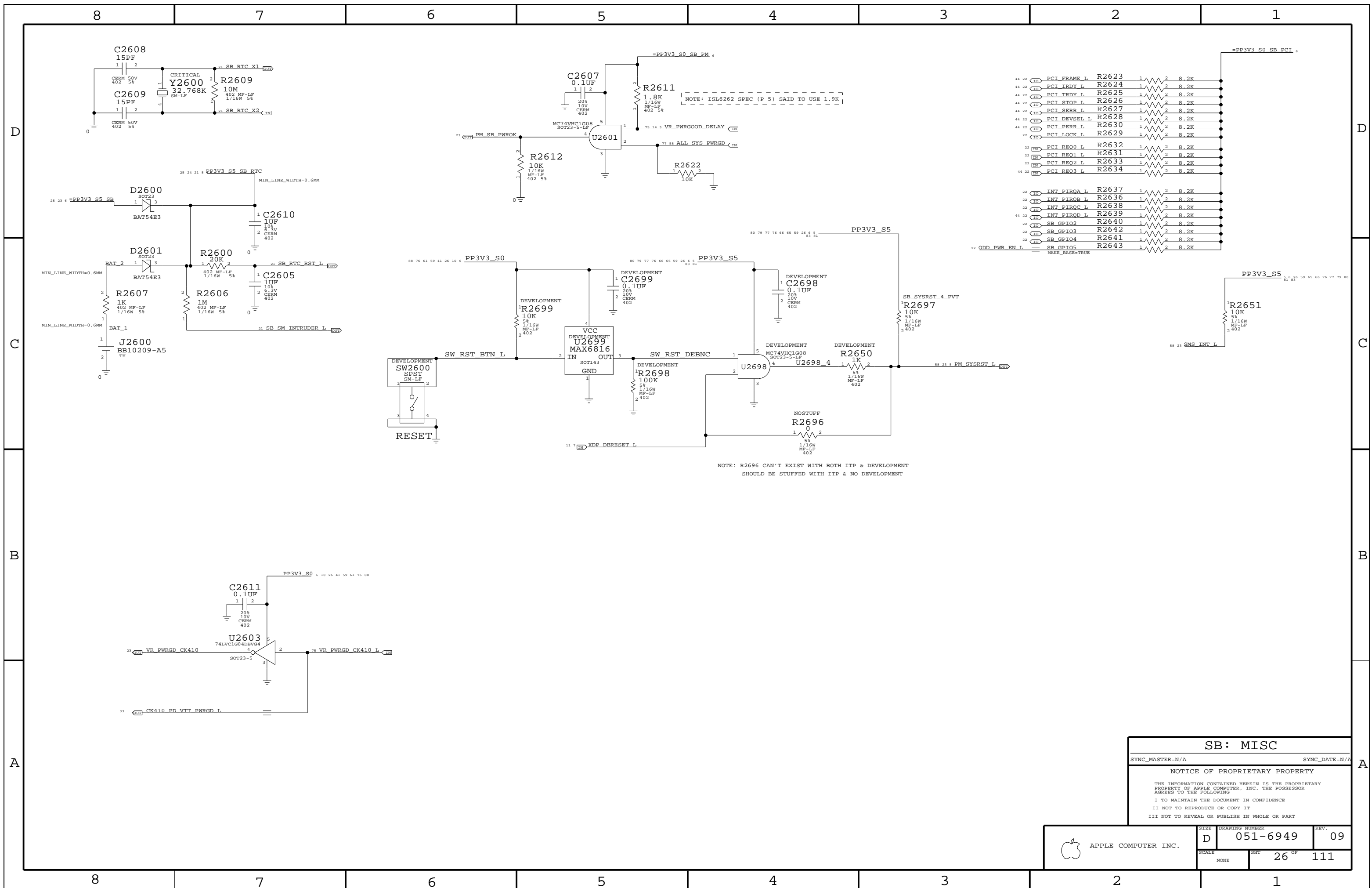
SYNC\_MASTER=N/A SYNC\_DATE=N/A

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	D	051-6949	09
SCALE	SHT	25 OF	111
NONE			



**SB: MISC**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

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	SCALE NONE	SHEET 26 OF 111	

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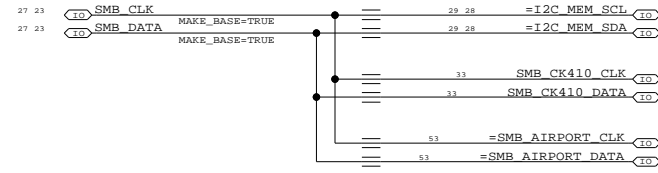
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D

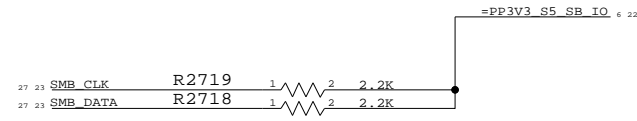
D

### SB I2C BUSSES



C

C



B


B

A

A

**SB: SMB HUB**

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	SCALE NONE	SHEET <b>27</b> OF	TOTAL SHEETS <b>111</b>

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# Page Notes

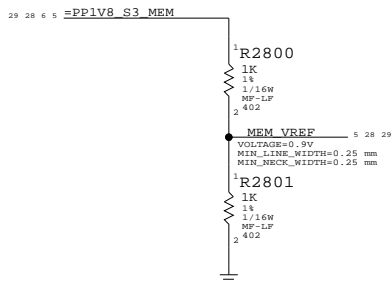
Power aliases required by this page:  
 - =PP1V8\_S3\_MEM  
 - =PPSPD\_S0\_MEM (2.5V - 3.3V)

Signal aliases required by this page:  
 - =I2C\_MEM\_SCL  
 - =I2C\_MEM\_SDA

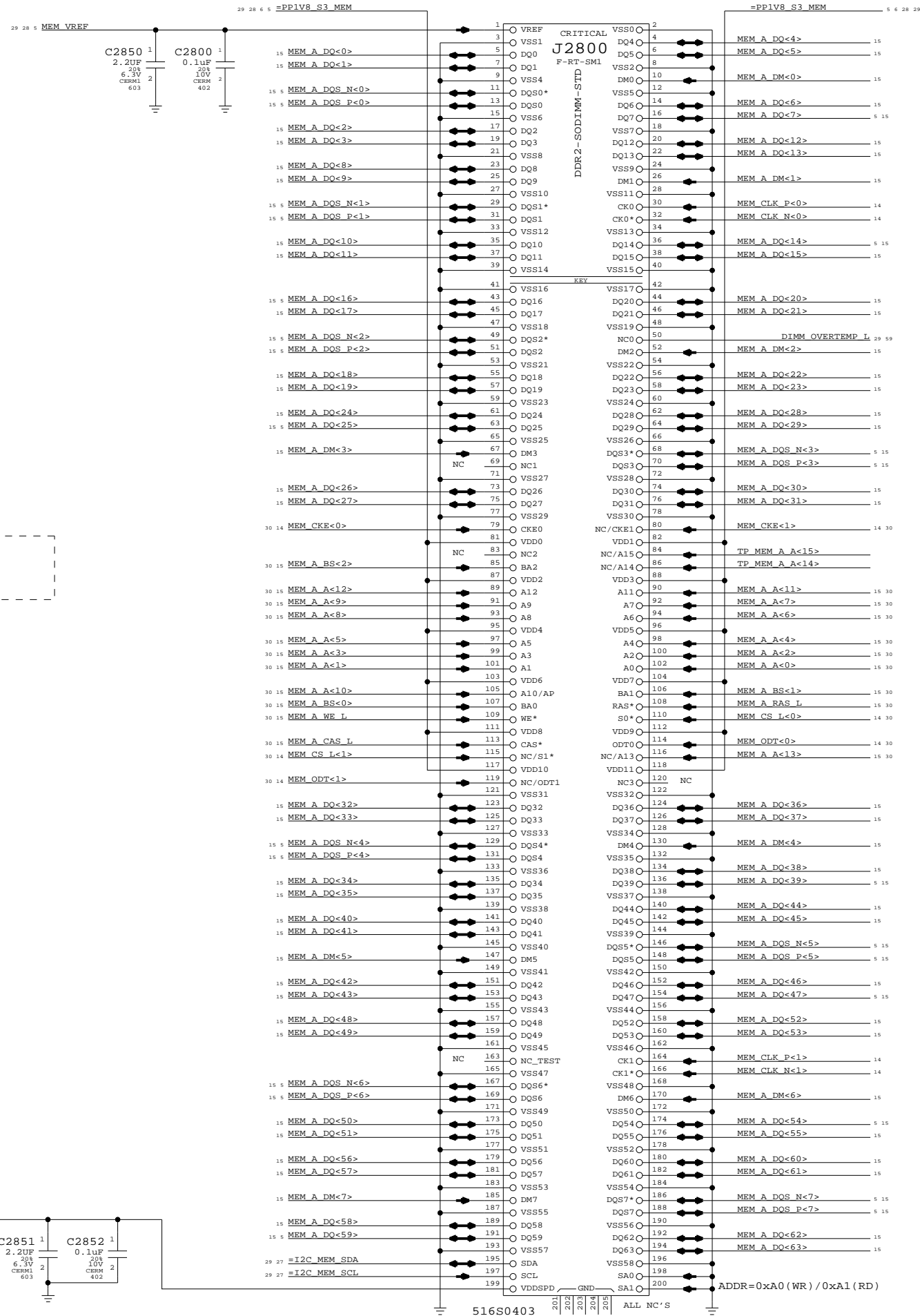
BOM options provided by this page:  
 (NONE)

## DDR2 VRef

One 0.1uF per connector

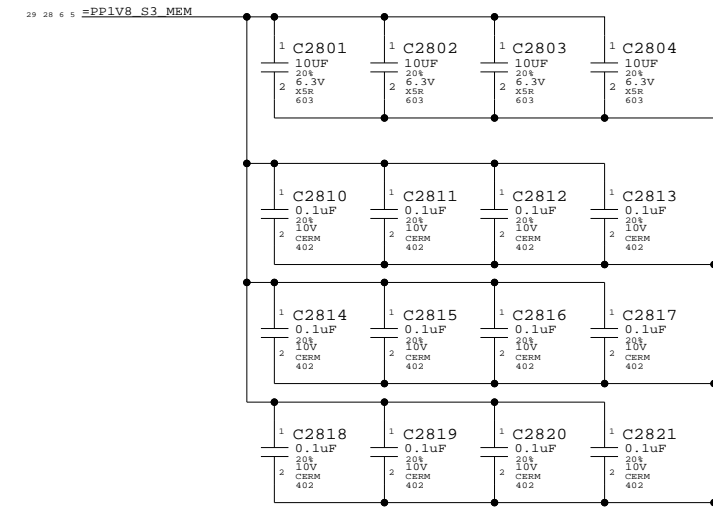


Yellow uses 10K divider and TLV2463 to drive MCH and DIMM connectors.  
 (See Capell Valley pg 47)



## DDR2 Bypass Caps

(For return current)



DDR2 SO-DIMM Connector A

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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	D	051-6949	09
SCALE	SHT	OF	
NONE	28	111	

# Page Notes

Power aliases required by this page:  
 - =PP1V8\_S3\_MEM  
 - =PPSPD\_S0\_MEM (2.5V - 3.3V)

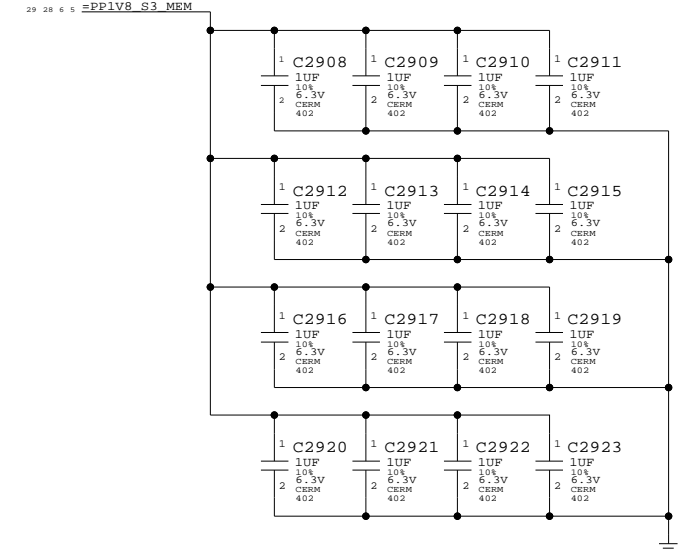
Signal aliases required by this page:  
 - =I2C\_MEM\_SCL  
 - =I2C\_MEM\_SDA

BOM options provided by this page:  
 (NONE)

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



## DDR2 Bypass Caps (For return current)



## DDR2 SO-DIMM Connector B

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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APPLE COMPUTER INC.	SCALE	DRAWING NUMBER	REV.
	NONE	D 051-6949	09
	SHT	OF	
	29	111	

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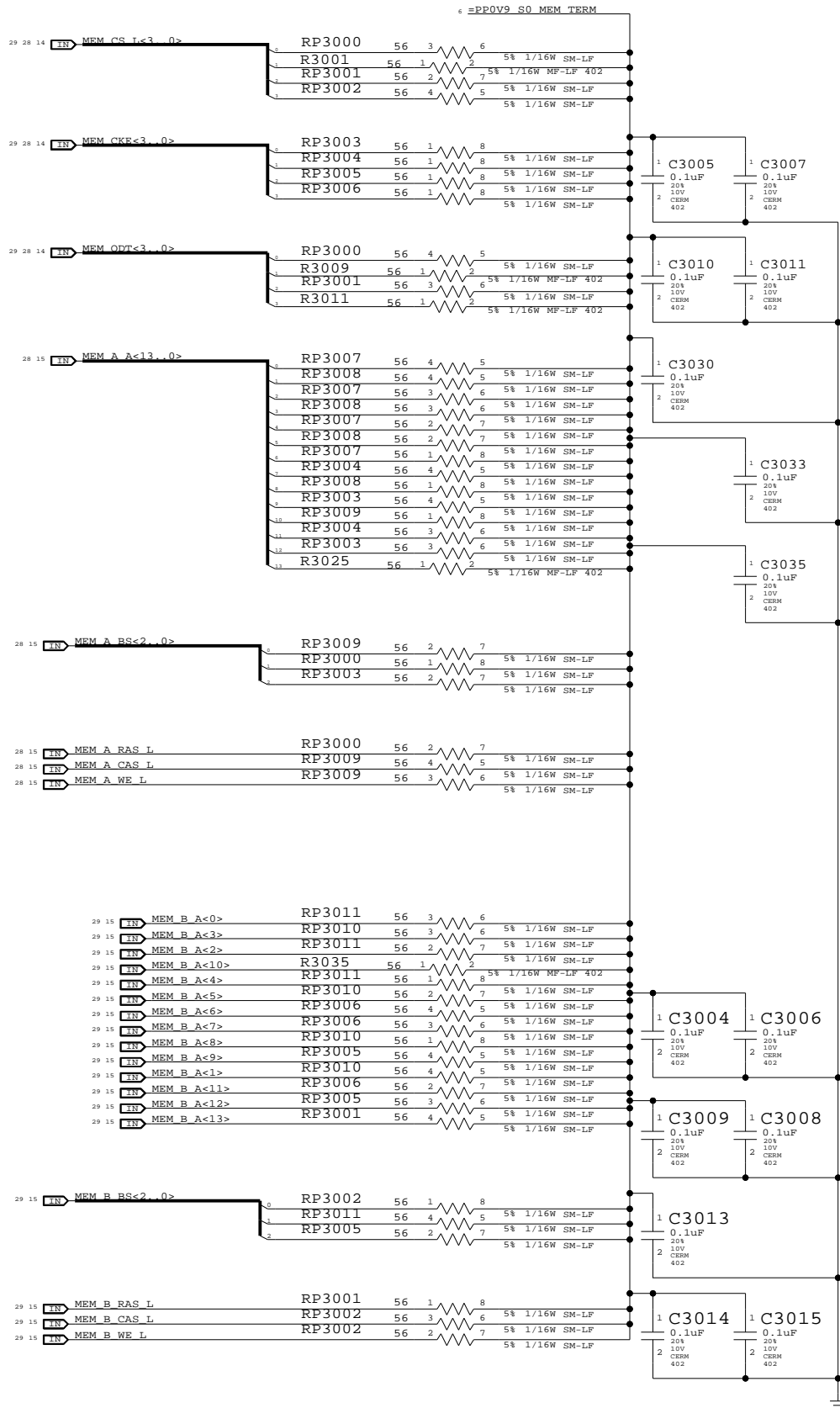
4

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	051-6949	09
SCALE	NONE	SHT	OF
		30	111

8

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Page Notes

Power aliases required by this page:  
 - =PP5V\_S0\_MEMVTT  
 - =PP1V8\_S0\_MEMVTT  
 - =PP0V9\_S0\_MEMVTT\_LDO

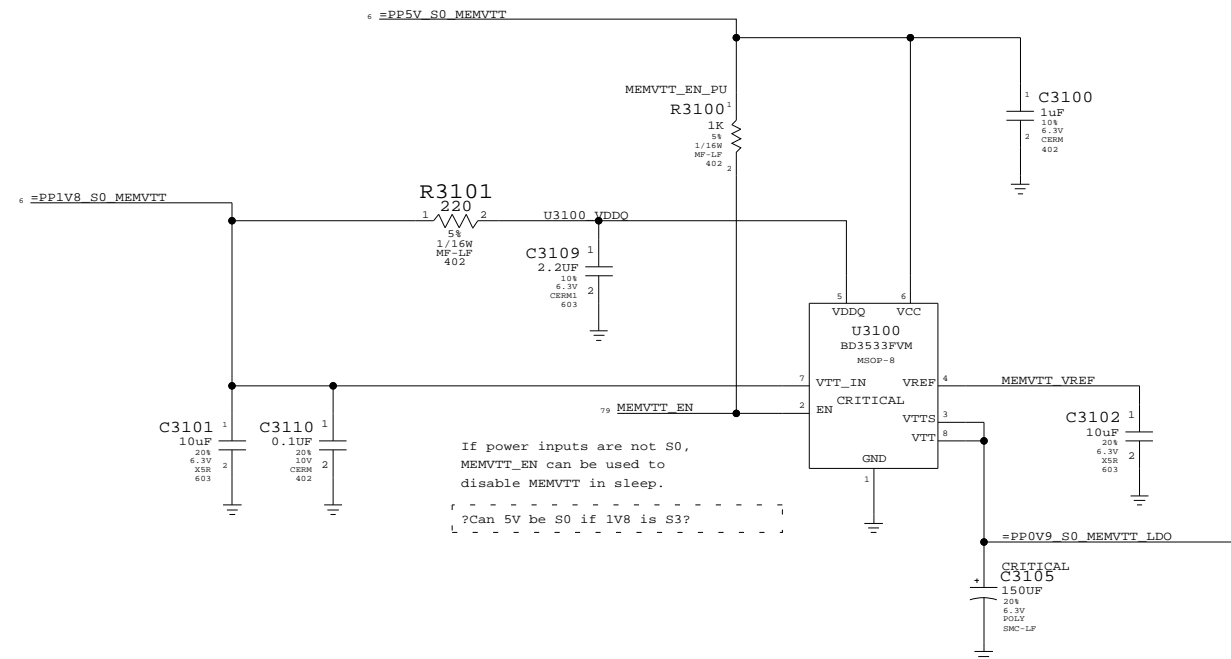
---

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)

NOTICE OF PROPRIETARY PROPERTY

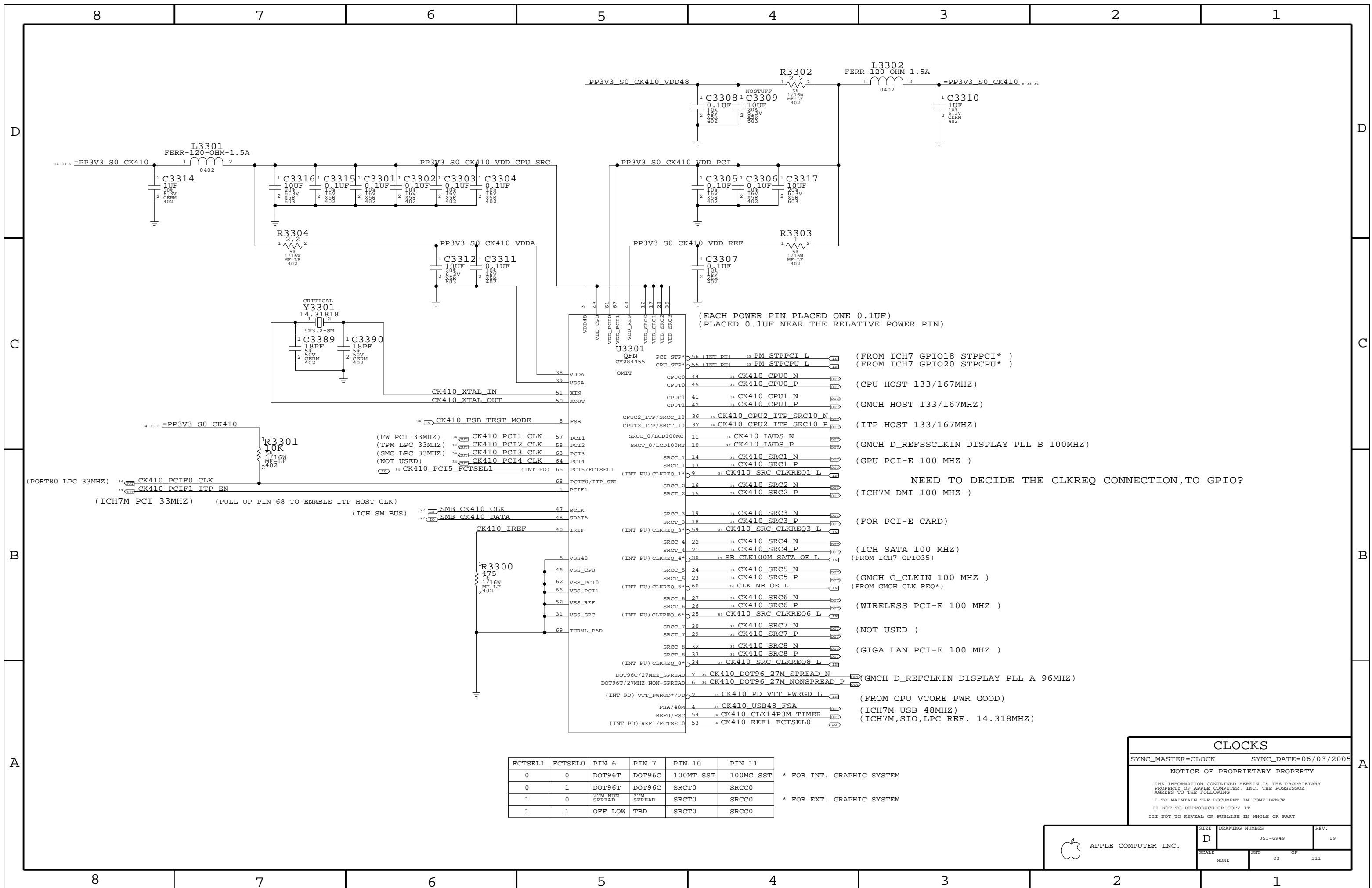
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	D	051-6949	09
SCALE		SHT	OF
NONE		31	111



(EACH POWER PIN PLACED ONE 0.1UF)  
(PLACED 0.1UF NEAR THE RELATIVE POWER PIN)

(FROM ICH7 GPIO18 STPPCI\* )  
(FROM ICH7 GPIO20 STPCPU\* )

(CPU HOST 133/167MHZ)

(GMCH HOST 133/167MHZ)

(ITP HOST 133/167MHZ)

(GMCH D\_REFSSCLKIN DISPLAY PLL B 100MHZ)

(GPU PCI-E 100 MHZ )

NEED TO DECIDE THE CLKREQ CONNECTION, TO GPIO?

(ICH7M DMI 100 MHZ )

(FOR PCI-E CARD)

(ICH SATA 100 MHZ)

(FROM ICH7 GPIO35)

(GMCH G\_CLKIN 100 MHZ )

(FROM GMCH CLK\_REQ\*)

(WIRELESS PCI-E 100 MHZ )

(NOT USED )

(GIGA LAN PCI-E 100 MHZ )

(GMCH D\_REFCLKIN DISPLAY PLL A 96MHZ)

(FROM CPU VCORE PWR GOOD)

(ICH7M USB 48MHZ)

(ICH7M,SIO,LPC REF. 14.318MHZ)

FCTSEL1	FCTSELO	PIN 6	PIN 7	PIN 10	PIN 11
0	0	DOT96T	DOT96C	100MT_SST	100MC_SST
0	1	DOT96T	DOT96C	SRCT0	SRCC0
1	0	27M NON SPREAD	27M SPREAD	SRCT0	SRCC0
1	1	OFF LOW	TBD	SRCT0	SRCC0

\* FOR INT. GRAPHIC SYSTEM

\* FOR EXT. GRAPHIC SYSTEM

**CLOCKS**

SYNC\_MASTER=CLOCK      SYNC\_DATE=06/03/2005

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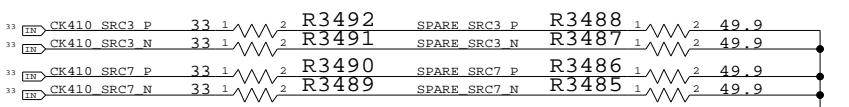
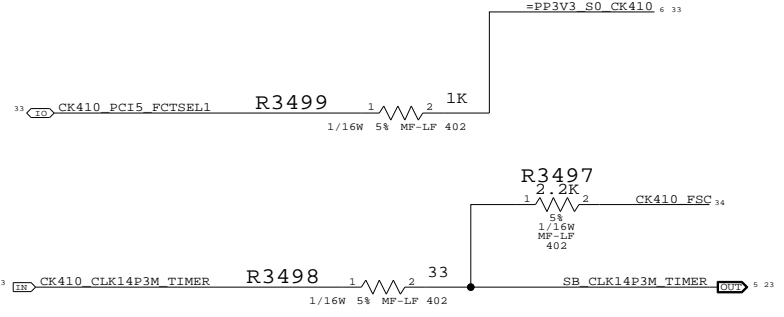
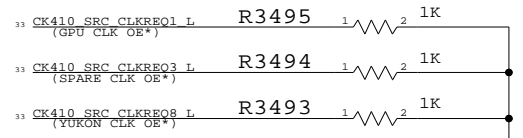
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APPLE COMPUTER INC.

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

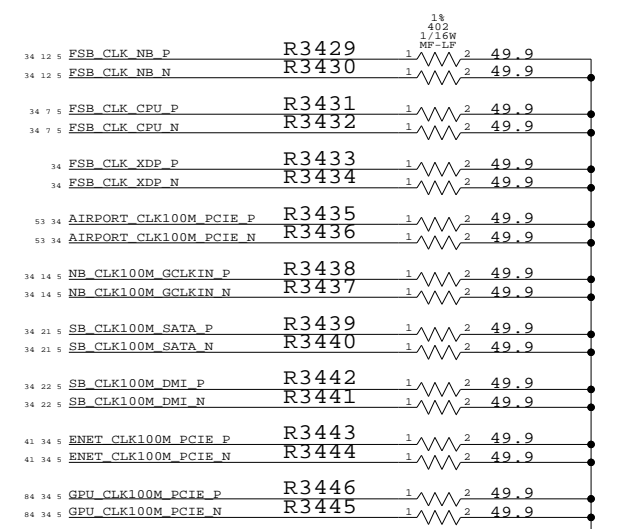
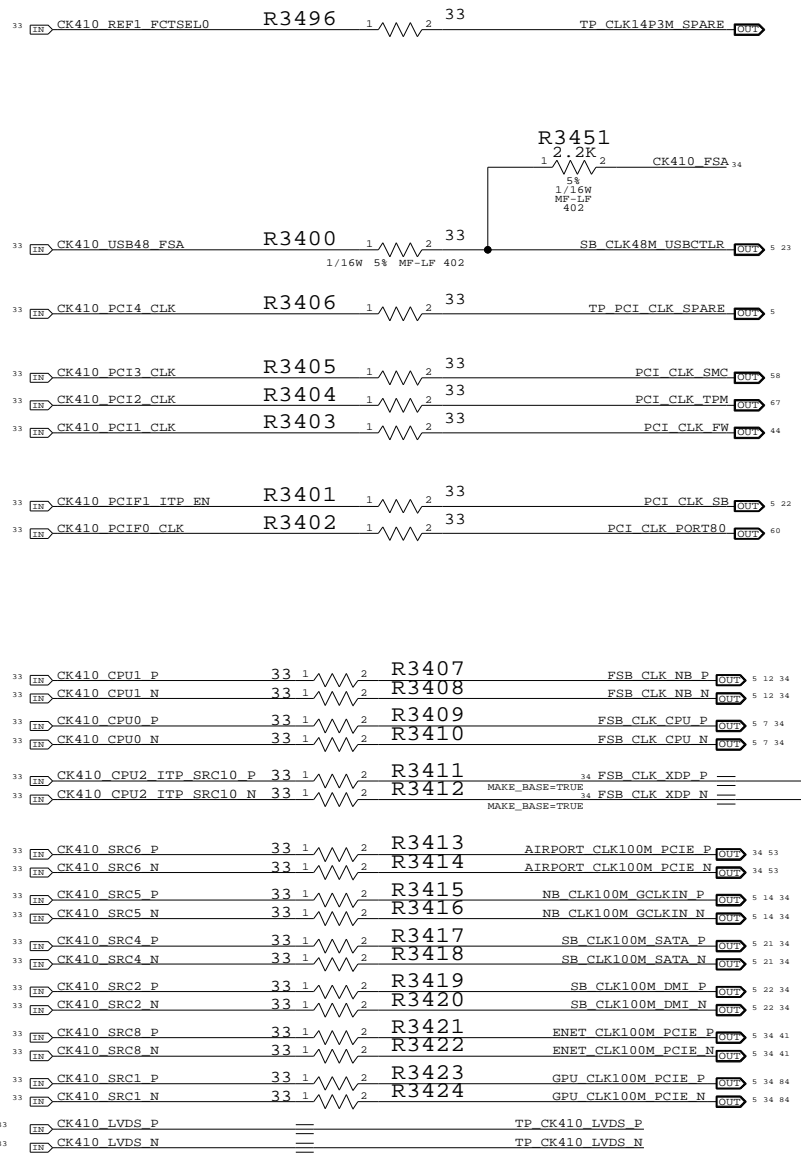
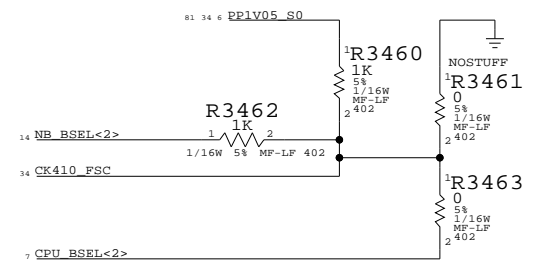
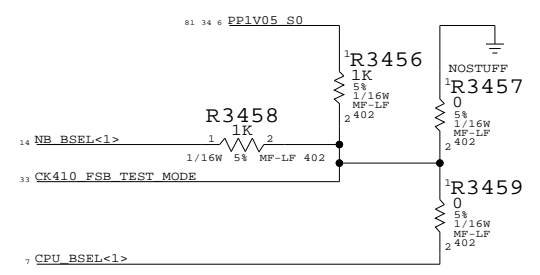
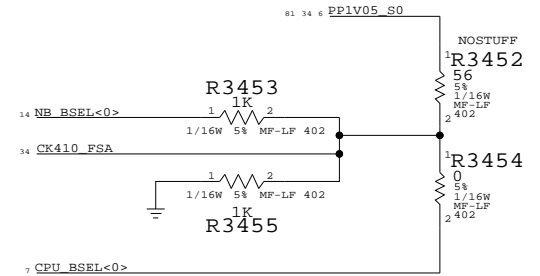


NOTE: USE THESE PULL-DOWNS IF NOT CONNECTED TO GPIO'S



FSB FREQUENCY SELECT:

	STUFF	NO STUFF
CPU DRIVEN	R3453 R3454 R3455	R3456 R3457 R3458
533MHZ (133MHZ CPU CLK)	R3452 R3454 R3455	R3456 R3457 R3458
667MHZ (166MHZ CPU CLK)	R3452 R3454 R3455	R3456 R3457 R3458



**CLOCKS: TERMINATIONS**

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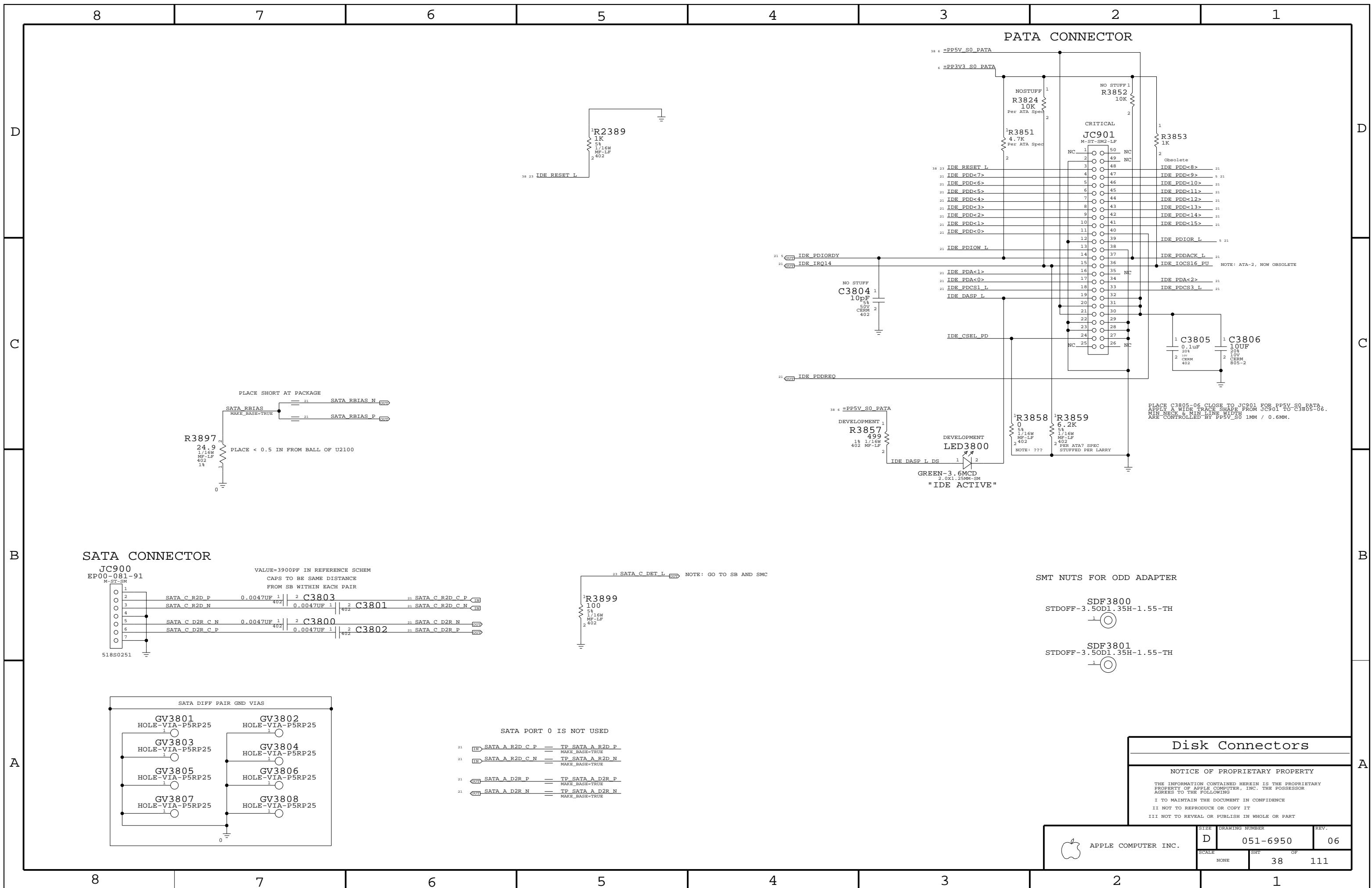
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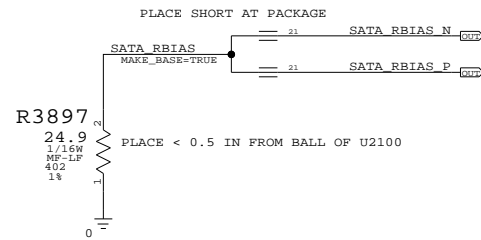
APPLE COMPUTER INC.

SCALE: NONE SHEET: 34 OF 111

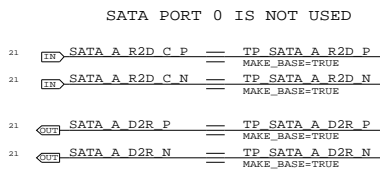
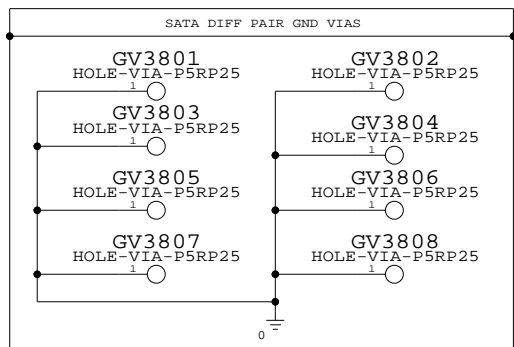
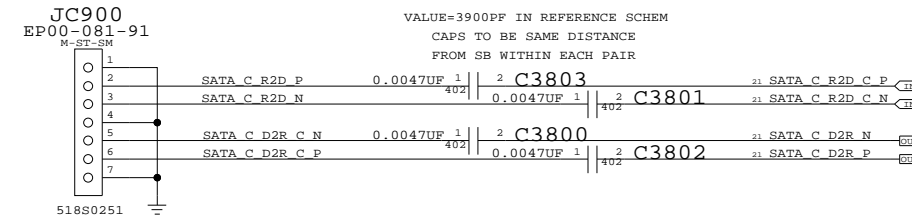
SIZE: D DRAWING NUMBER: 051-6949 REV: 09



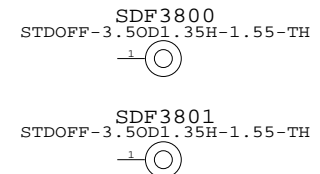
PATA CONNECTOR



SATA CONNECTOR



SMT NUTS FOR ODD ADAPTER

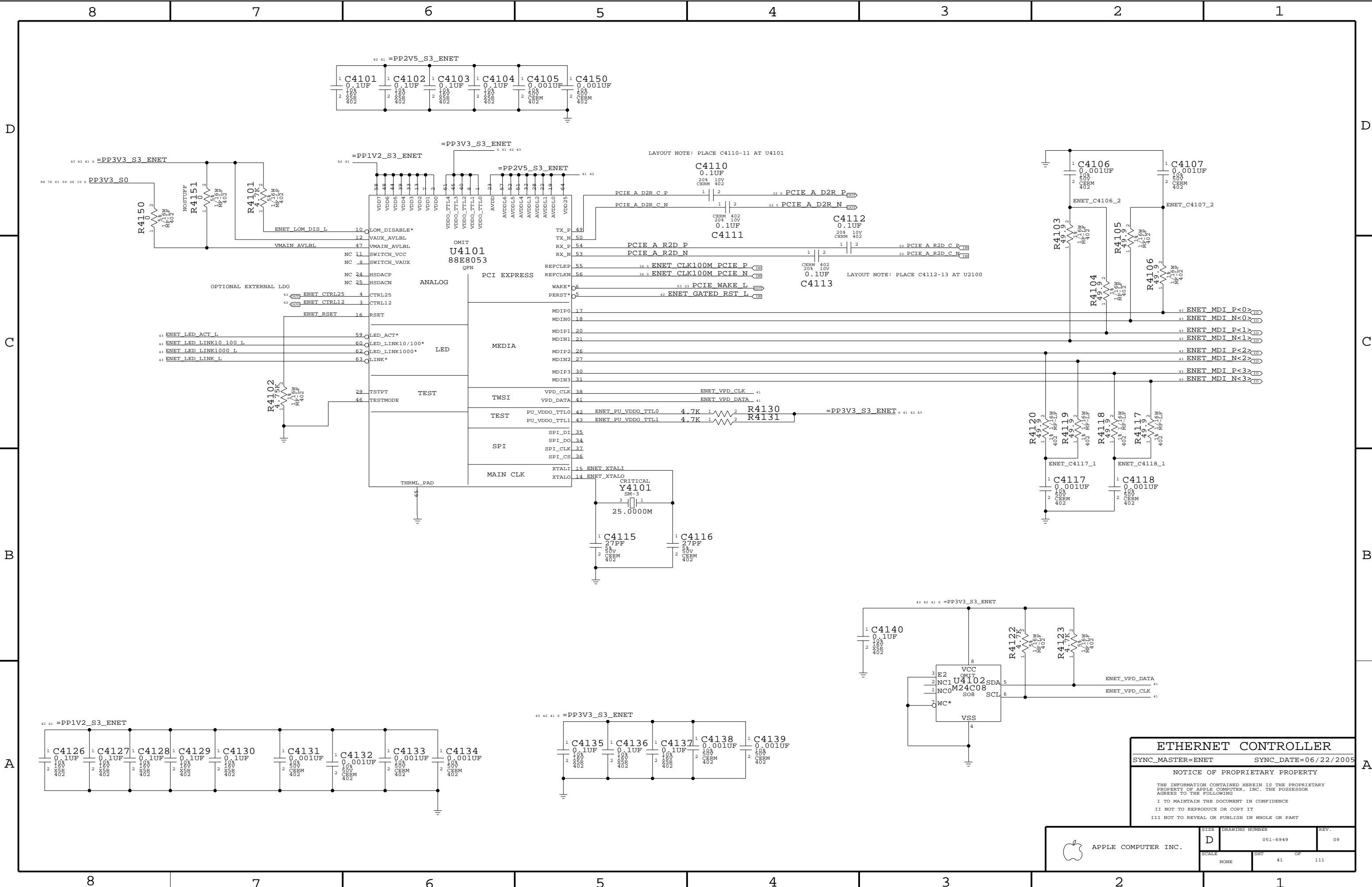


Disk Connectors

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SCALE	NONE	SHT	OF
		38	111



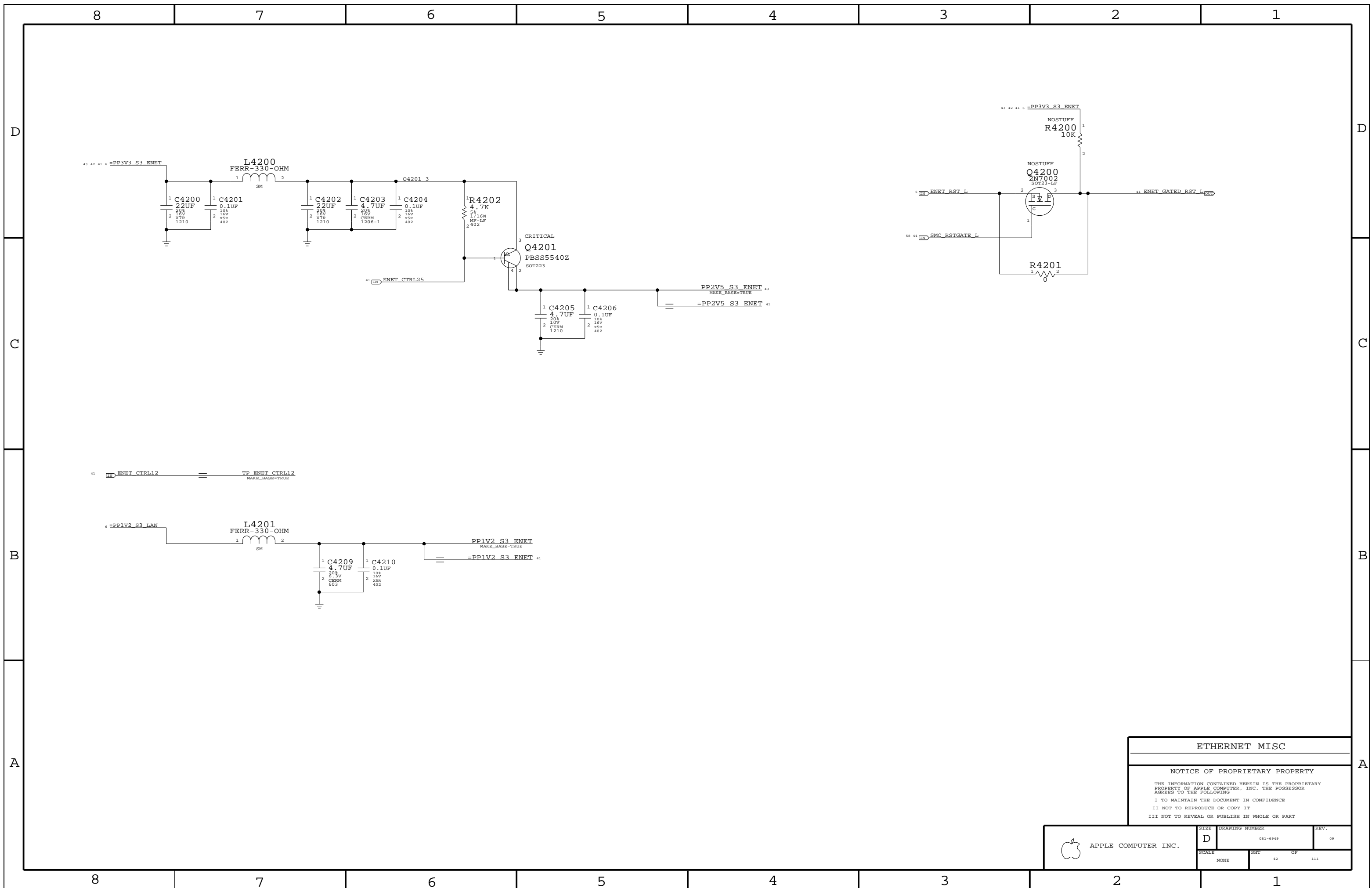
**ETHERNET CONTROLLER**

SYNC\_MASTER=ENET SYNC\_DATE=06/22/2005

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	D	051-6949	09
SCALE	NONE	SHT	41 OF 111



**ETHERNET MISC**

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**NOTICE OF PROPRIETARY PROPERTY**

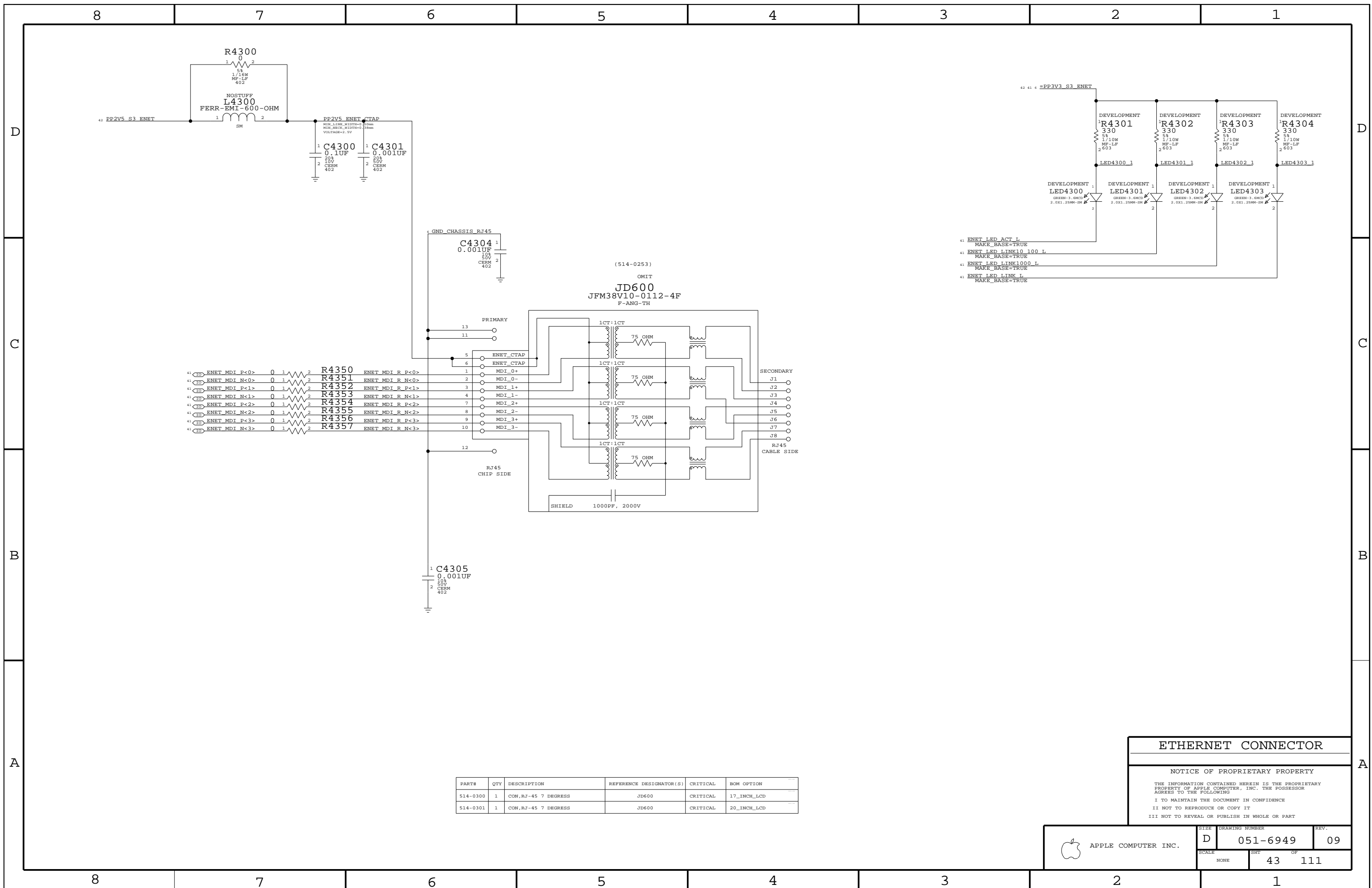
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APPLE COMPUTER INC.	SIZE <b>D</b>	DRAWING NUMBER 051-6949	REV. 09
	SCALE NONE	SHEET 42	OF 111



ENET MDI P<0>	0	1	2	R4350	ENET MDI R P<0>
ENET MDI N<0>	0	1	2	R4351	ENET MDI R N<0>
ENET MDI P<1>	0	1	2	R4352	ENET MDI R P<1>
ENET MDI N<1>	0	1	2	R4353	ENET MDI R N<1>
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ENET MDI N<2>	0	1	2	R4355	ENET MDI R N<2>
ENET MDI P<3>	0	1	2	R4356	ENET MDI R P<3>
ENET MDI N<3>	0	1	2	R4357	ENET MDI R N<3>

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

**ETHERNET CONNECTOR**

NOTICE OF PROPRIETARY PROPERTY

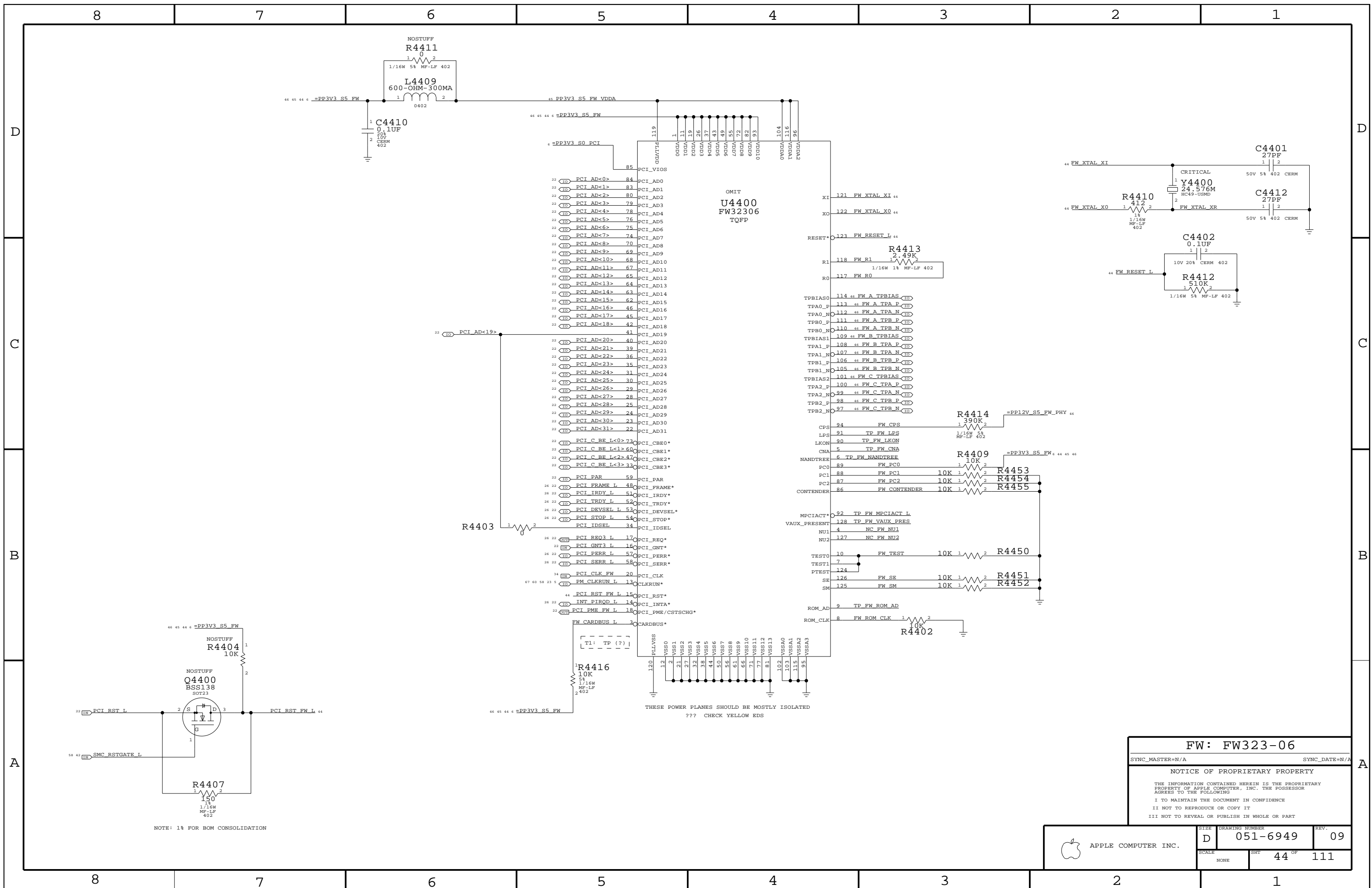
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	SHT		OF
NONE	43		111



**FW: FW323-06**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

**NOTICE OF PROPRIETARY PROPERTY**

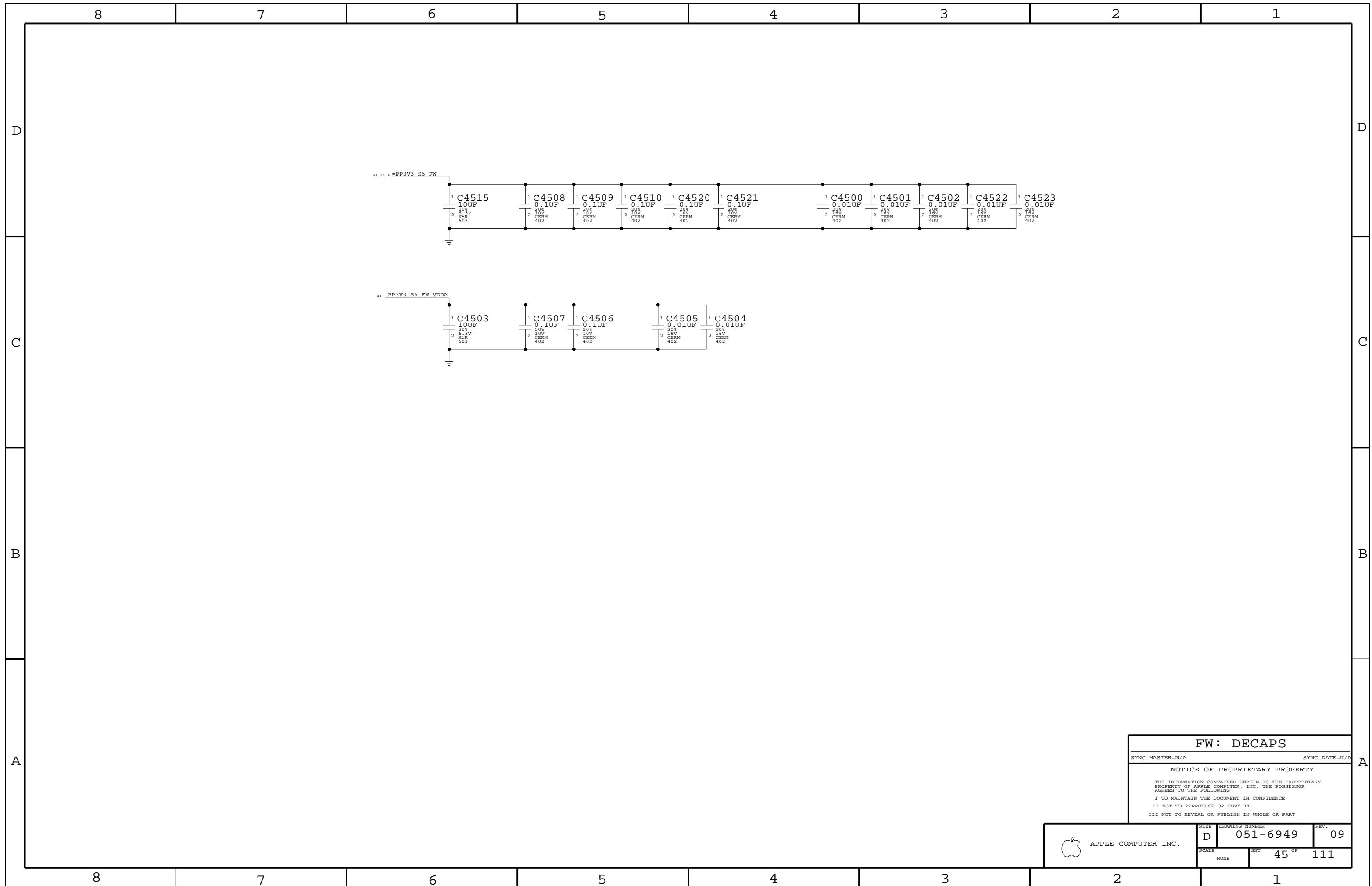
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	SCALE NONE	SHEET <b>44</b> OF <b>111</b>	



**FW: DECAPS**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

**NOTICE OF PROPRIETARY PROPERTY**

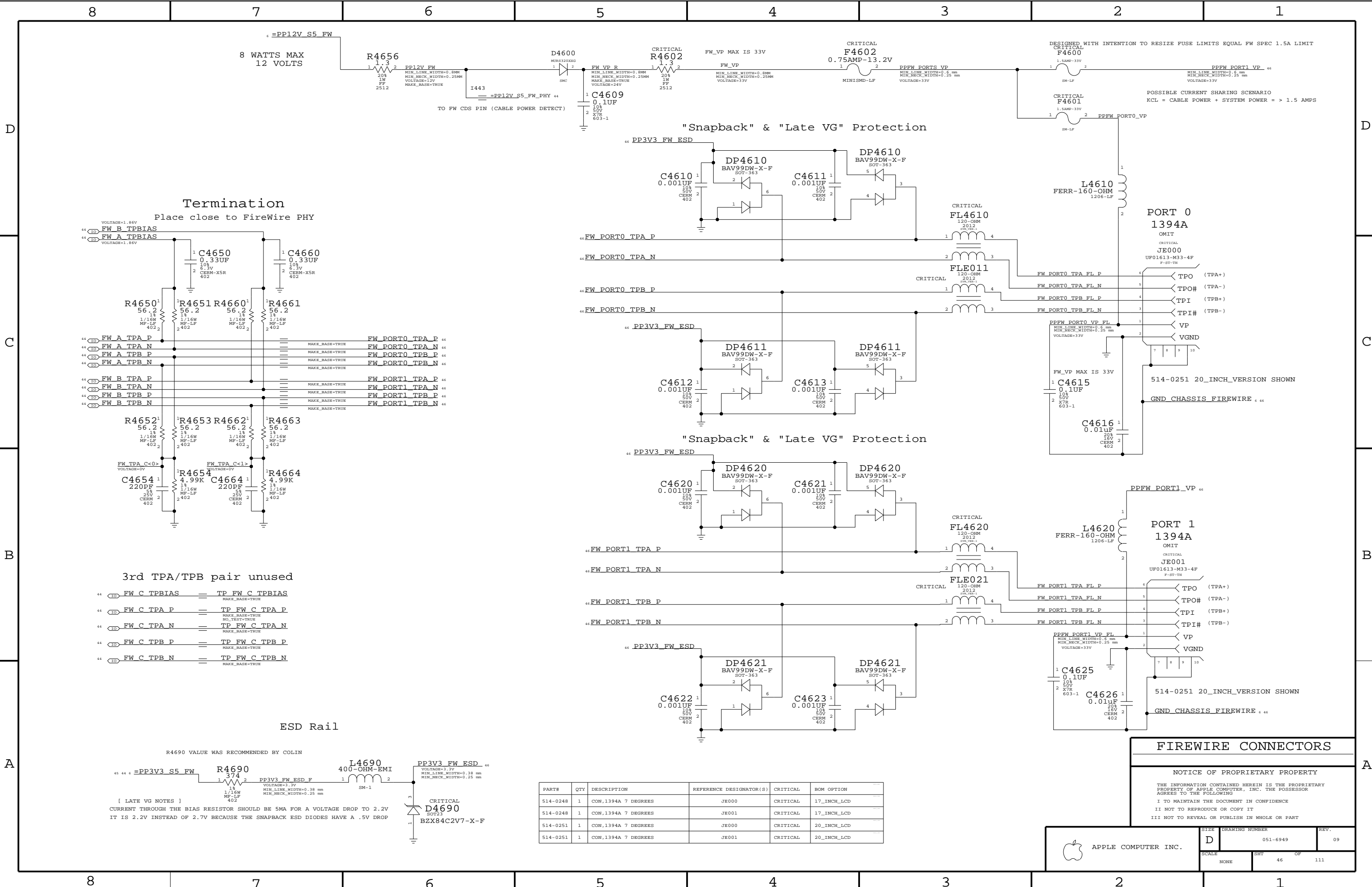
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	D	051-6949	09
SCALE		SHT	OF
NONE		45	111



**Termination**  
Place close to FireWire PHY

"Snapback" & "Late VG" Protection

"Snapback" & "Late VG" Protection

3rd TPA/TPB pair unused

ESD Rail

R4690 VALUE WAS RECOMMENDED BY COLIN

[ LATE VG NOTES ]  
CURRENT THROUGH THE BIAS RESISTOR SHOULD BE 5MA FOR A VOLTAGE DROP TO 2.2V  
IT IS 2.2V INSTEAD OF 2.7V BECAUSE THE SNAPBACK ESD DIODES HAVE A .5V DROP

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

**FIREWIRE CONNECTORS**

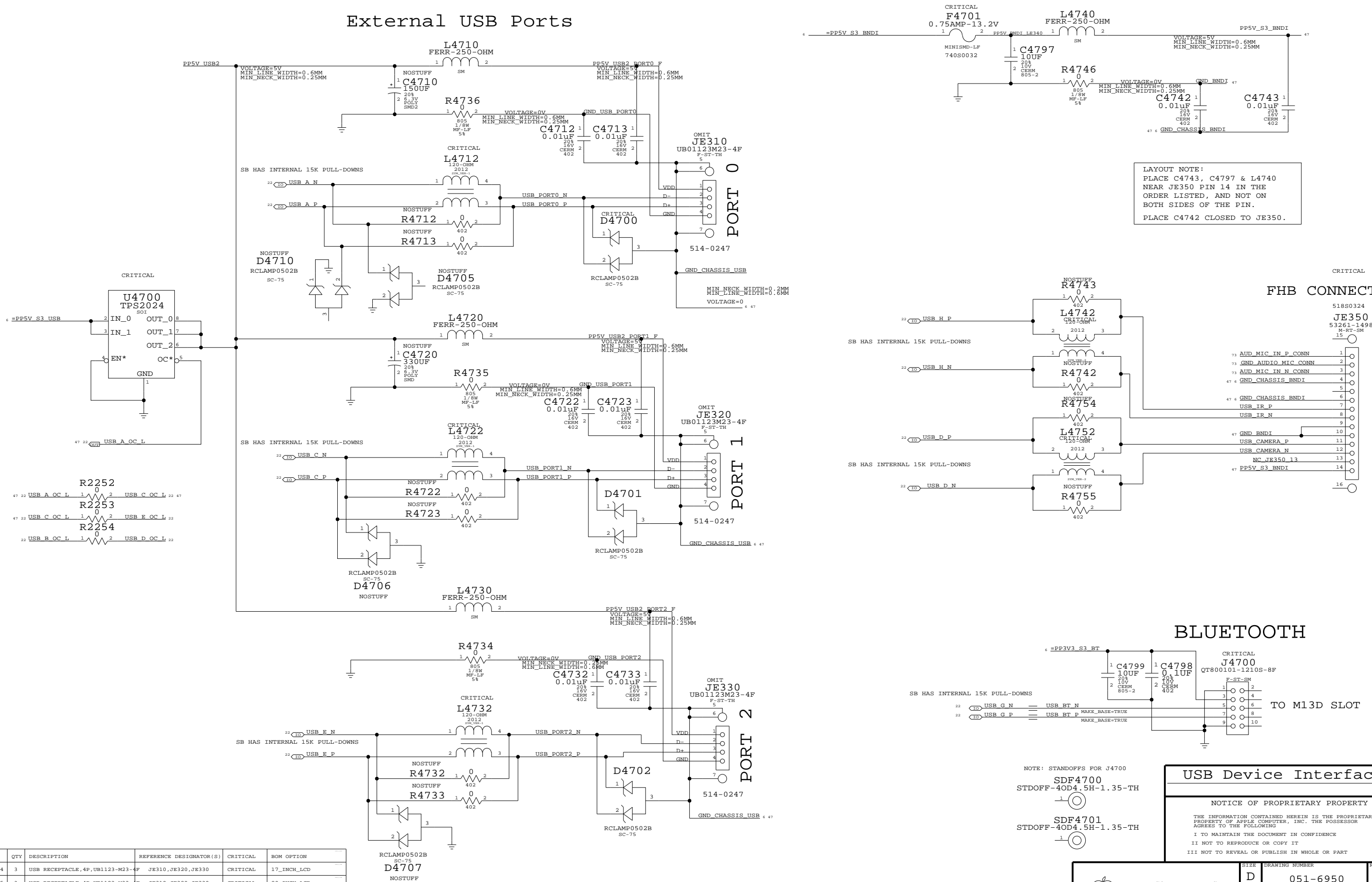
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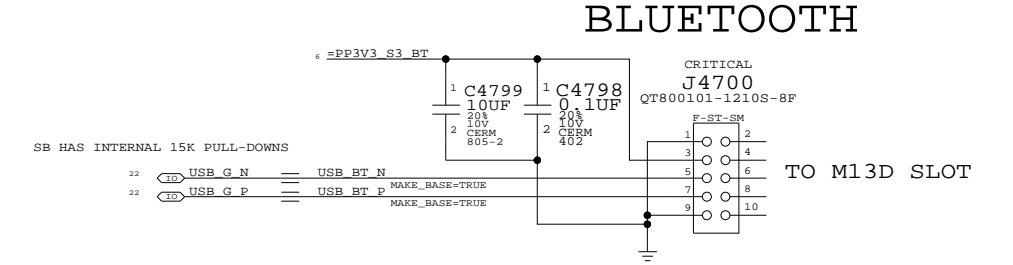
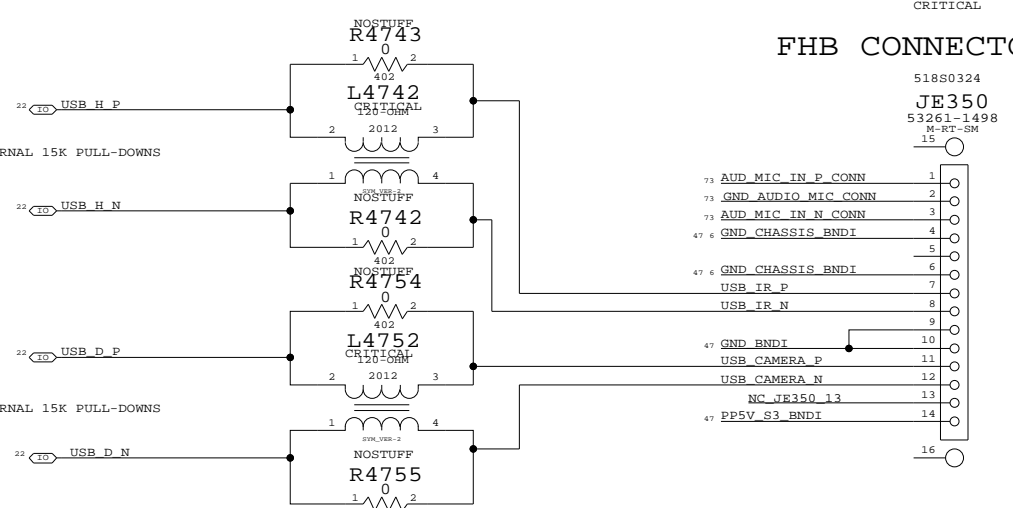
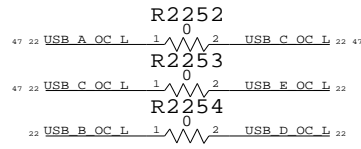
APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-6949	REV. 09
	SCALE NONE	SHEET 46	OF 111



# 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.



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

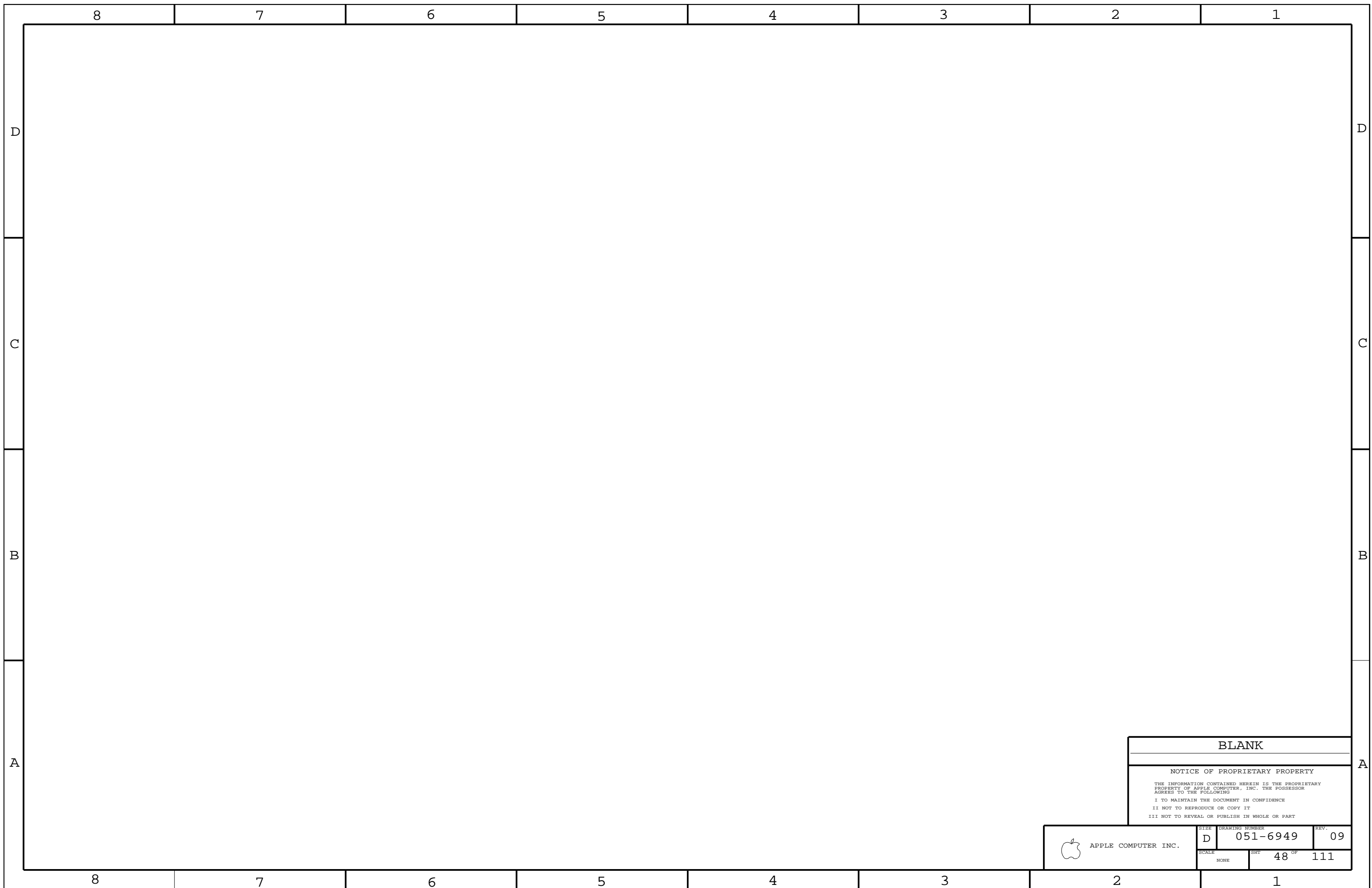
## USB Device Interfaces

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PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
514-0294	3	USB RECEPTACLE,4P,UB1123-M23-4F	JE310,JE320,JE330	CRITICAL	17_INCH_LCD
514-0295	3	USB RECEPTACLE,4P,UB1123-M33-4F	JE310,JE320,JE330	CRITICAL	20_INCH_LCD

APPLE COMPUTER INC.

SCALE	D	DRAWING NUMBER	051-6950	REV.	06
NONE		SHT	47	OF	111



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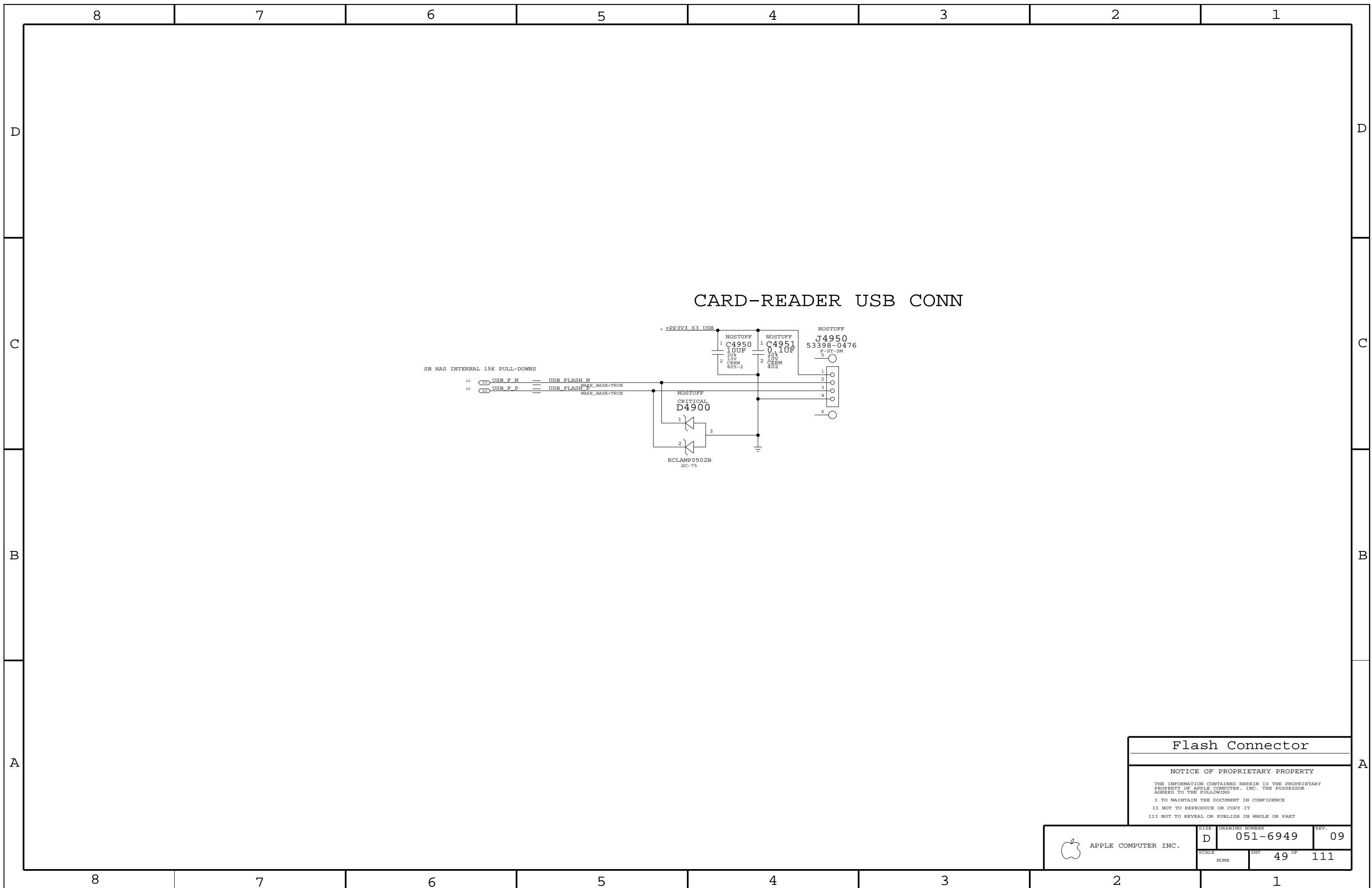
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	D	051-6949	09
SCALE	SHT	OF	
NONE	48	111	



**Flash Connector**

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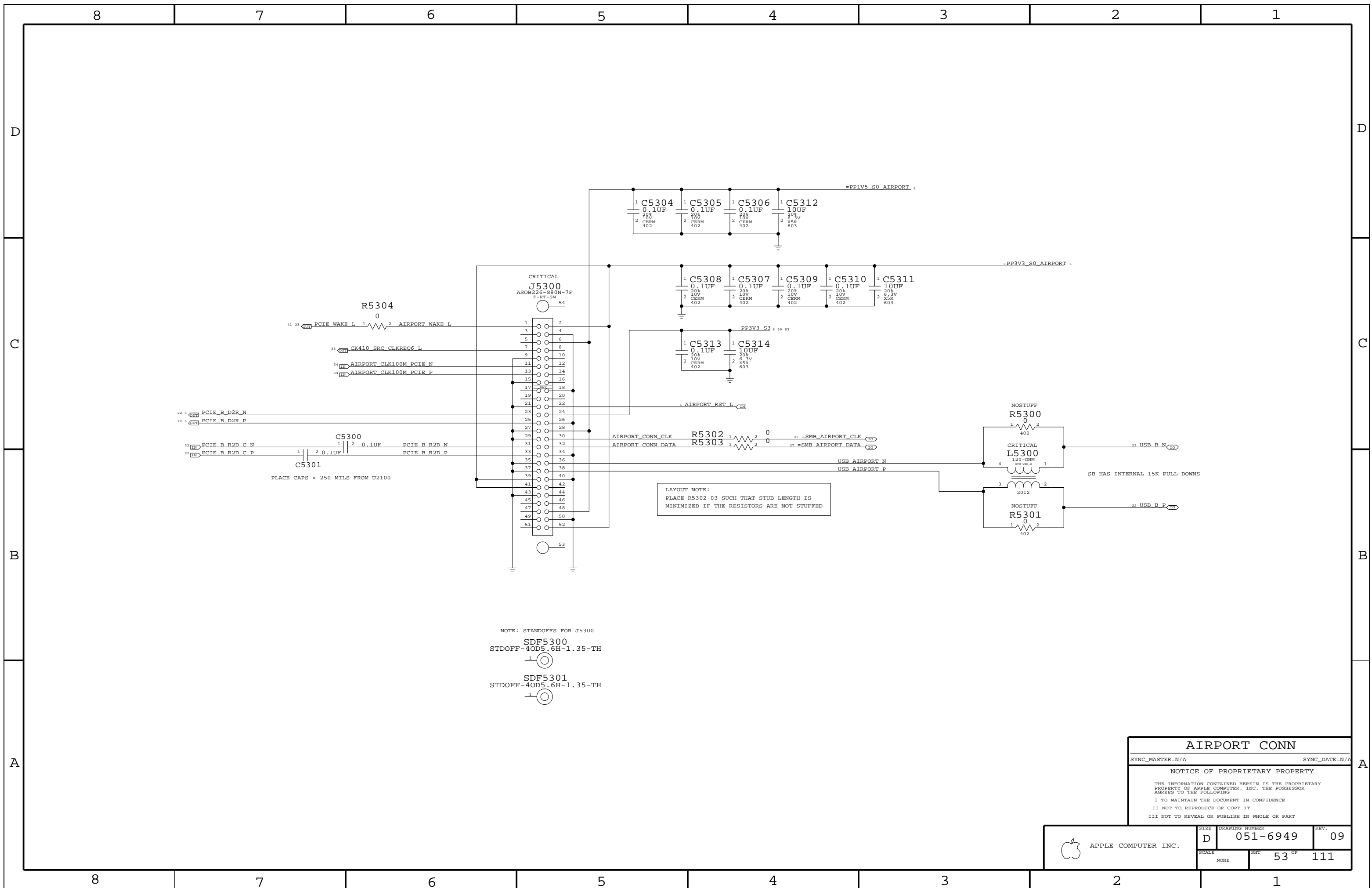
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	SCALE NONE	SHIT <b>49</b> OF	<b>111</b>



NOTE: STANDOFFS FOR J5300

SDF5300  
STDOFF-40D5.6H-1.35-TH

SDF5301  
STDOFF-40D5.6H-1.35-TH

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

**AIRPORT CONN**

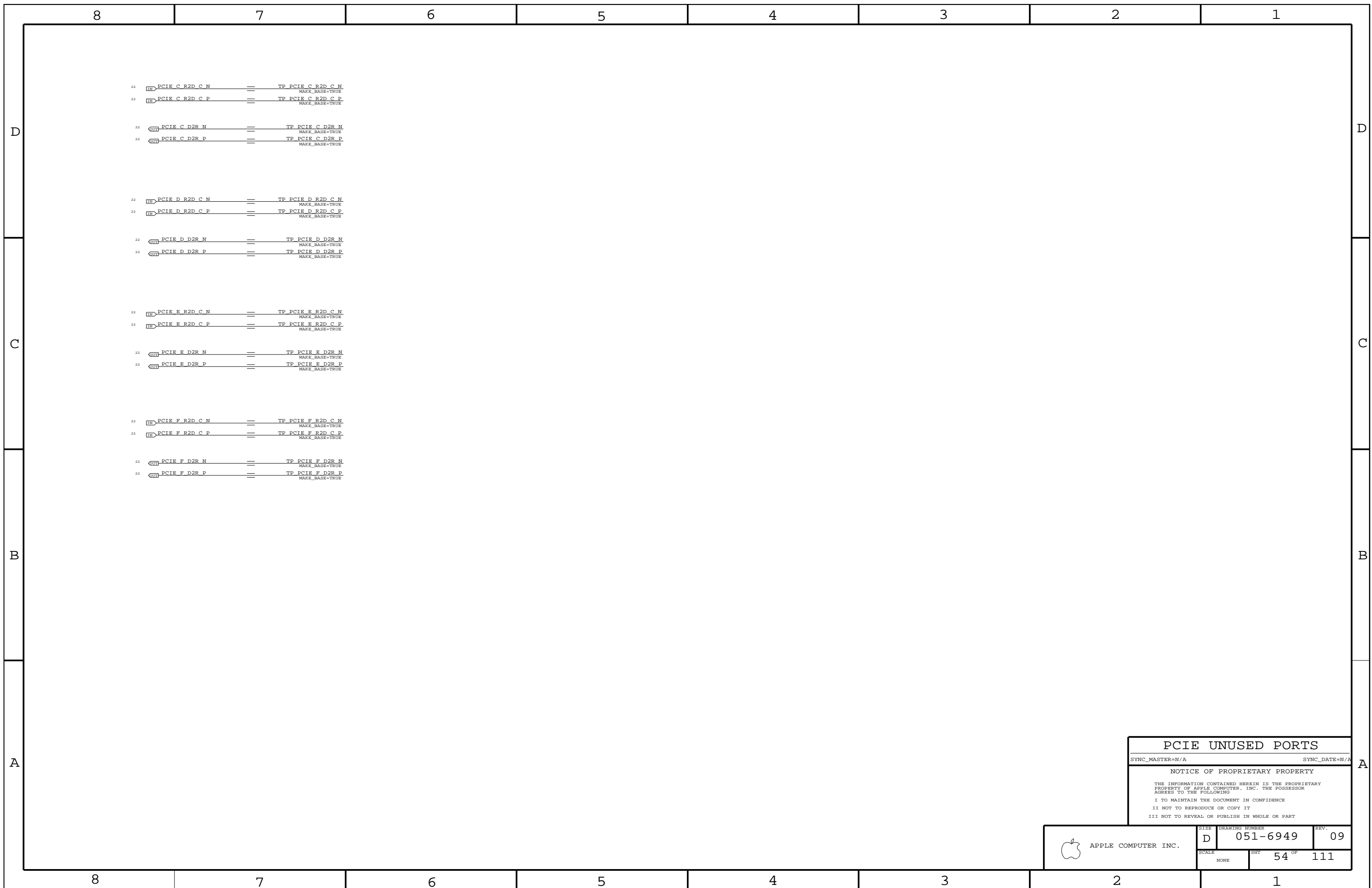
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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-6949	REV. 09
	SCALE NONE	SHEET 53 OF 111	



22	IN	PCIE C R2D C N	==	TP PCIE C R2D C N	MAKE_BASE=TRUE
22	IN	PCIE C R2D C P	==	TP PCIE C R2D C P	MAKE_BASE=TRUE
22	OUT	PCIE C D2R N	==	TP PCIE C D2R N	MAKE_BASE=TRUE
22	OUT	PCIE C D2R P	==	TP PCIE C D2R P	MAKE_BASE=TRUE
22	IN	PCIE D R2D C N	==	TP PCIE D R2D C N	MAKE_BASE=TRUE
22	IN	PCIE D R2D C P	==	TP PCIE D R2D C P	MAKE_BASE=TRUE
22	OUT	PCIE D D2R N	==	TP PCIE D D2R N	MAKE_BASE=TRUE
22	OUT	PCIE D D2R P	==	TP PCIE D D2R P	MAKE_BASE=TRUE
22	IN	PCIE E R2D C N	==	TP PCIE E R2D C N	MAKE_BASE=TRUE
22	IN	PCIE E R2D C P	==	TP PCIE E R2D C P	MAKE_BASE=TRUE
22	OUT	PCIE E D2R N	==	TP PCIE E D2R N	MAKE_BASE=TRUE
22	OUT	PCIE E D2R P	==	TP PCIE E D2R P	MAKE_BASE=TRUE
22	IN	PCIE F R2D C N	==	TP PCIE F R2D C N	MAKE_BASE=TRUE
22	IN	PCIE F R2D C P	==	TP PCIE F R2D C P	MAKE_BASE=TRUE
22	OUT	PCIE F D2R N	==	TP PCIE F D2R N	MAKE_BASE=TRUE
22	OUT	PCIE F D2R P	==	TP PCIE F D2R P	MAKE_BASE=TRUE


**PCIE UNUSED PORTS**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

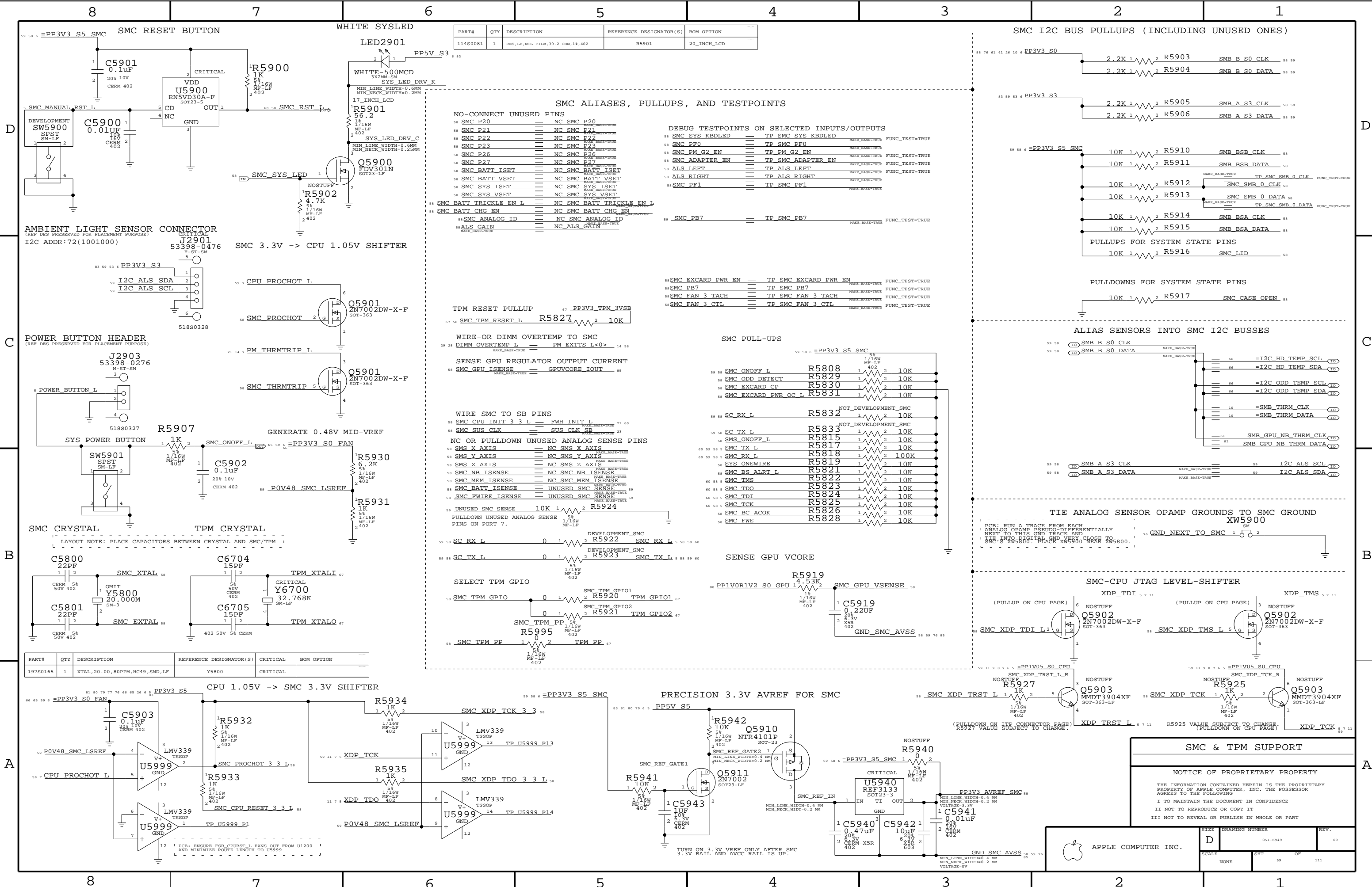
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	D	051-6949	09
SCALE	SHT	OF	
NONE	54	111	





PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
11450081	1	RES,LP,WTL FILM,39.2 OHM,14,402	R5901	20_INCH_LCD

### SMC ALIASES, PULLUPS, AND TESTPOINTS

NO-CONNECT UNUSED PINS	DEBUG TESTPOINTS ON SELECTED INPUTS/OUTPUTS
58 SMC P20 == NC SMC P20	58 SMC SYS_KBDLED == TP_SMC_SYS_KBDLED MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC P21 == NC SMC P21	58 SMC PF0 == TP_SMC_PF0 MAKE_BASE=TRUE
58 SMC P22 == NC SMC P22	58 SMC PM_G2_EN == TP_PM_G2_EN MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC P23 == NC SMC P23	58 SMC ADAPTER_EN == TP_SMC_ADAPTER_EN MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC P26 == NC SMC P26	58 ALS_LEFT == TP_ALS_LEFT MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC P27 == NC SMC P27	58 ALS_RIGHT == TP_ALS_RIGHT MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC_BATT_ISET == NC SMC_BATT_ISET	58 SMC_PF1 == TP_SMC_PF1 MAKE_BASE=TRUE
58 SMC_BATT_VSET == NC SMC_BATT_VSET	
58 SMC_SYS_ISET == NC SMC_SYS_ISET	
58 SMC_SYS_VSET == NC SMC_SYS_VSET	
58 SMC_BATT_TRICKLE_EN_L == NC SMC_BATT_TRICKLE_EN_L	59 SMC_PB7 == TP_SMC_PB7 MAKE_BASE=TRUE FUNC_TEST=TRUE
58 SMC_BATT_CHG_EN == NC SMC_BATT_CHG_EN	
58 SMC_ANALOG_ID == NC SMC_ANALOG_ID	
58 ALS_GAIN == NC ALS_GAIN	

### SMC PULL-UPS

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

### WIRE SMC TO SB PINS

58 SMC_CPU_INIT_3_3_L	FWH_INIT_L	21
58 SMC_SUS_CLK	SUS_CLK_SB	23
58 SMS_X_AXIS	NC_SMS_X_AXIS	
58 SMS_Y_AXIS	NC_SMS_Y_AXIS	
58 SMS_Z_AXIS	NC_SMS_Z_AXIS	
58 SMC_NB_ISENSE	NC_SMC_NB_ISENSE	
58 SMC_MEM_ISENSE	NC_SMC_MEM_ISENSE	
58 SMC_BATT_ISENSE	UNUSED_SMC_ISENSE	59
58 SMC_FWIRE_ISENSE	UNUSED_SMC_ISENSE	59

### WIRE SMC TO SB PINS

58 SMC_CPU_INIT_3_3_L	FWH_INIT_L	21
58 SMC_SUS_CLK	SUS_CLK_SB	23
58 SMC_TPM_GPIO	SMC_TPM_GPIO1	67
58 SMC_TPM_PP	SMC_TPM_PP	67

### SELECT TPM GPIO

58 SMC_TPM_GPIO	SMC_TPM_GPIO1	67
58 SMC_TPM_PP	SMC_TPM_PP	67

### PRECISION 3.3V AVREF FOR SMC

58 SMC_REF_GATE1	R5941	10K
58 SMC_REF_IN	Q5911	2N7002
58 SMC_REF_GATE2	R5942	10K
58 SMC_REF_OUT	Q5910	NTR4101P

### SMC & TPM SUPPORT

58 SMC_XDP_TCK_3_3	R5934	1K
58 SMC_XDP_TDO_3_3_L	R5935	1K
58 SMC_XDP_TCK_R	R5925	1K
58 SMC_XDP_TCK_L	R5927	1K

### SMC & TPM SUPPORT

58 SMC_XDP_TCK_3_3	R5934	1K
58 SMC_XDP_TDO_3_3_L	R5935	1K
58 SMC_XDP_TCK_R	R5925	1K
58 SMC_XDP_TCK_L	R5927	1K

### SMC & TPM SUPPORT

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58 SMC_XDP_TDO_3_3_L	R5935	1K
58 SMC_XDP_TCK_R	R5925	1K
58 SMC_XDP_TCK_L	R5927	1K

### SMC & TPM SUPPORT

58 SMC_XDP_TCK_3_3	R5934	1K
58 SMC_XDP_TDO_3_3_L	R5935	1K
58 SMC_XDP_TCK_R	R5925	1K
58 SMC_XDP_TCK_L	R5927	1K

### SMC & TPM SUPPORT

58 SMC_XDP_TCK_3_3	R5934	1K
58 SMC_XDP_TDO_3_3_L	R5935	1K
58 SMC_XDP_TCK_R	R5925	1K
58 SMC_XDP_TCK_L	R5927	1K

### SMC I2C BUS PULLUPS (INCLUDING UNUSED ONES)

88 76 61 26 10 6	PP3V3_S0	2.2K	R5903	SMB_B_S0_CLK	58 59
		2.2K	R5904	SMB_B_S0_DATA	58 59
83 59 53 6	PP3V3_S3	2.2K	R5905	SMB_A_S3_CLK	58 59
		2.2K	R5906	SMB_A_S3_DATA	58 59

### PULLUPS FOR SYSTEM STATE PINS

59 58 6	PP3V3_S5_SMC	10K	R5910	SMB_BSB_CLK	58
		10K	R5911	SMB_BSB_DATA	58
		10K	R5912	TP_SMC_SMB_0_CLK	58
		10K	R5913	SMC_SMB_0_CLK	58
		10K	R5914	SMB_BSA_CLK	58
		10K	R5915	SMB_BSA_DATA	58
		10K	R5916	SMC_LID	58

### PULLDOWNS FOR SYSTEM STATE PINS

		10K	R5917	SMC_CASE_OPEN	58
--	--	-----	-------	---------------	----

### ALIAS SENSORS INTO SMC I2C BUSES

59 58	SMB_B_S0_CLK	MAKE_BASE=TRUE		58	=I2C_HD_TEMP_SCL
59 58	SMB_B_S0_DATA	MAKE_BASE=TRUE		58	=I2C_HD_TEMP_SDA
				58	=I2C_ODD_TEMP_SCL
				58	=I2C_ODD_TEMP_SDA
				10	=SMB_THRM_CLK
				10	=SMB_THRM_DATA
59 58	SMB_A_S3_CLK	MAKE_BASE=TRUE		59	I2C_ALS_SCL
59 58	SMB_A_S3_DATA	MAKE_BASE=TRUE		59	I2C_ALS_SDA

### TIE ANALOG SENSOR OPAMP GROUNDS TO SMC GROUND

76	GND_NEXT_TO_SMC	1	0	2
----	-----------------	---	---	---

### SMC-CPU JTAG LEVEL-SHIFTER

6	NOSTUFF	Q5902	2N7002DW-X-F	SOT-363
3	NOSTUFF	Q5902	2N7002DW-X-F	SOT-363

### SMC & TPM SUPPORT

59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

### SMC & TPM SUPPORT

59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

### SMC & TPM SUPPORT

59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

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59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

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59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

### SMC & TPM SUPPORT

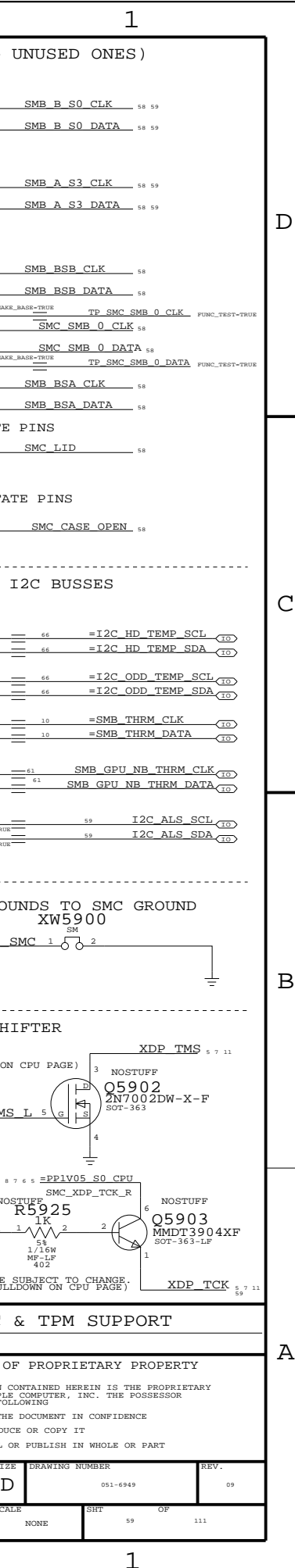
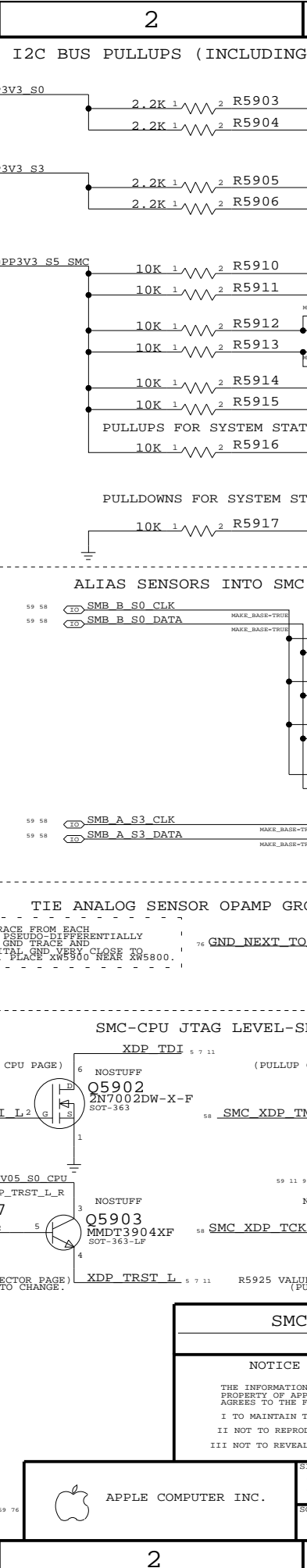
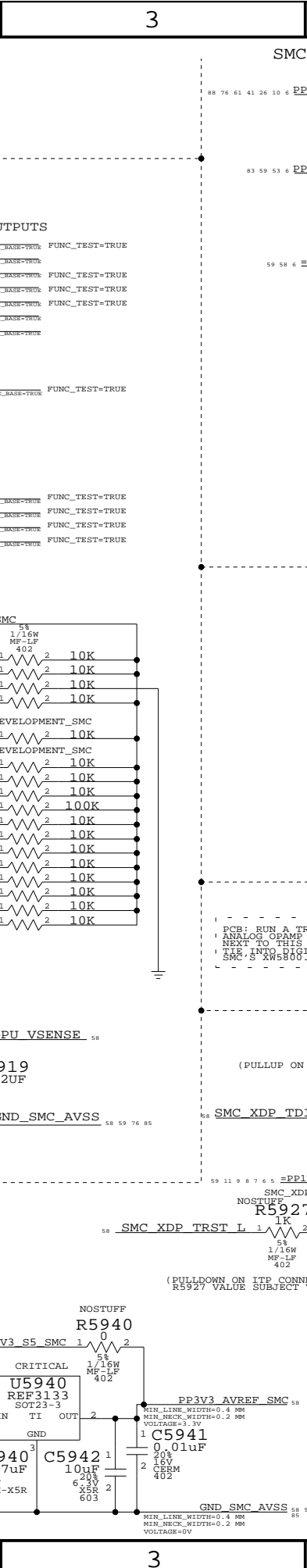
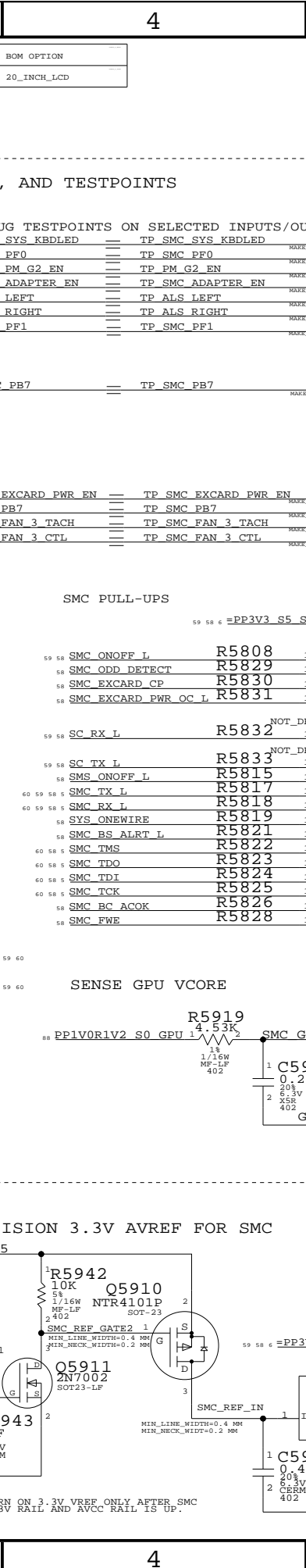
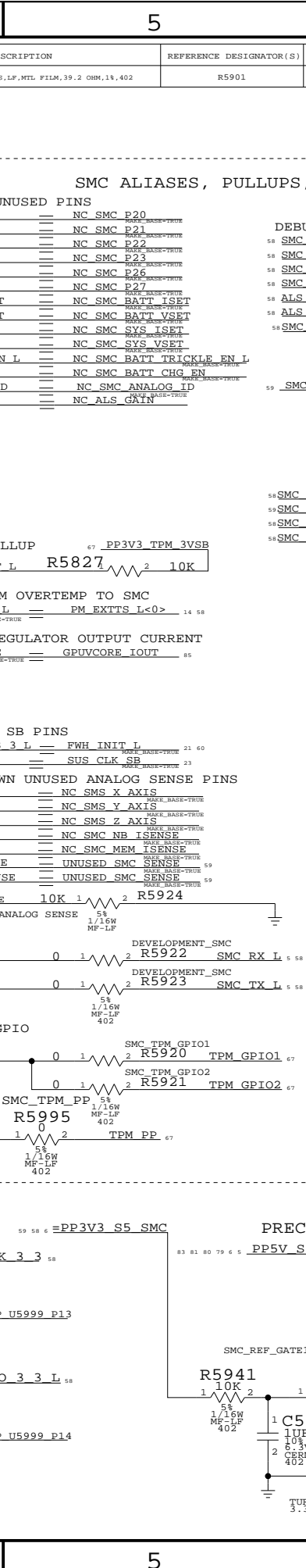
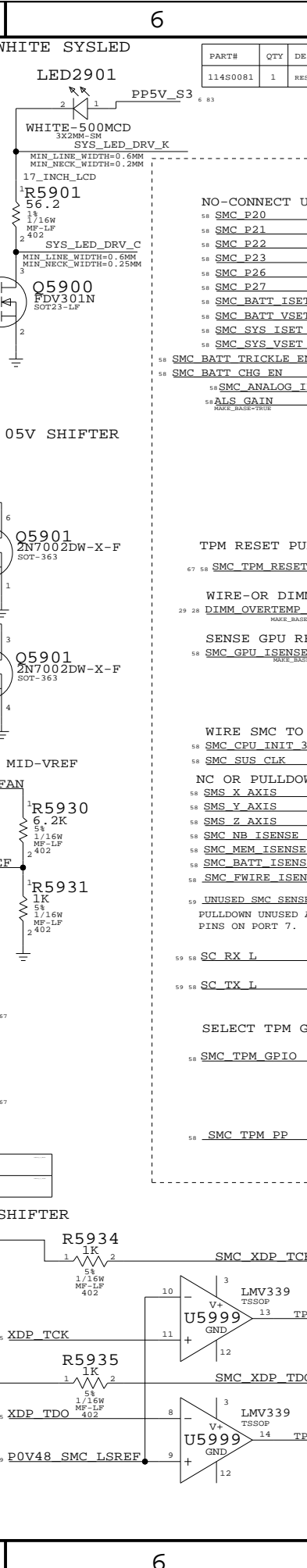
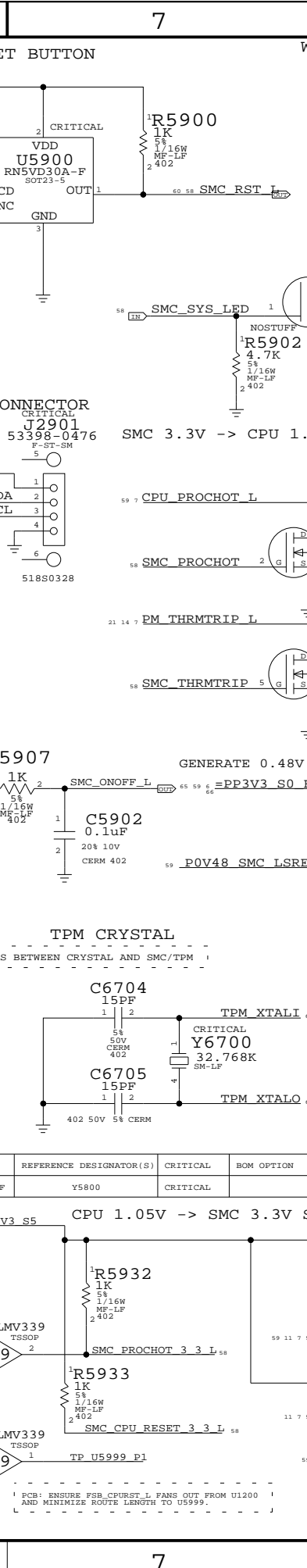
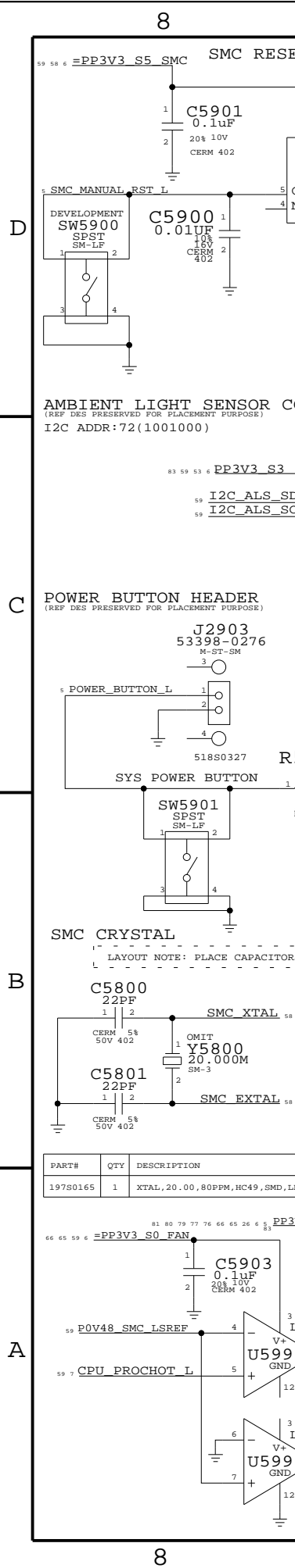
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

### SMC & TPM SUPPORT

59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K

### SMC & TPM SUPPORT

59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5927	1K
59 11 9 8 7 6 5	PP3V3_S0_CPU	NOSTUFF	R5925	1K



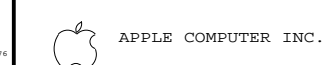
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
19750165	1	XTAL,20.00,80PPM,HC49,SMD,LF	Y5800	CRITICAL	

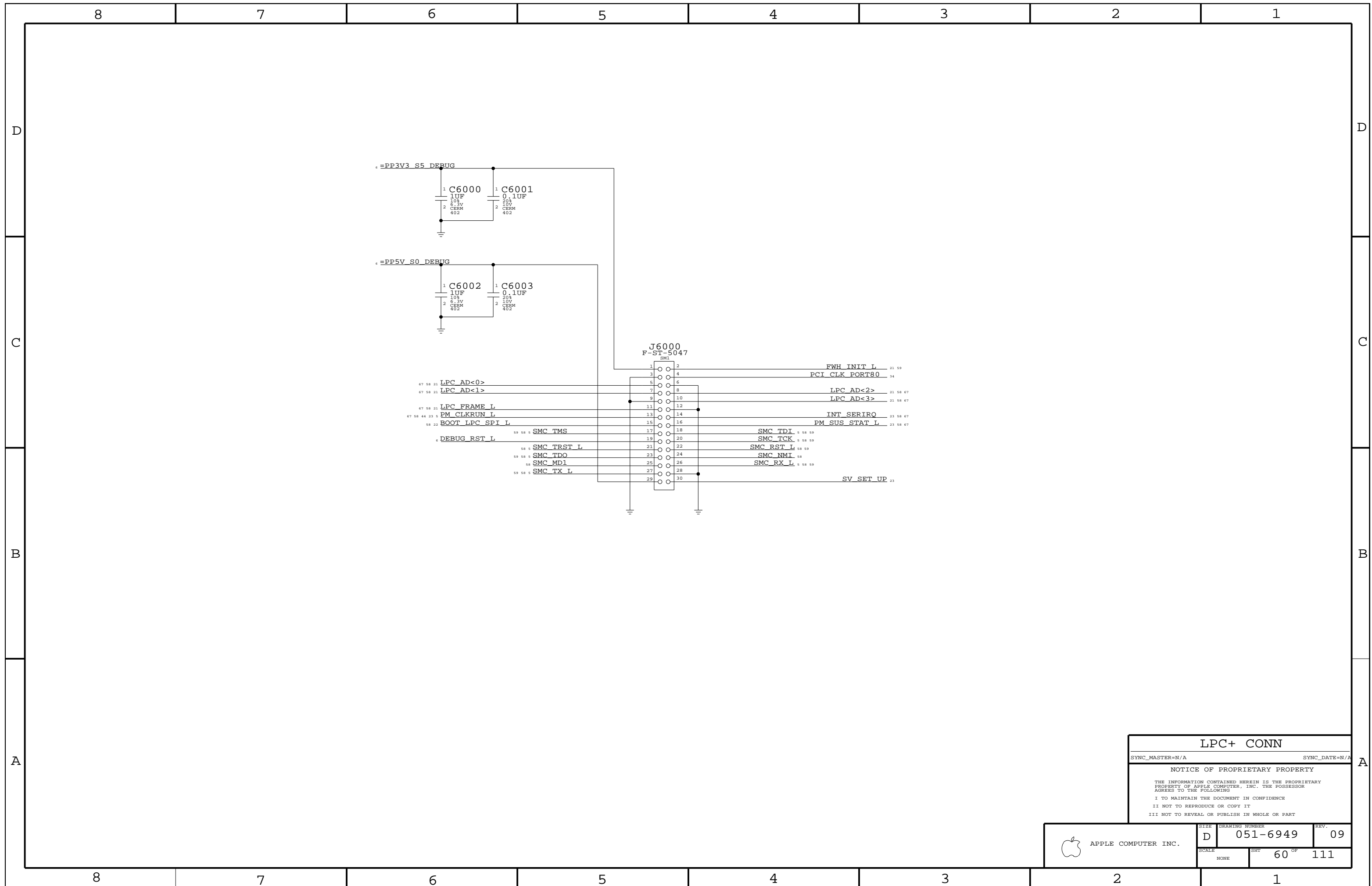
**SMC & TPM SUPPORT**

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SIZE	DRAWING NUMBER	REV.
D	051-6949	09

SCALE	SHT	OF
NONE	59	111





**LPC+ CONN**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

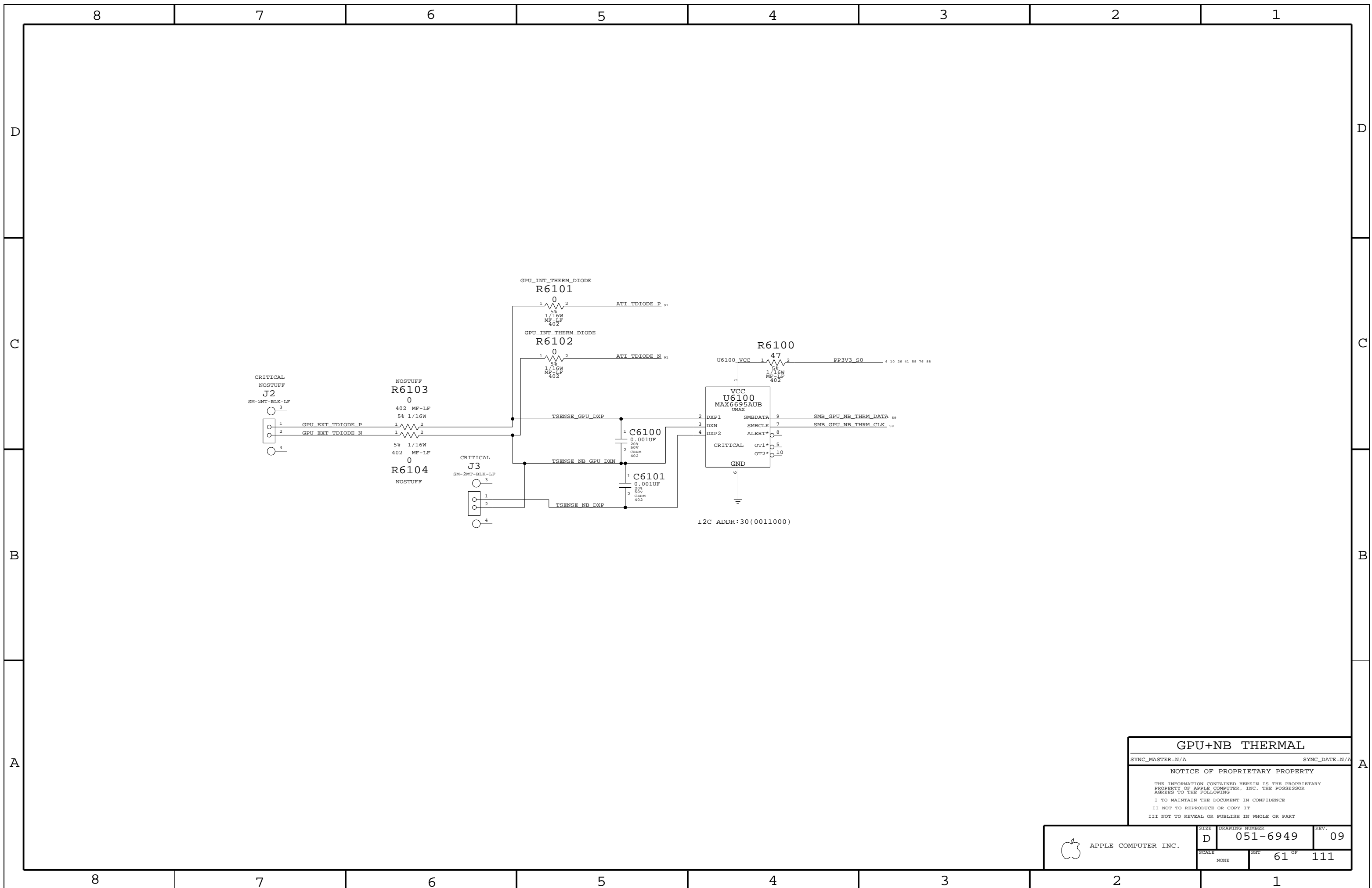
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	D	051-6949	09
SCALE	SHT	OF	REV.
NONE	60	111	





**GPU+NB THERMAL**

SYNC\_MASTER=N/A SYNC\_DATE=N/A

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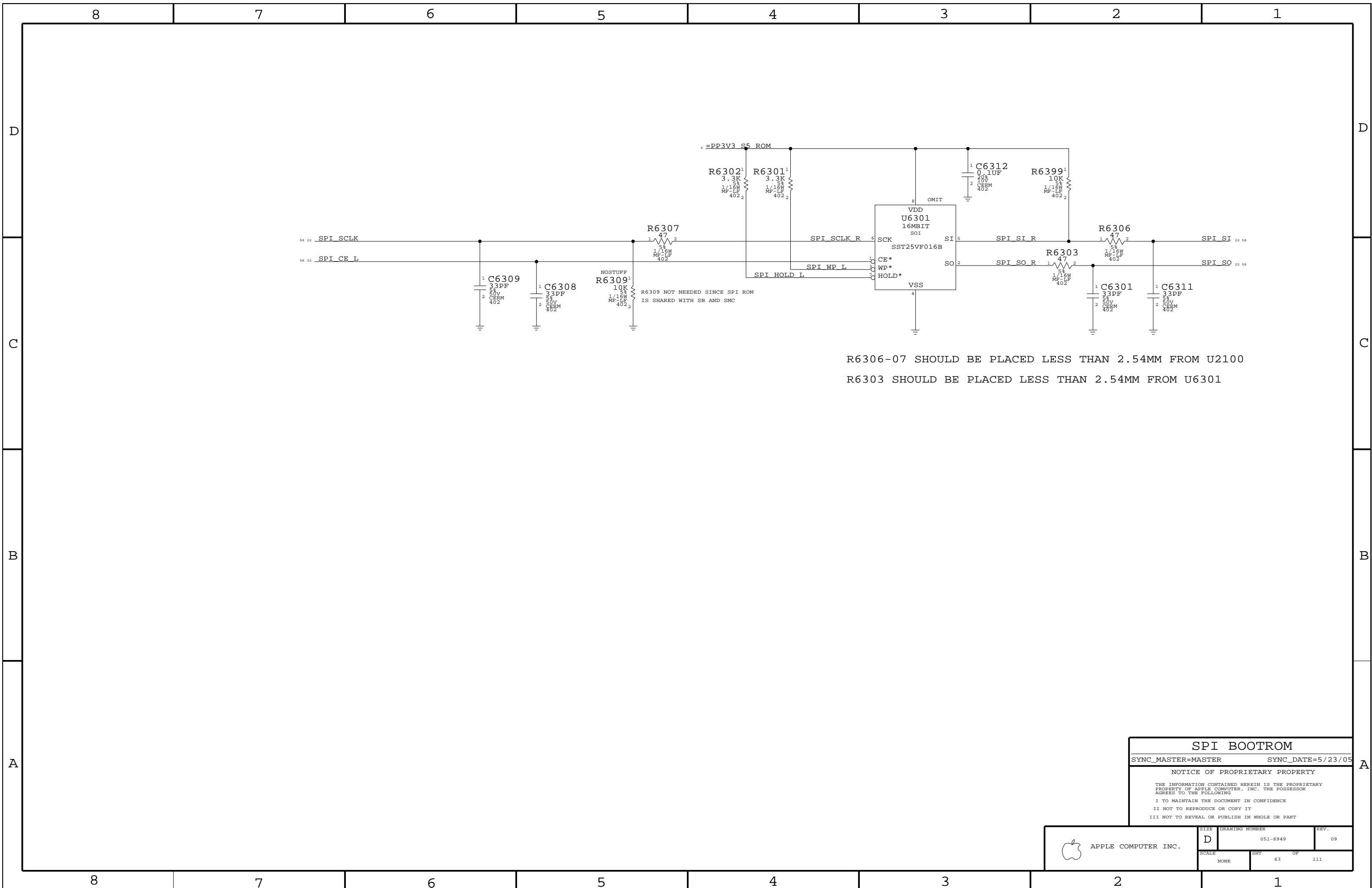
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	SHT	OF	
NONE	61	111	



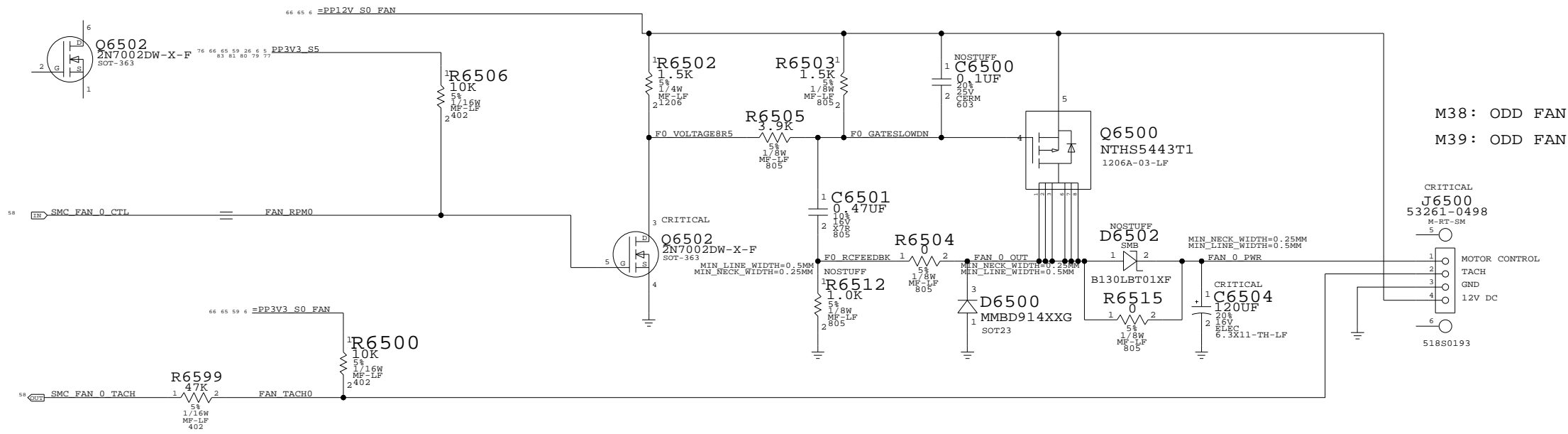
**SPI BOOTROM**

SYNC\_MASTER=MASTER      SYNC\_DATE=5/23/05

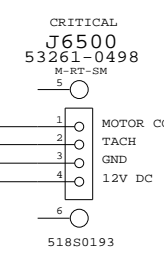
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APPLE COMPUTER INC.	SIZE <b>D</b>	DRAWING NUMBER 051-6949	REV. 09
	SCALE NONE	SHEET 63	OF 111

# FAN 0

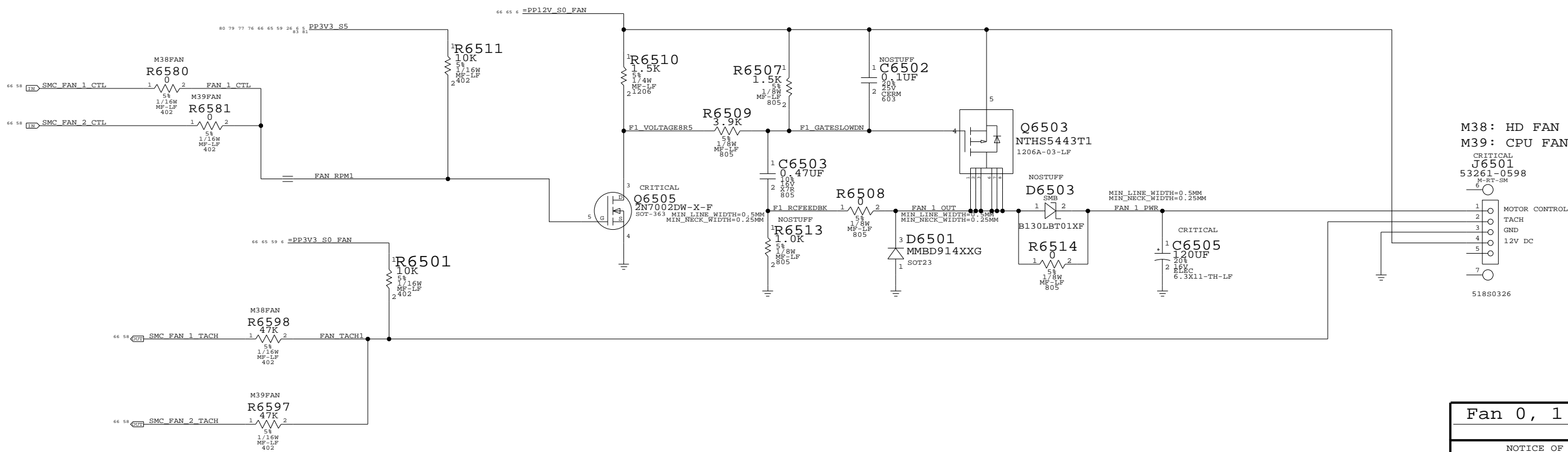


M38: ODD FAN  
M39: ODD FAN

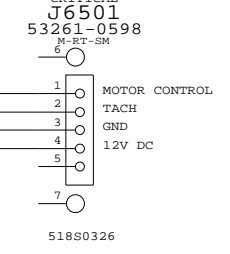


NOTE: ADDED TO PROTECT SMC

# FAN 1



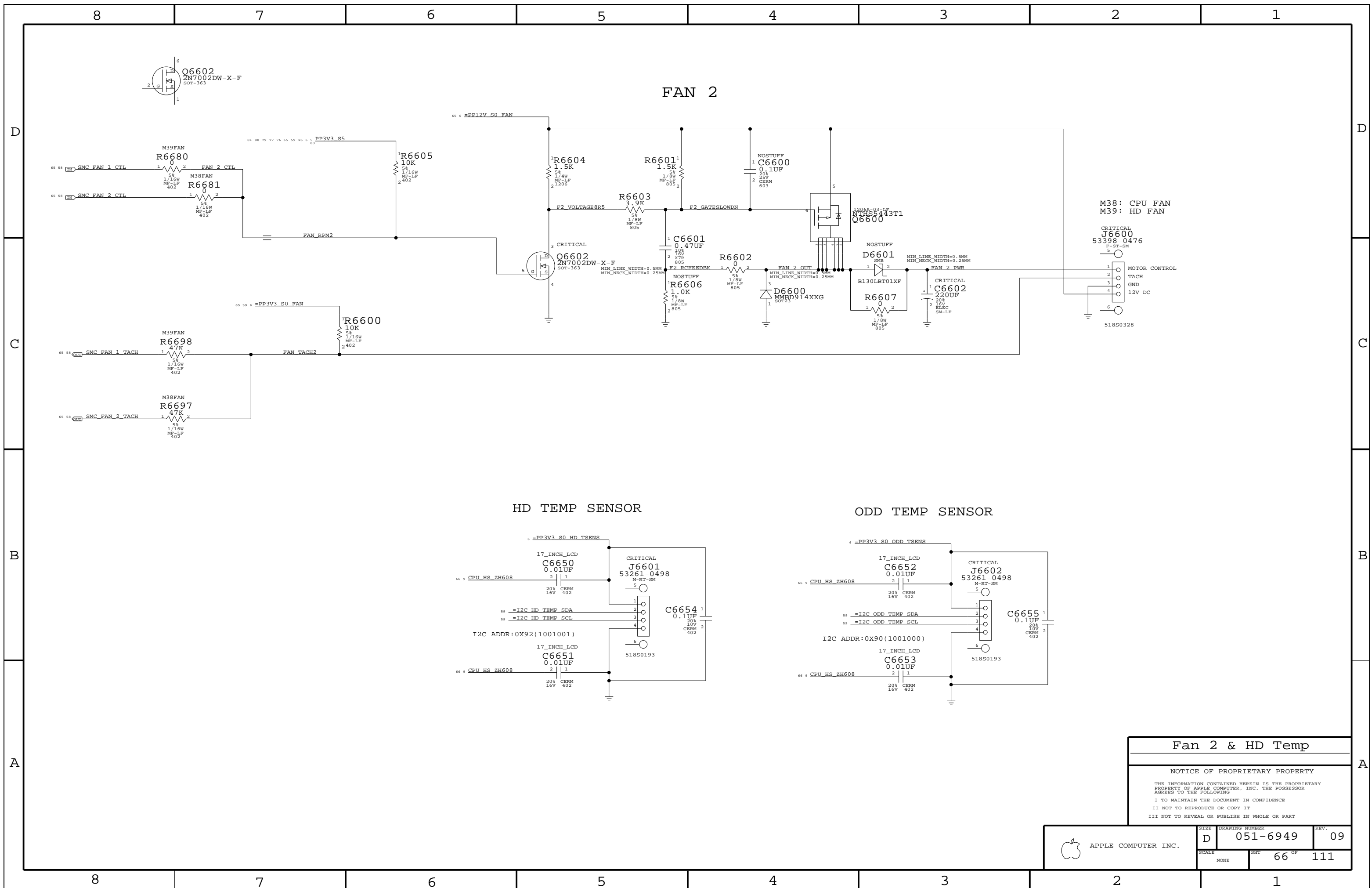
M38: HD FAN  
M39: CPU FAN



## Fan 0, 1 & System Temp

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	NONE	051-6949 09	
SCALE		SHT	OF
NONE		65	111



**Fan 2 & HD Temp**

---

**NOTICE OF PROPRIETARY PROPERTY**

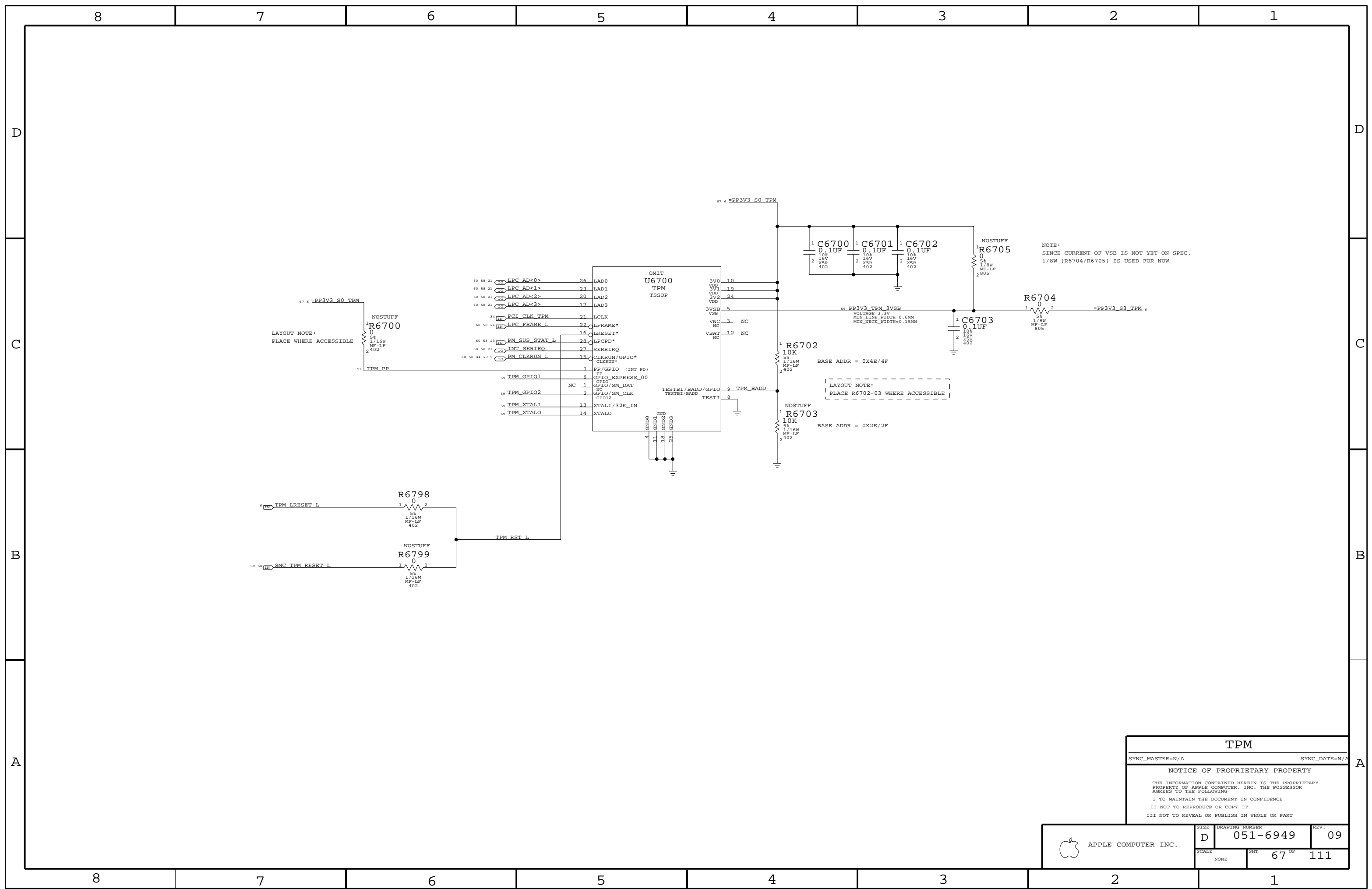
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APPLE COMPUTER INC.	SIZE <b>D</b>	DRAWING NUMBER <b>051-6949</b>	REV. <b>09</b>
	SCALE NONE	SHEET <b>66</b> OF <b>111</b>	



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**

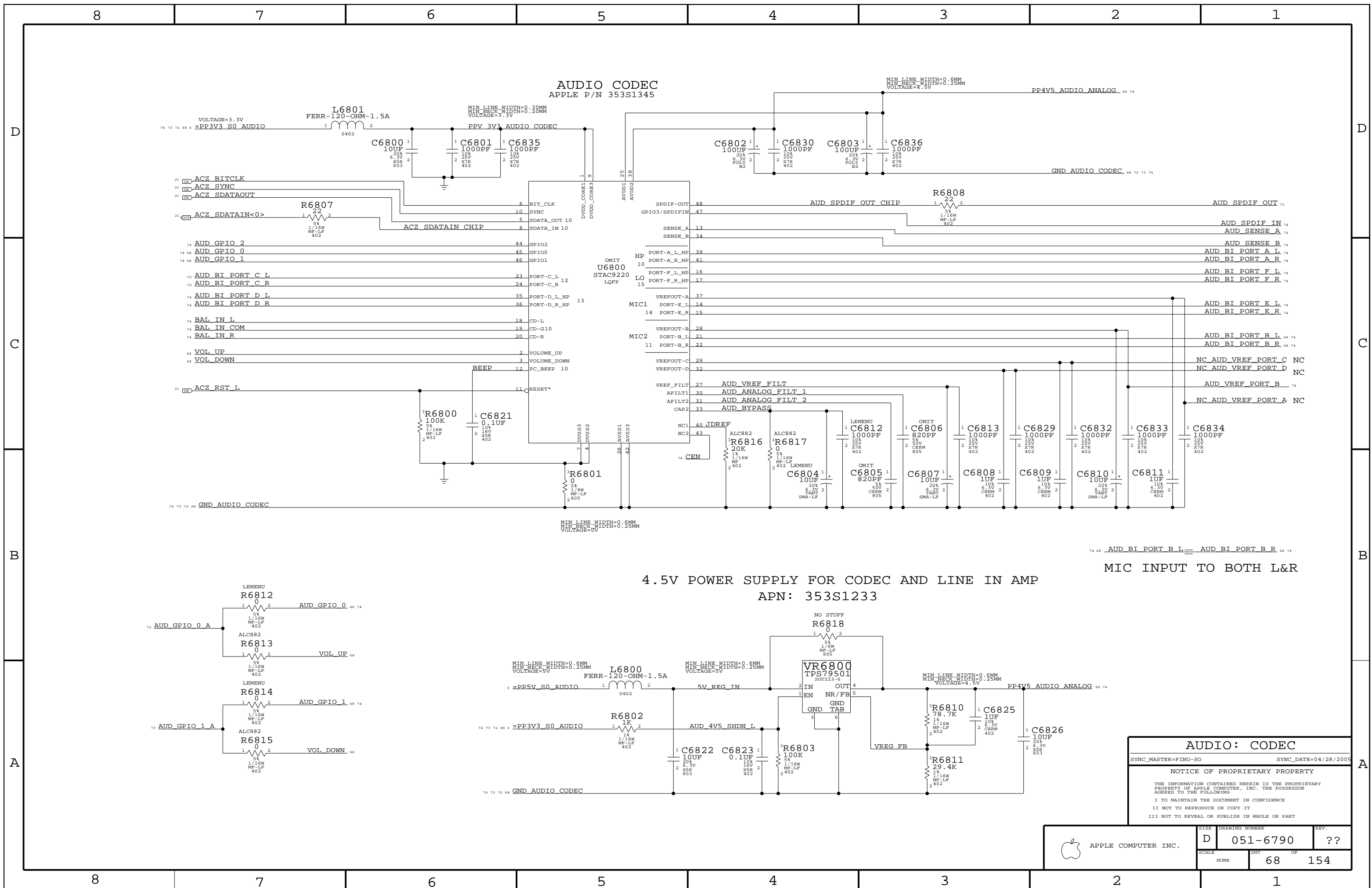
SYNC\_MASTER=N/A SYNC\_DATE=N/A

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APPLE COMPUTER INC.	SIZE <b>D</b>	DRAWING NUMBER <b>051-6949</b>	REV. <b>09</b>
	SCALE NONE	SHT 67 OF	111



**AUDIO: CODEC**

SYNC\_MASTER=FINO-SO      SYNC\_DATE=04/28/2005

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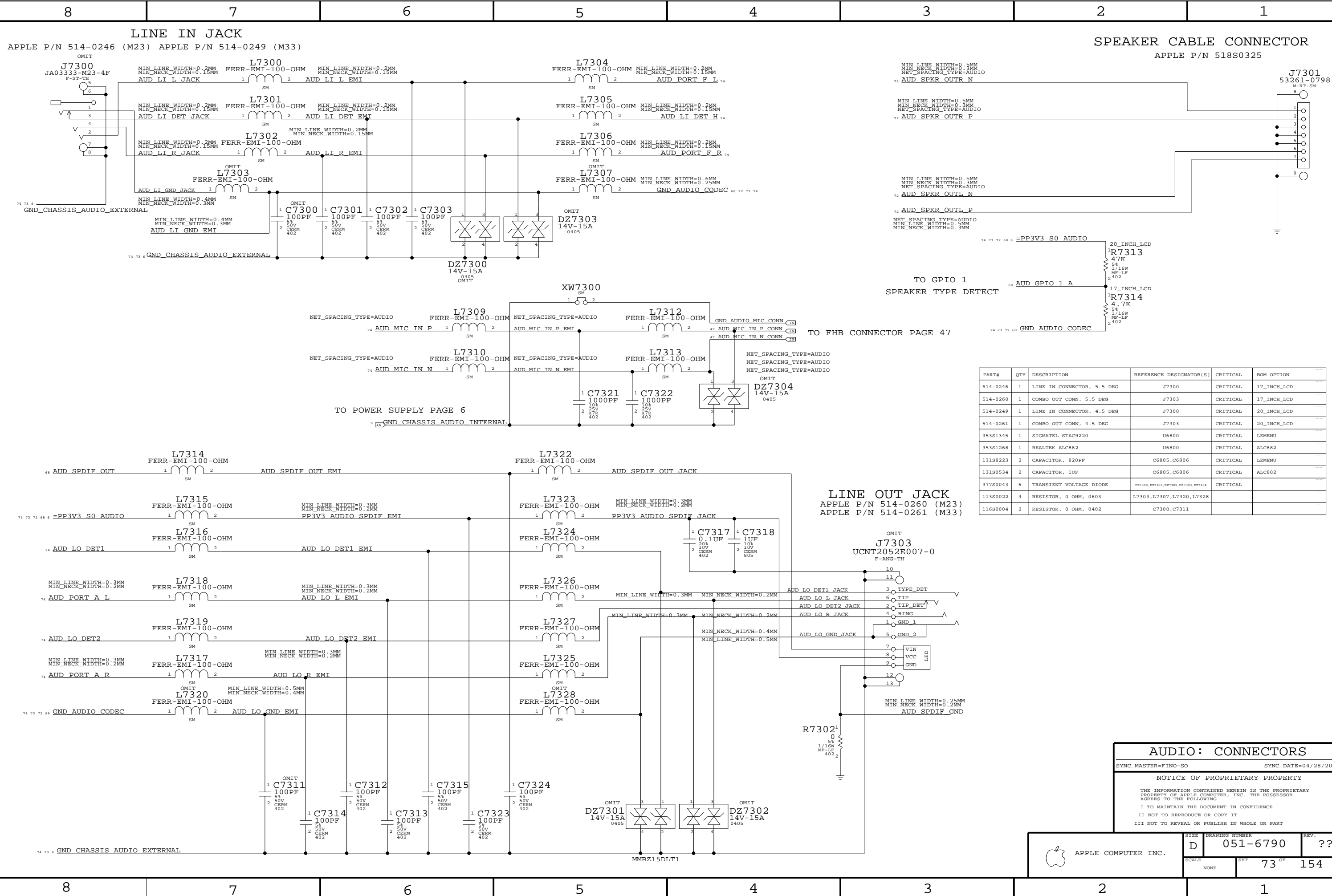
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APPLE COMPUTER INC.	SIZE: <b>D</b>	DRAWING NUMBER: <b>051-6790</b>	REV.: <b>??</b>
	SCALE: NONE	SHEET: <b>68</b>	OF: <b>154</b>





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

**AUDIO: CONNECTORS**

SYNC\_MASTER=FINO-SO SYNC\_DATE=04/28/2005

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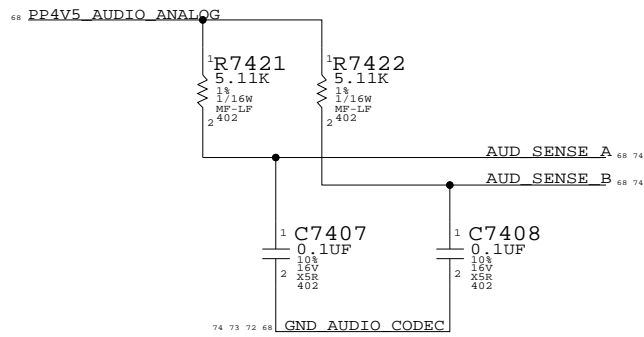
II NOT TO REPRODUCE OR COPY IT

III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6790	??
SCALE	SHT	73 OF	154
NONE			



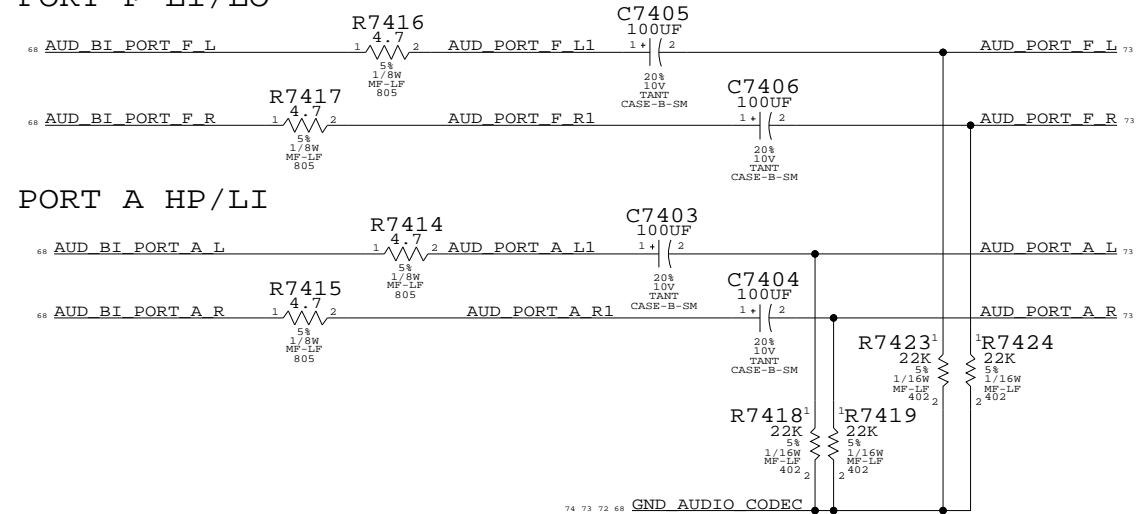
JACK SENSE PULL UPS (PLACE NEXT TO CODEC)



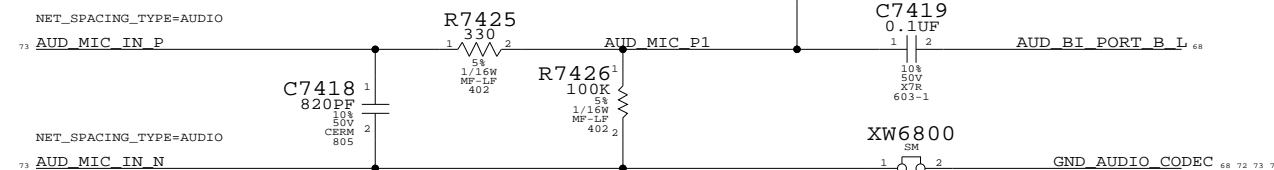
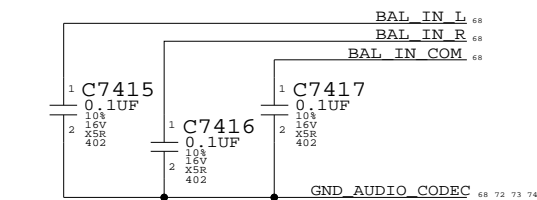
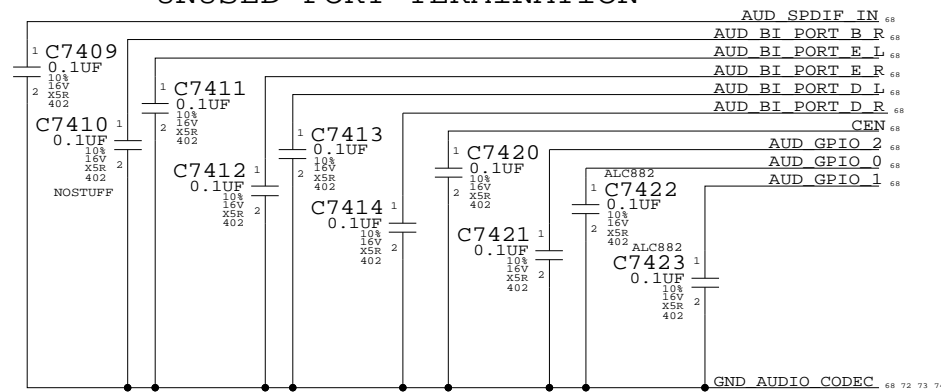
USED PORTS  
 PORT A HP/LI  
 PORT B MIC IN  
 PORT C BI SPEAKERS  
 PORT F LI/LO

UNUSED PORTS  
 PORT E  
 PORT D

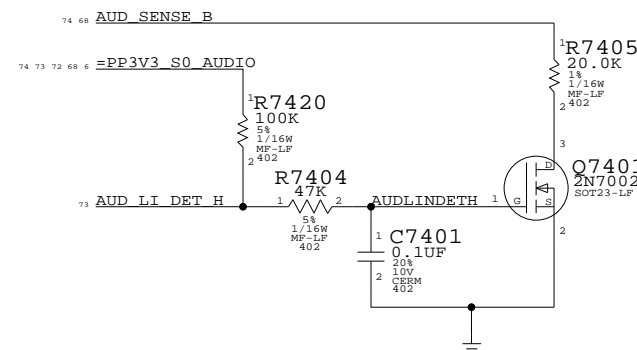
PORT F LI/LO



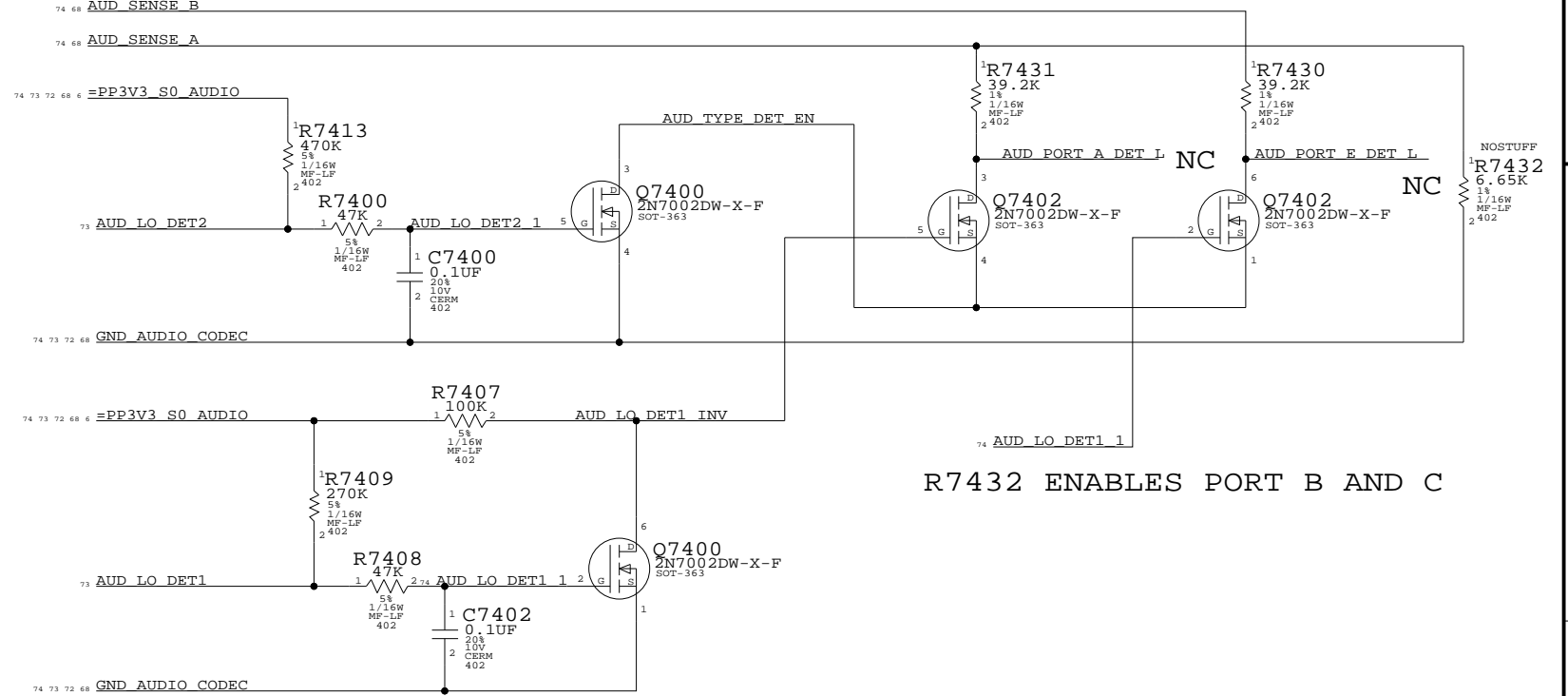
UNUSED PORT TERMINATION



PORT F (LI/LO) PLUG DETECT

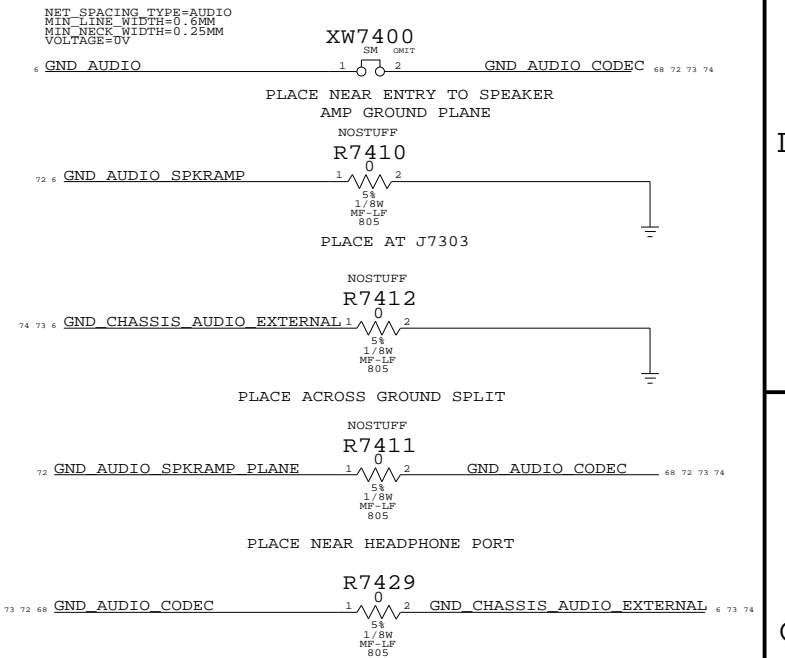


PORT A/H (HP/LI/DIG\_OUT) PLUG DETECT (E TELLS H TO COME ON)



R7432 ENABLES PORT B AND C

AUDIO GROUND RETURNS



MICROPHONE IMPEDANCE MATCHING CIRCUIT

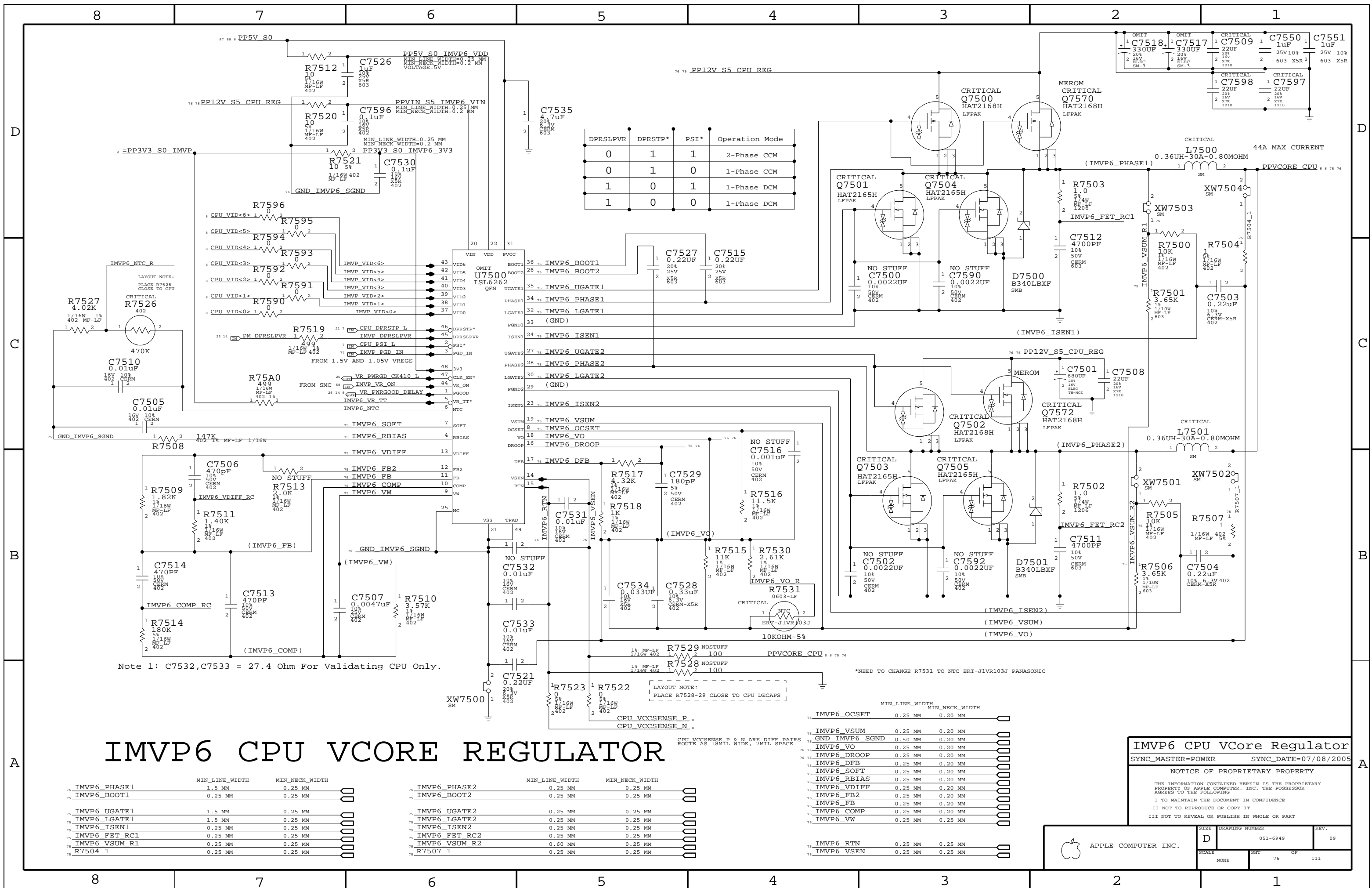
AUDIO: POWER SUPPLIES

SYNC\_MASTER=FINO-SO SYNC\_DATE=04/28/2005

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



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

Pin	Signal	Value
36	IMVP6_BOOT1	0.22uF
26	IMVP6_BOOT2	0.22uF
35	IMVP6_UGATE1	10% 50V CERAM 402
34	IMVP6_PHASE1	NO STUFF
32	IMVP6_LGATE1	NO STUFF
33	(GND)	
24	IMVP6_ISEN1	NO STUFF
27	IMVP6_UGATE2	NO STUFF
28	IMVP6_PHASE2	NO STUFF
30	IMVP6_LGATE2	NO STUFF
29	(GND)	
23	IMVP6_ISEN2	NO STUFF
19	IMVP6_VSUM	NO STUFF
8	IMVP6_OCSET	NO STUFF
18	IMVP6_VO	NO STUFF
16	IMVP6_DROOP	NO STUFF
17	IMVP6_DFB	NO STUFF
14	VSEN	NO STUFF
15	RTN	NO STUFF
21	VSS	NO STUFF
49	TPAD	NO STUFF

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

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

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

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

IMVP6 CPU VCore Regulator  
 SYNC\_MASTER=POWER SYNC\_DATE=07/08/2005

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SCALE	DRAWING NUMBER	REV.
NONE	D 051-6949	09
SHEET	75	OF 111



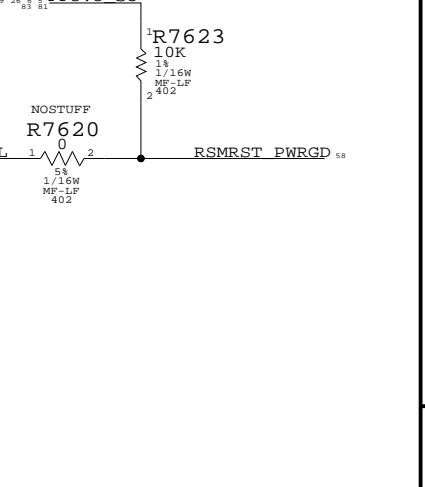
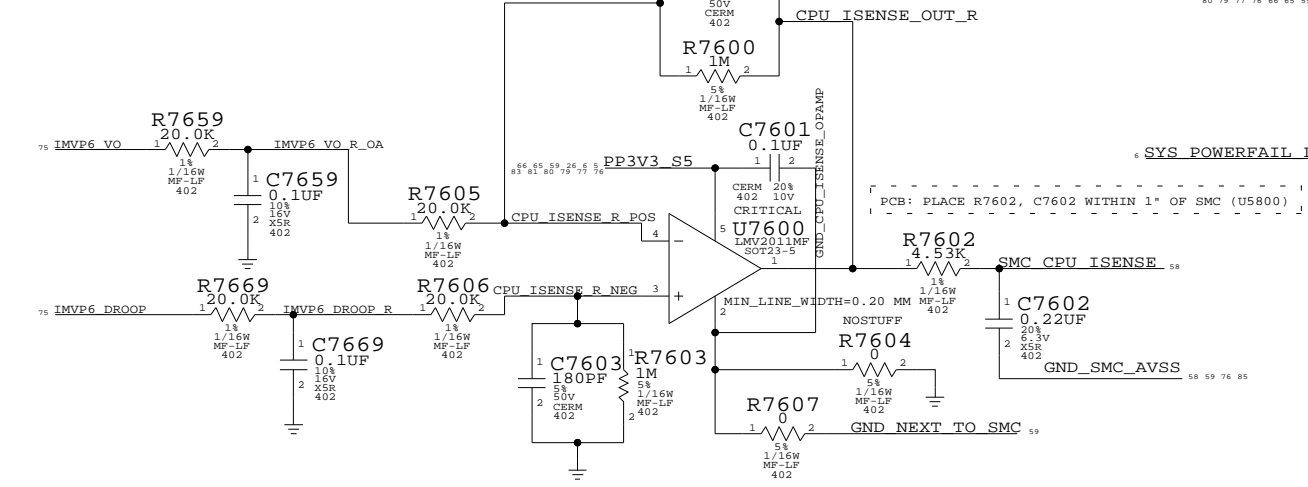
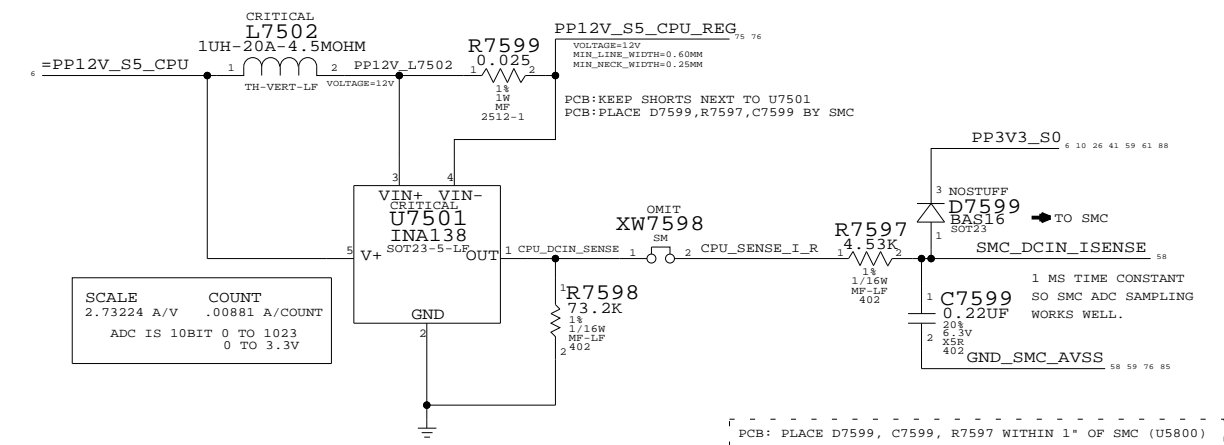
APPLE COMPUTER INC.

8 7 6 5 4 3 2 1

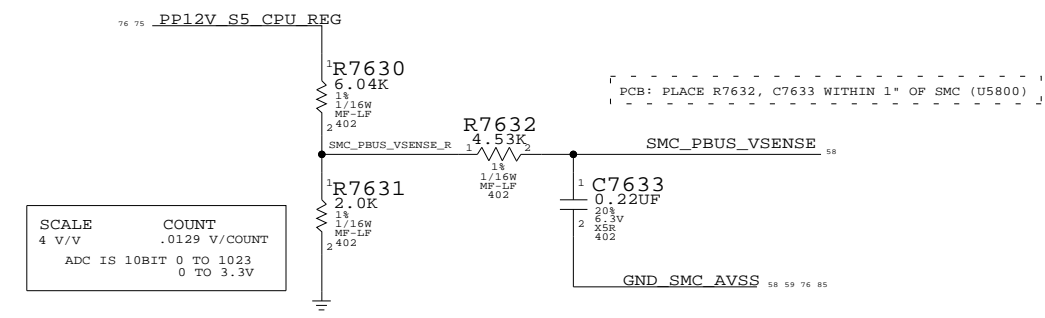
**PROCESSOR VCORE CURRENT SENSE**  
(USING 12V INPUT CURRENT TO DERIVE CPU CURRENT)

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

**SMC PWRGD PULLUP**



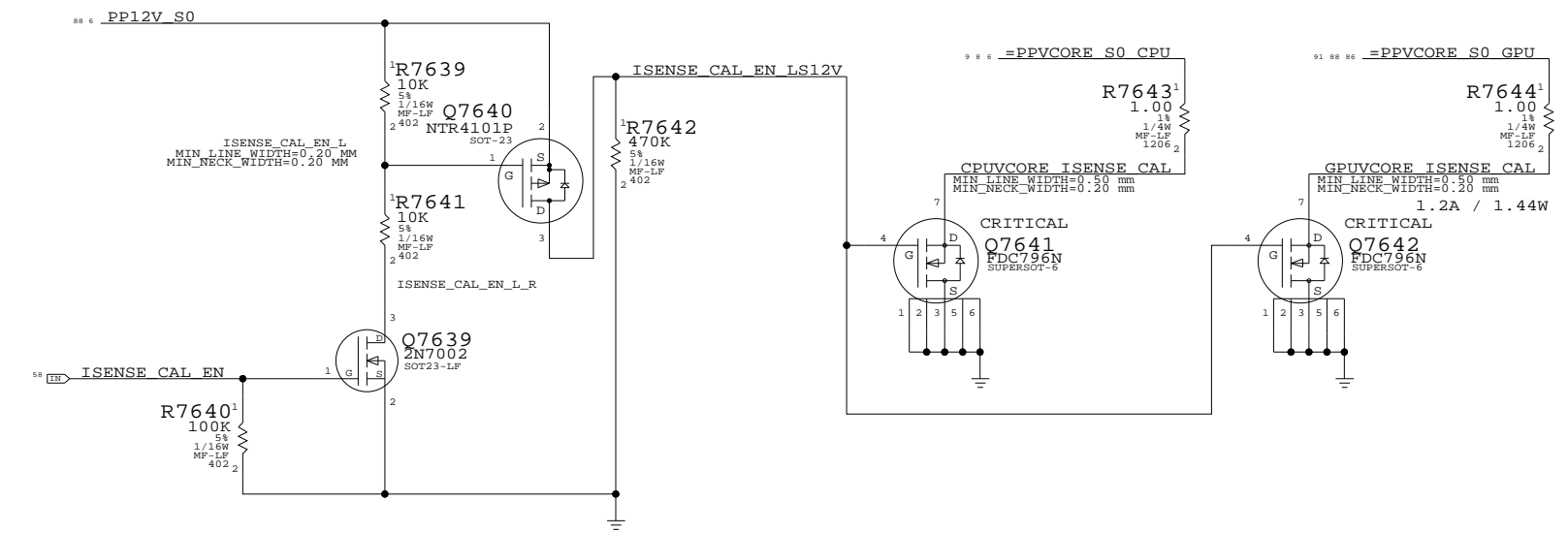
**PROCESSOR DCIN VOLTAGE SENSE**  
(SCALING 12V INPUT VOLTAGE TO SMC)



**PROCESSOR VCORE SENSE**



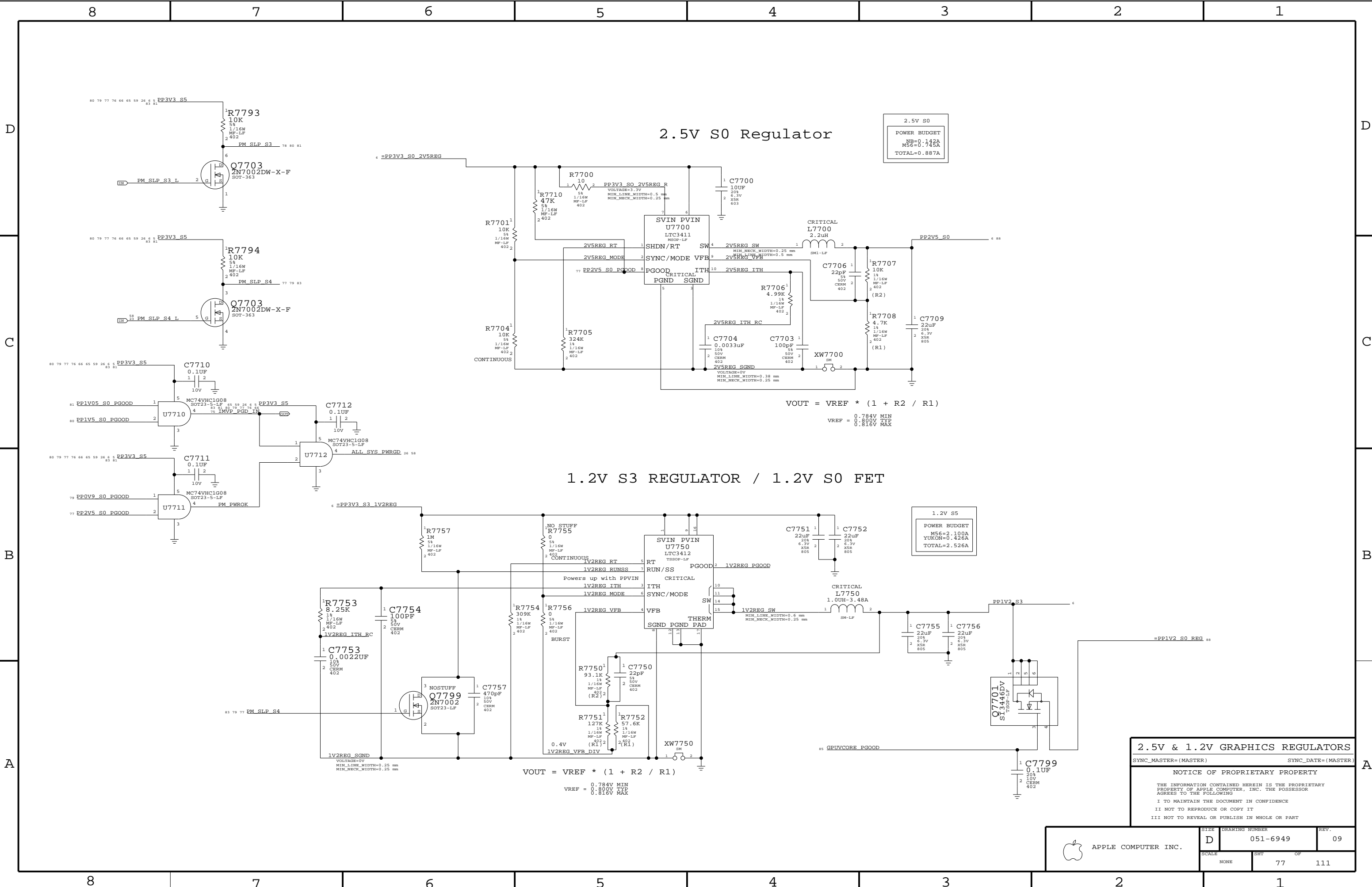
**Current Sense Calibration Circuit**  
Switches in fixed load on power supplies to calibrate current sense circuits



**CPU SENSE CIRCUITRIES**  
SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)  
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APPLE COMPUTER INC.	SCALE	DRAWING NUMBER	REV.
	NONE	D 051-6949	09
		SHT	76 OF 111

8 7 6 5 4 3 2 1



2.5V S0 Regulator

2.5V S0  
POWER BUDGET  
MS6=0.142A  
YUKON=0.745A  
TOTAL=0.887A

$V_{OUT} = V_{REF} * (1 + R2 / R1)$   
 $V_{REF} = 0.784V \text{ MIN}$   
 $V_{REF} = 0.800V \text{ TYP}$   
 $V_{REF} = 0.816V \text{ MAX}$

1.2V S3 REGULATOR / 1.2V S0 FET

1.2V S5  
POWER BUDGET  
MS6=2.100A  
YUKON=0.426A  
TOTAL=2.526A

$V_{OUT} = V_{REF} * (1 + R2 / R1)$   
 $V_{REF} = 0.784V \text{ MIN}$   
 $V_{REF} = 0.800V \text{ TYP}$   
 $V_{REF} = 0.816V \text{ MAX}$

2.5V & 1.2V GRAPHICS REGULATORS

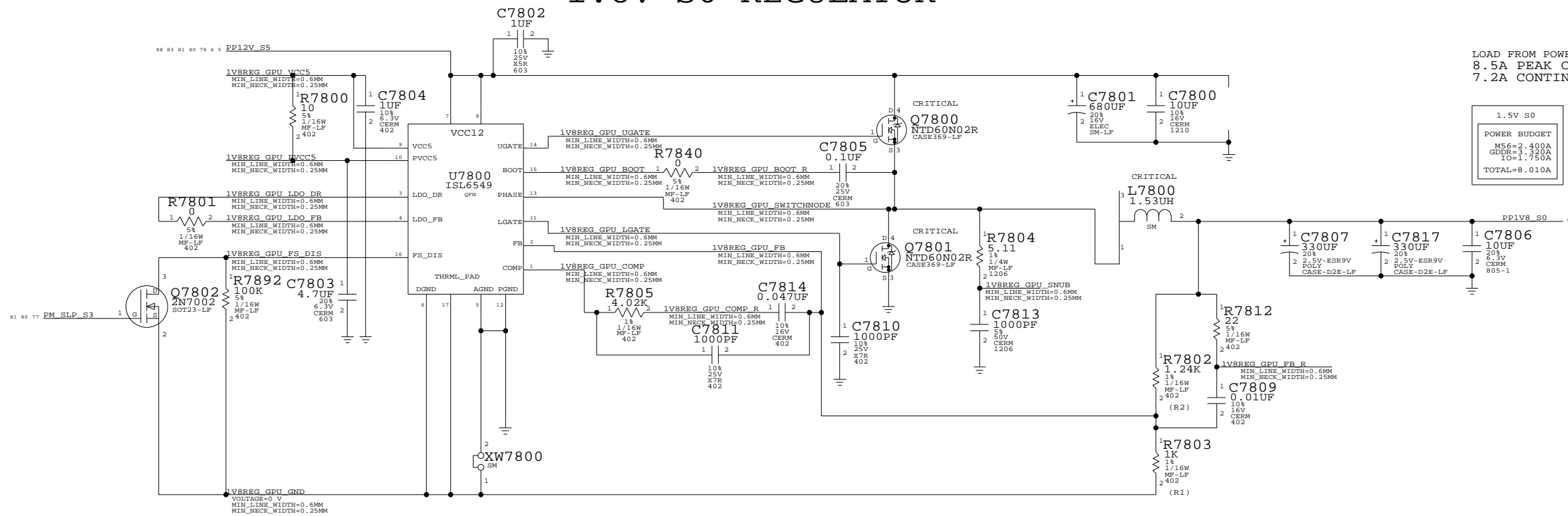
SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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	D	051-6949	09
SCALE	SHT	OF	
NONE	77	111	

# 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=2.200A  
IO=1.700A  
TOTAL=8.010A

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

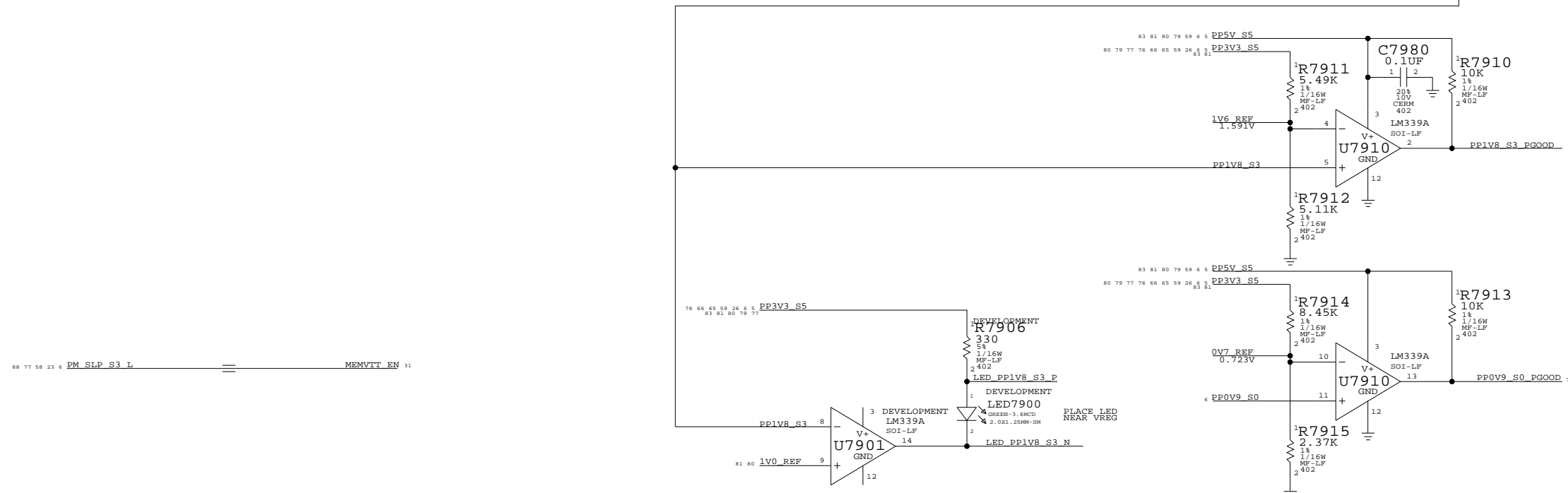
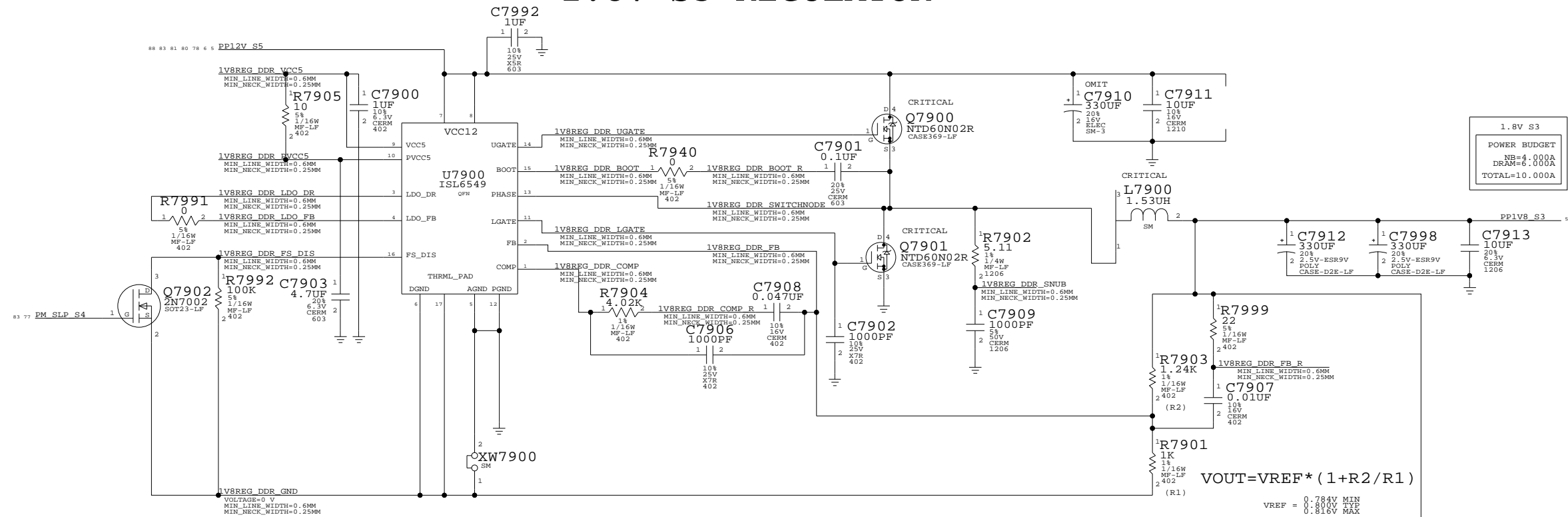
VREF = 0.784V MIN  
VREF = 0.800V TYP  
VREF = 0.816V MAX

**1.8V GDDR REGULATOR**  
 SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)  
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	SHT	78 OF 111	
NONE			

TRUE

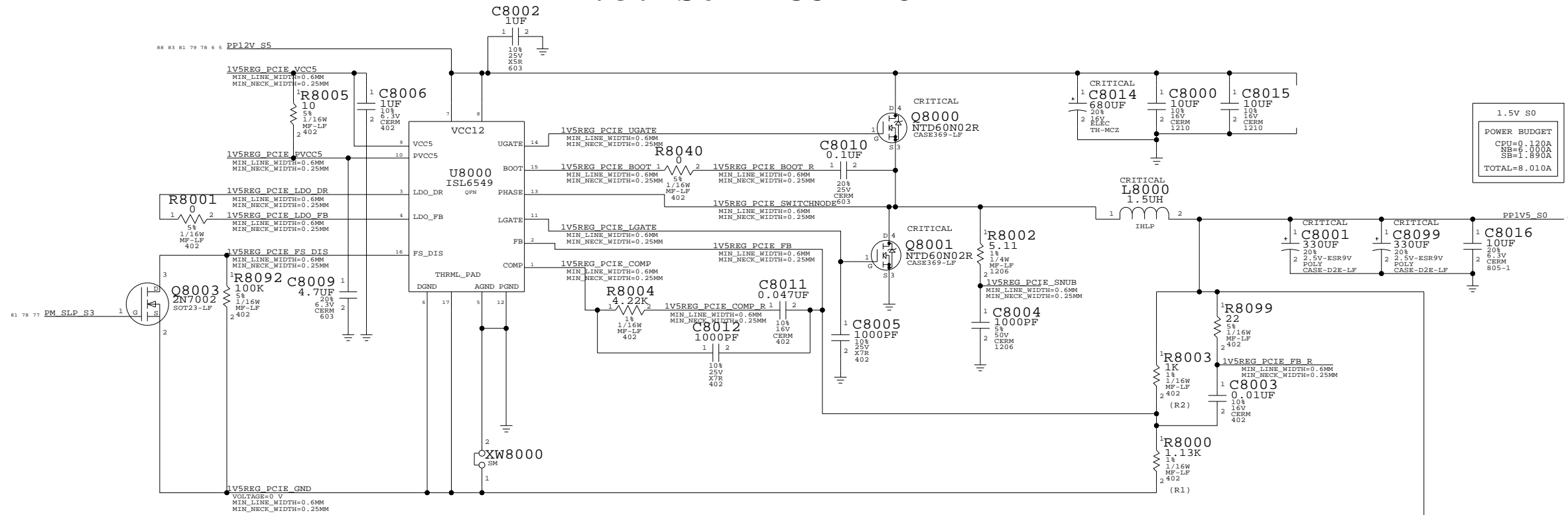
# 1.8V S3 REGULATOR



**1.8V Vreg**  
 SYNC\_MASTER=M23-PC SYNC\_DATE=04/12/2005  
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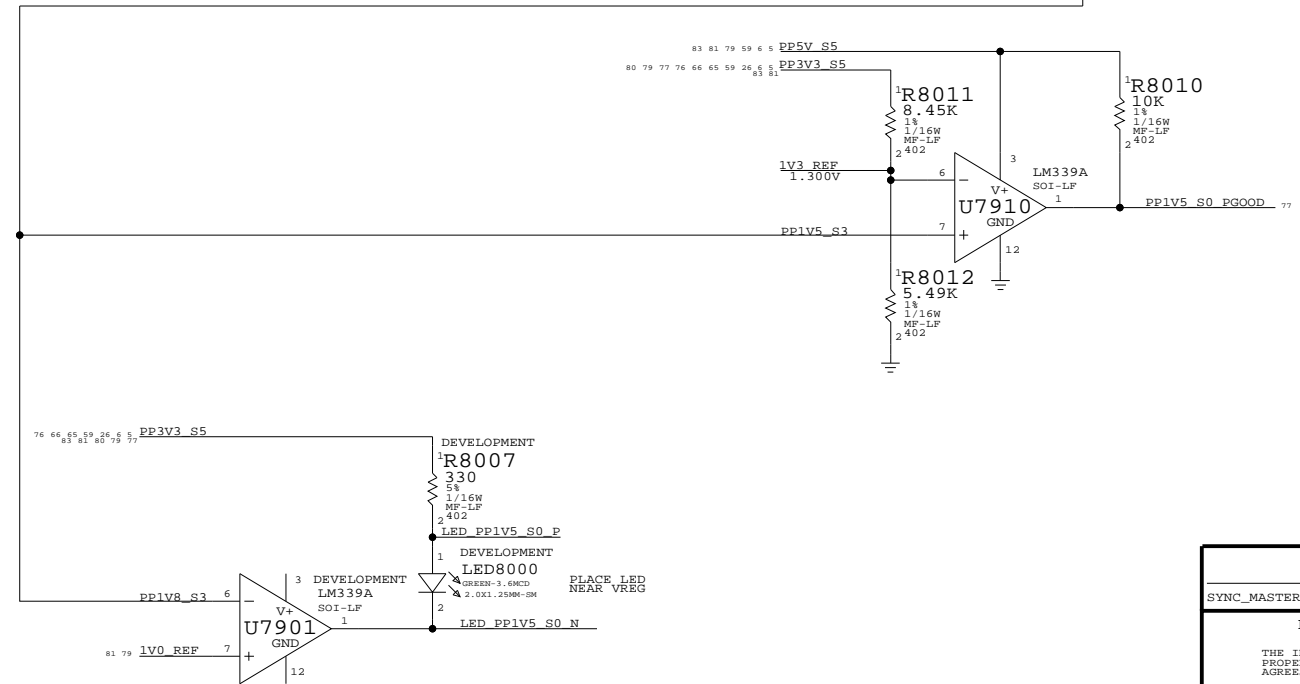
APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	SHT	79 OF	111
NONE			

# 1.5V S0 REGULATOR



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

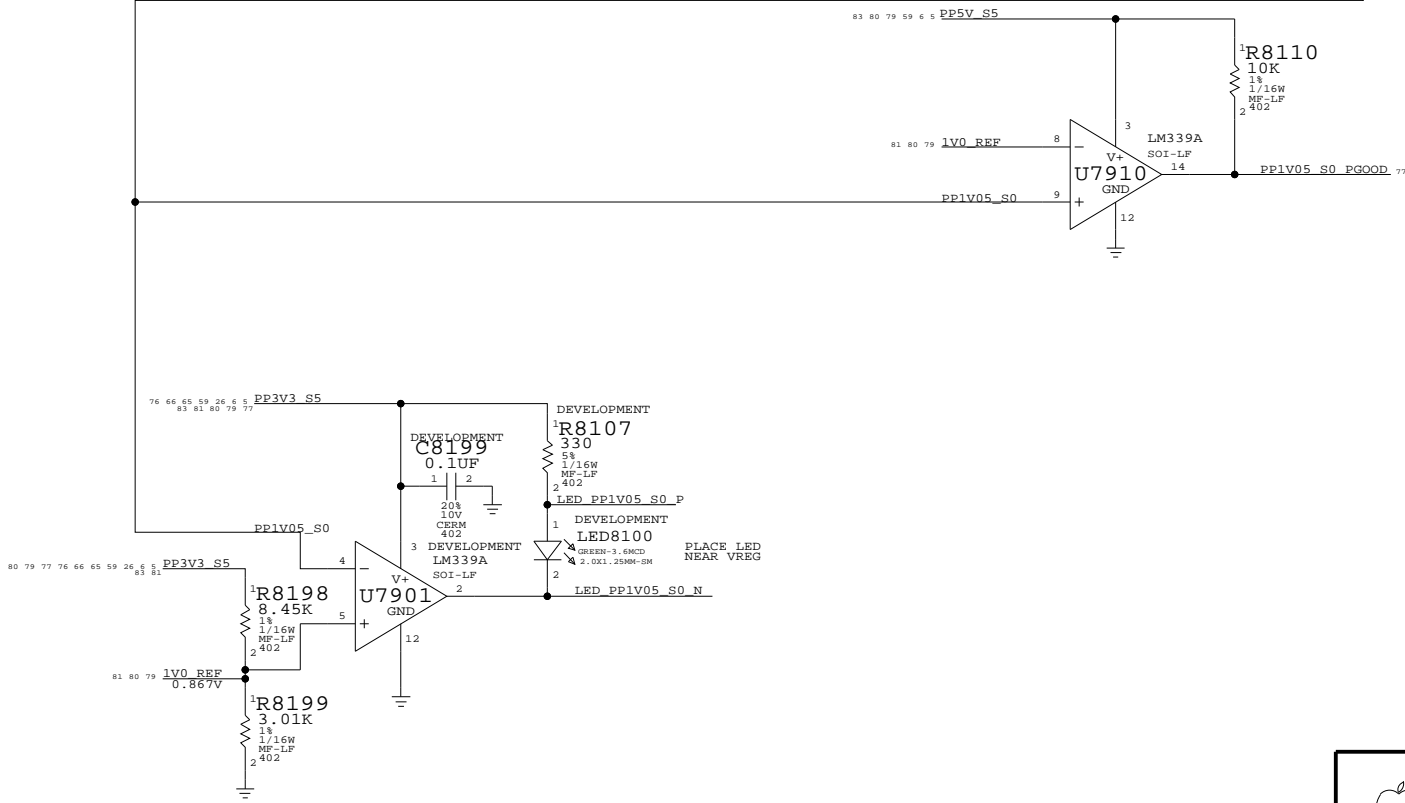
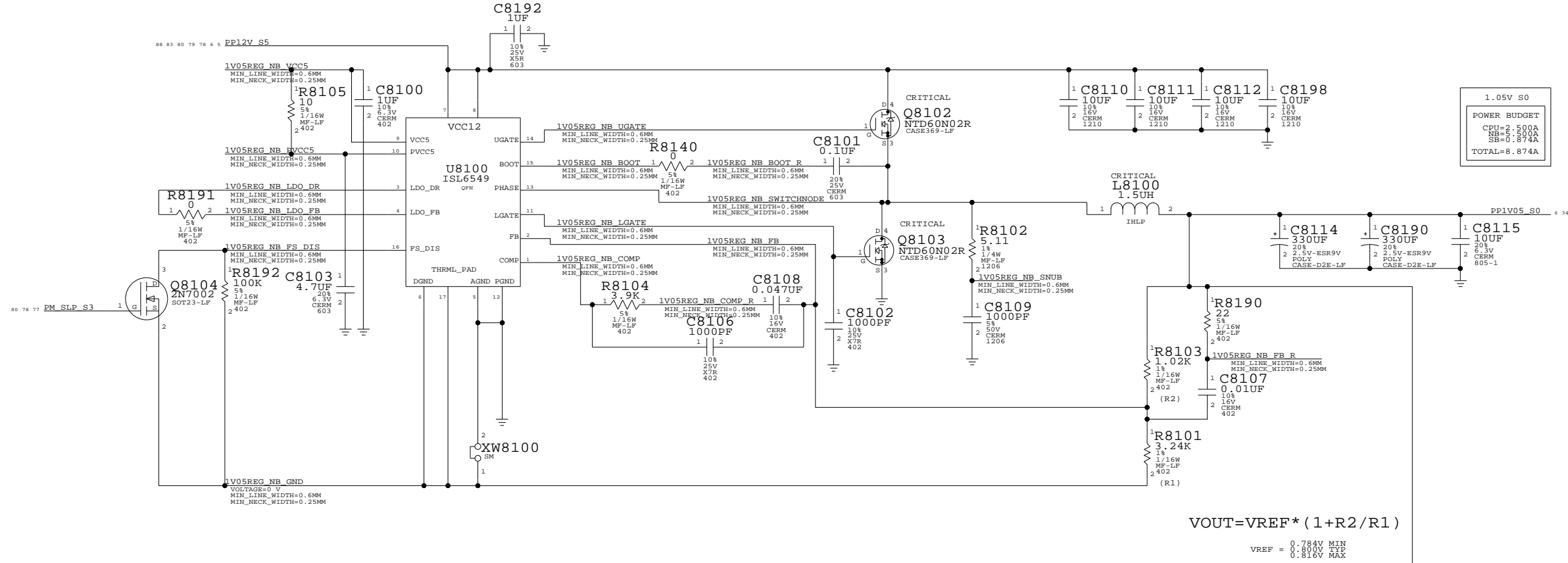
$$V_{REF} = \begin{matrix} 0.784V \text{ MIN} \\ 0.800V \text{ TYP} \\ 0.816V \text{ MAX} \end{matrix}$$



**1.5V Vreg**  
 SYNC\_MASTER=FINO-PC SYNC\_DATE=05/18/2005  
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	D	051-6950	06
SCALE	SHT	80 OF	111
NONE			

# 1.05V S0 REGULATOR



**1.05V VREG**

SYNC\_MASTER=M38-RT SYNC\_DATE=05/18/2005

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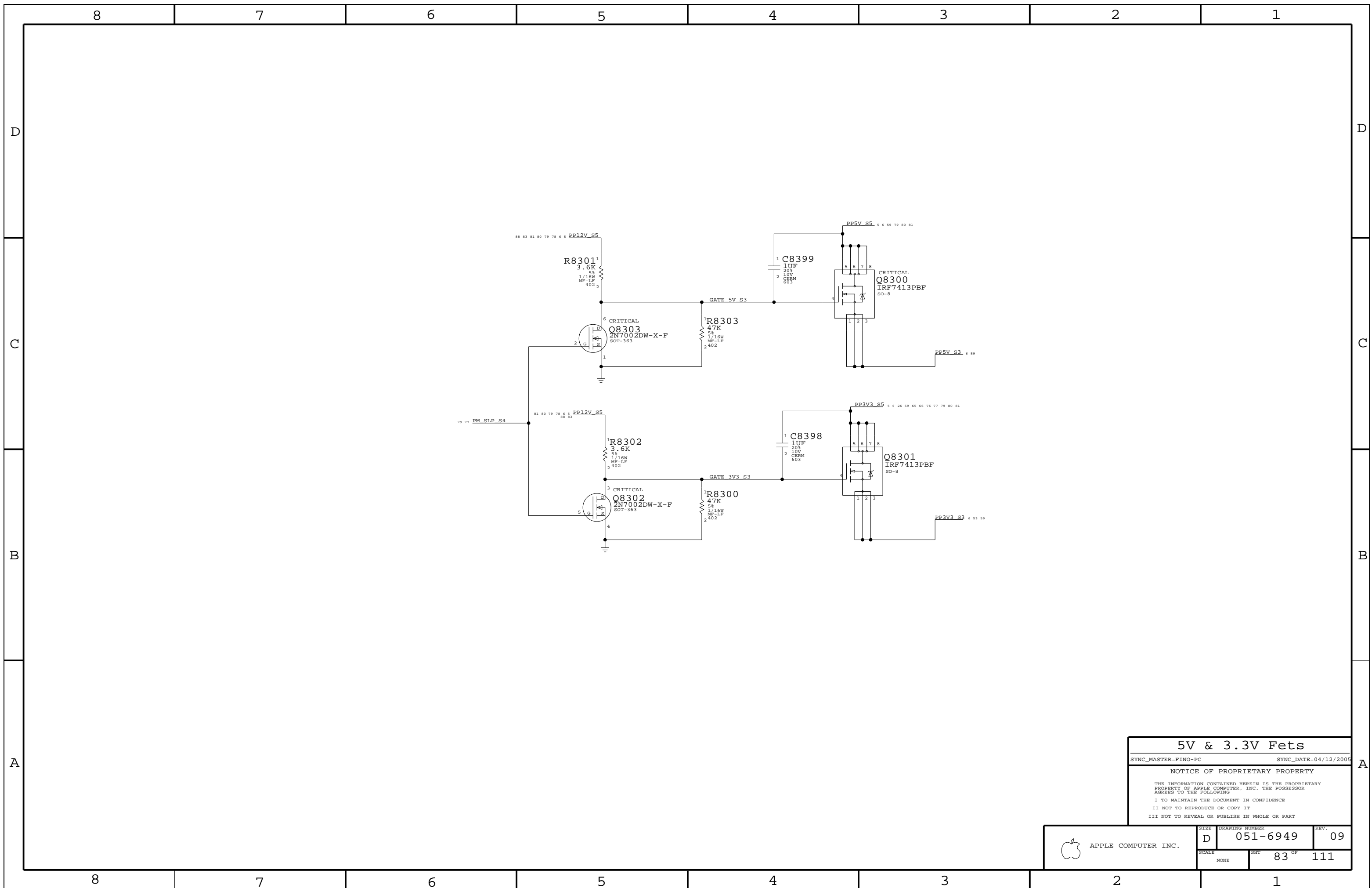
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	D	051-6949	09
SCALE	SHT	81 OF	111
NONE			





**5V & 3.3V Fets**

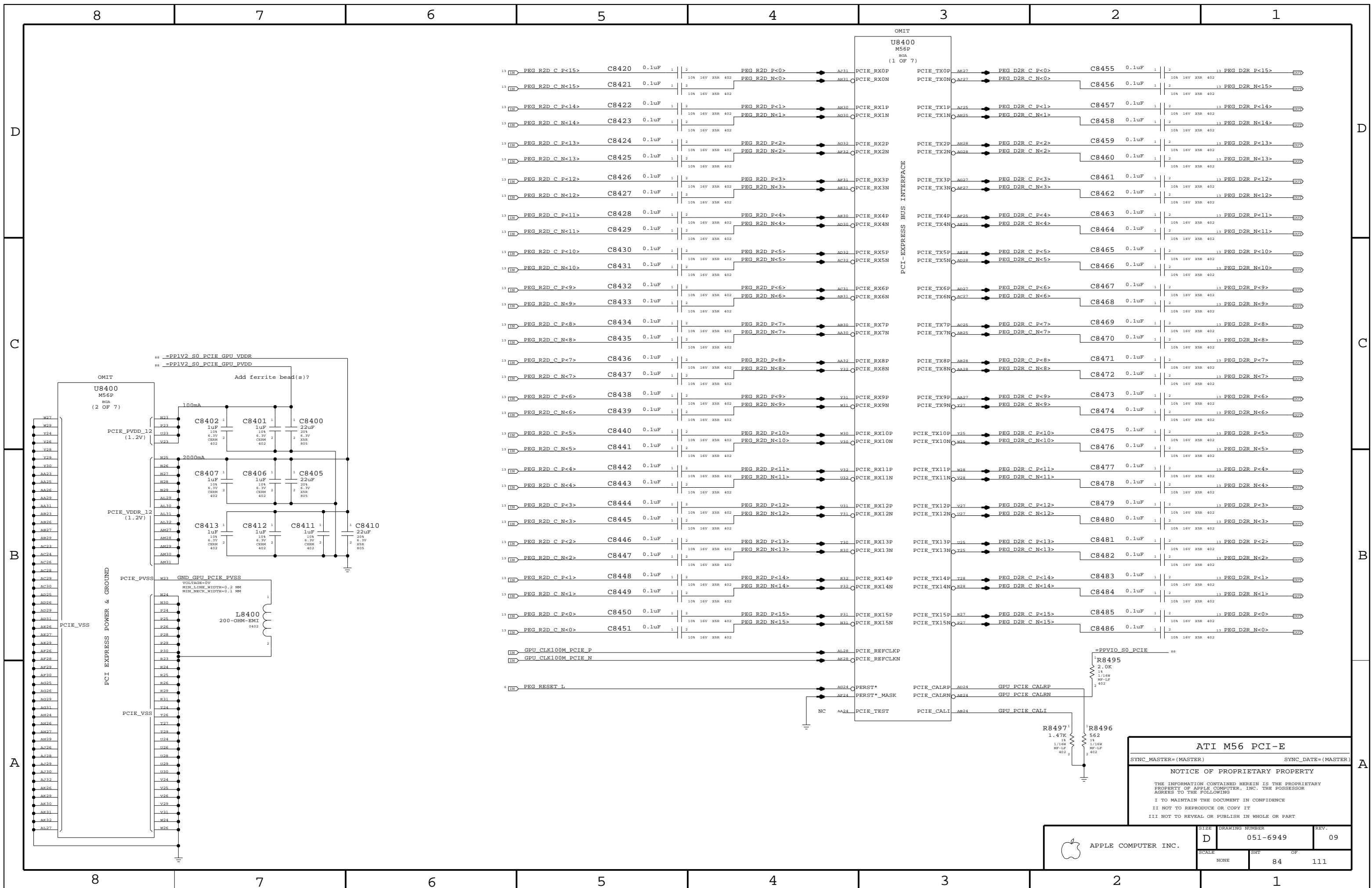
SYNC\_MASTER=FINO-PC SYNC\_DATE=04/12/2005

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	D	051-6949	09
SCALE		SHT	OF
NONE		83	111



**ATI M56 PCI-E**

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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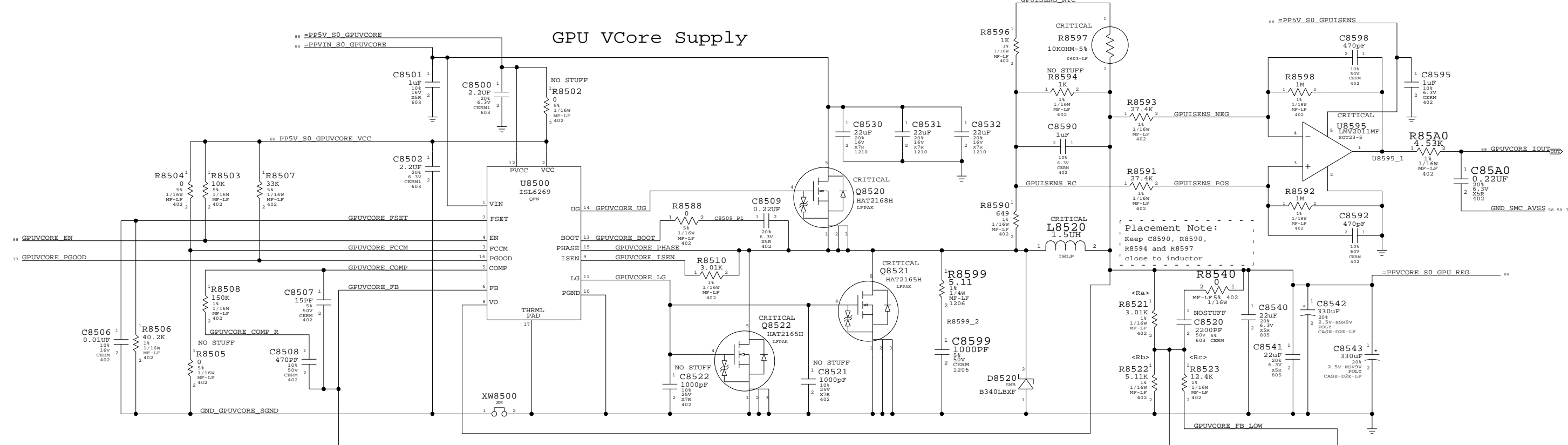
I TO MAINTAIN THE DOCUMENT IN CONFIDENCE

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III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.	SCALE	DRAWING NUMBER	REV.
	NONE	D 051-6949	09
	SHT	OF	
	84	111	

### GPU VCore Current Sense



**Placement Note:**  
 Keep C8590, R8590, R8594 and R8597 close to inductor

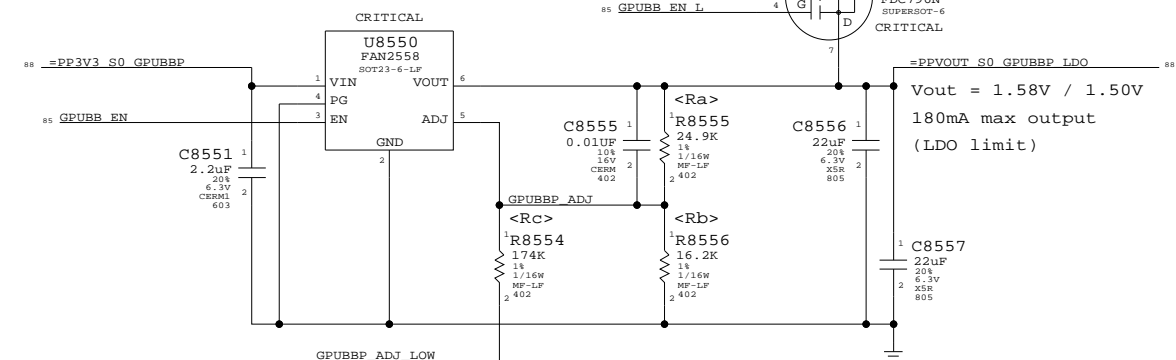
$$V_{out(LOW)} = 0.6V * (1 + R_a/R_b)$$

$$V_{out(HIGH)} = 0.6V * (1 + R_a/R_{eq})$$

$$R_{eq} = R_b || R_c$$

### Back-Bias Positive Supply

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



$$V_{out(LOW)} = 0.59V * (1 + R_a/R_b)$$

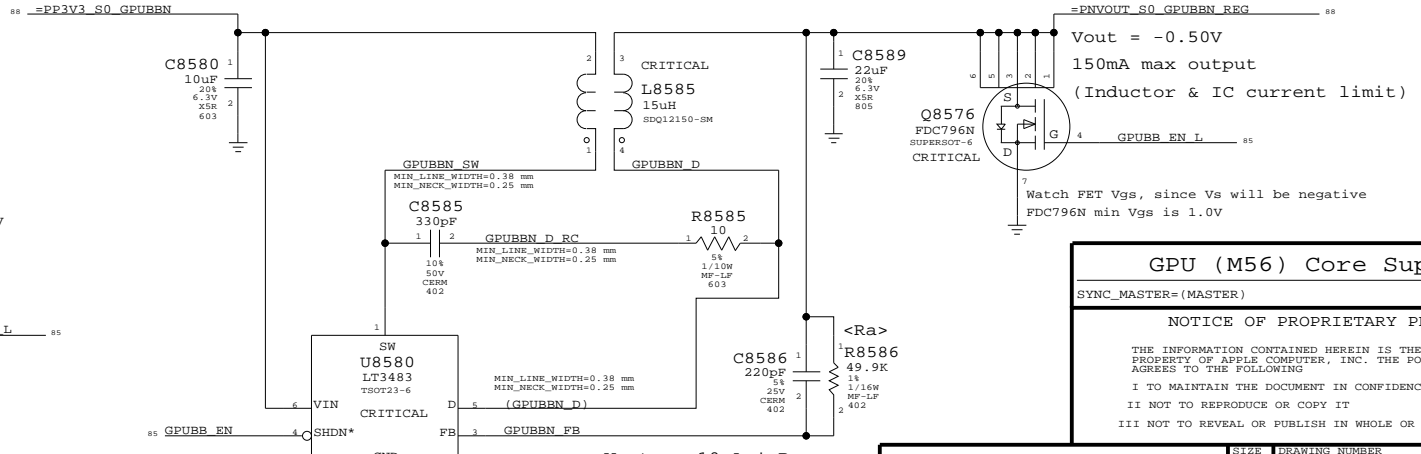
$$V_{out(HIGH)} = 0.59V * (1 + R_a/R_{eq})$$

$$R_{eq} = R_b || R_c$$

Pull-up voltage must be high enough to satisfy BBP FET Vgs (where Vs = 1.2V)  
 FDC796N max Vgs is 3.0V  
 Vin must be > 4.2V

### Back-Bias Negative Supply

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



$$V_{out} = -10\mu A * R_a$$

### GPU (M56) Core Supplies

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	D	051-6949	09
SCALE	SHT	OF	
NONE	85	111	

Page Notes

Power aliases required by this page:  
 - =PP1V5\_GPU\_VDD15  
 - =PP1VR1V3\_GPU\_VCORE

Signal aliases required by this page:  
 (NONE)

BOM options provided by this page:  
 (NONE)

8 7 6 5 4 3 2 1

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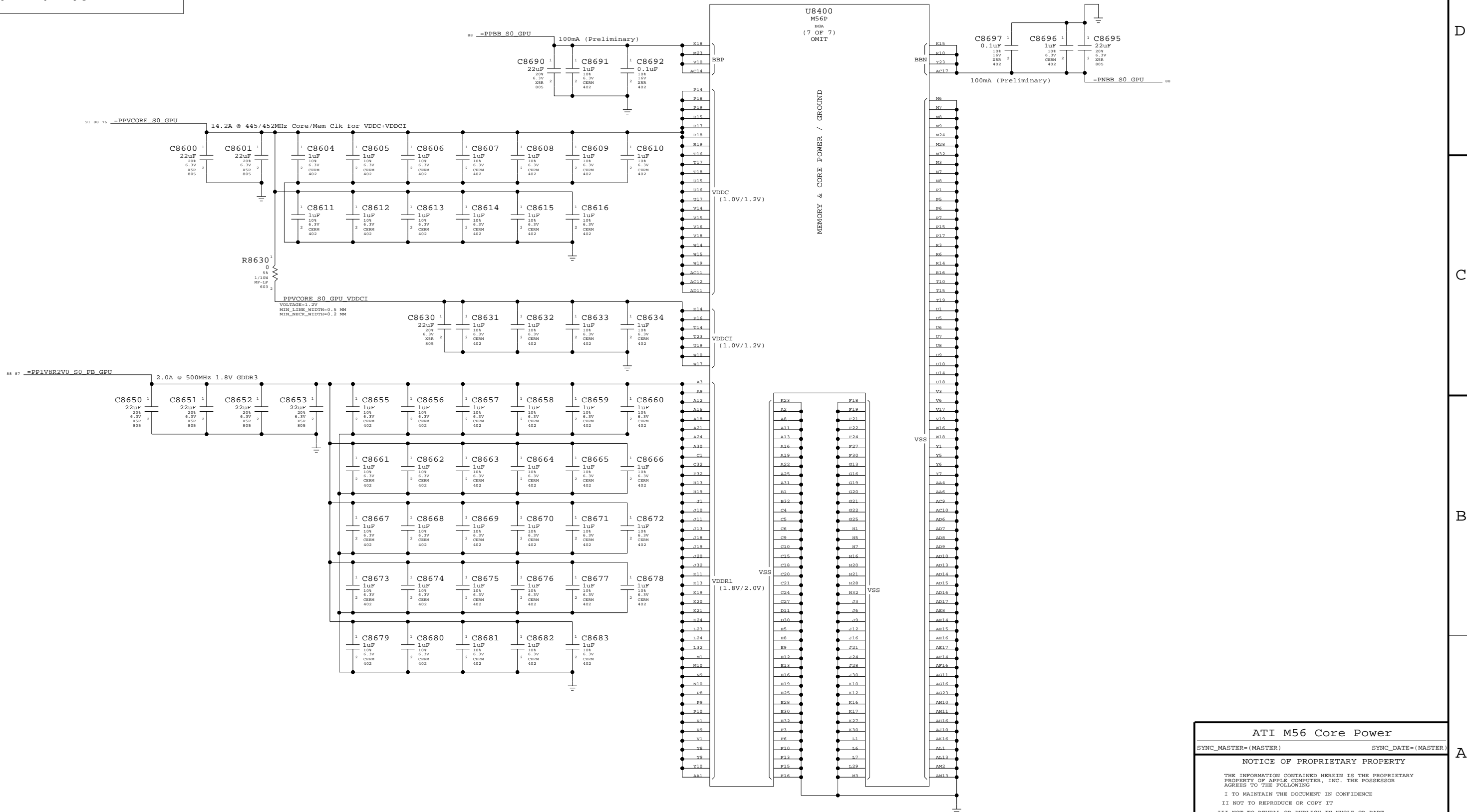
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ATI M56 Core Power

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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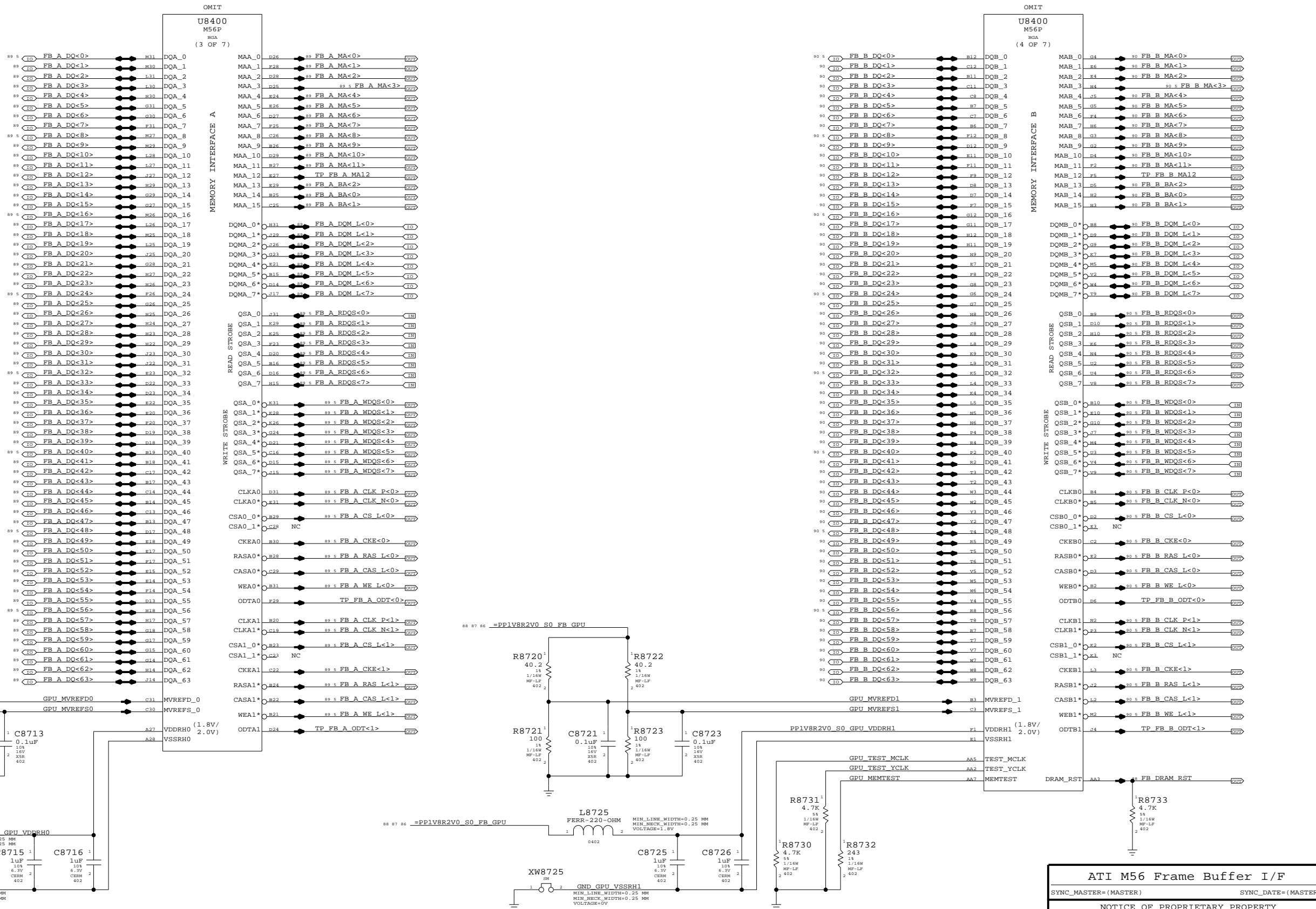
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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	NONE	SHT	OF
		86	111

8 7 6 5 4 3 2 1

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

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Table with columns for DRAWING NUMBER (D 051-6949), REV. (09), SCALE (NONE), SHEET (87), and TOTAL SHEETS (111). Includes the Apple logo and 'APPLE COMPUTER INC.' text.

8

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### "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=0.5MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=1.2V

PNBB\_S0\_GPU  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.5MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=0V

76 61 59 41 26 10 6 PP3V3\_S0  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=1.2V

77 6 PP2V5\_S0  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=1.2V

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 6 5 PP12V\_S5  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=1.2V

76 6 PP12V\_S0  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=1.2V

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

87 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  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

91 GPU\_GPIO\_8  
 GPIO 8 = TRANSMITTER DE-EMPHASIS ENABLE  
 INTERNAL PULL DOWN, ATI RECOMMENDS HIGH

NC\_GPU\_GPIO\_10  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

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

85 GPU\_VCORE\_LOW  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

GPU\_GPIO\_15  
 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  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_GPIO\_17  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_VGA\_R  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_VGA\_G  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_VGA\_B  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_VGA\_HSYNC  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_VGA\_VSYNC  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_TV\_Y  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_TV\_COMP  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_TV\_C  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_DDC\_B\_CLK  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

TP\_GPU\_DDC\_B\_DATA  
 MAKE\_BASE=TRUE  
 MIN\_LINE\_WIDTH=0.6MM  
 MIN\_NECK\_WIDTH=0.125MM  
 VOLTAGE=5V

GPU MISC

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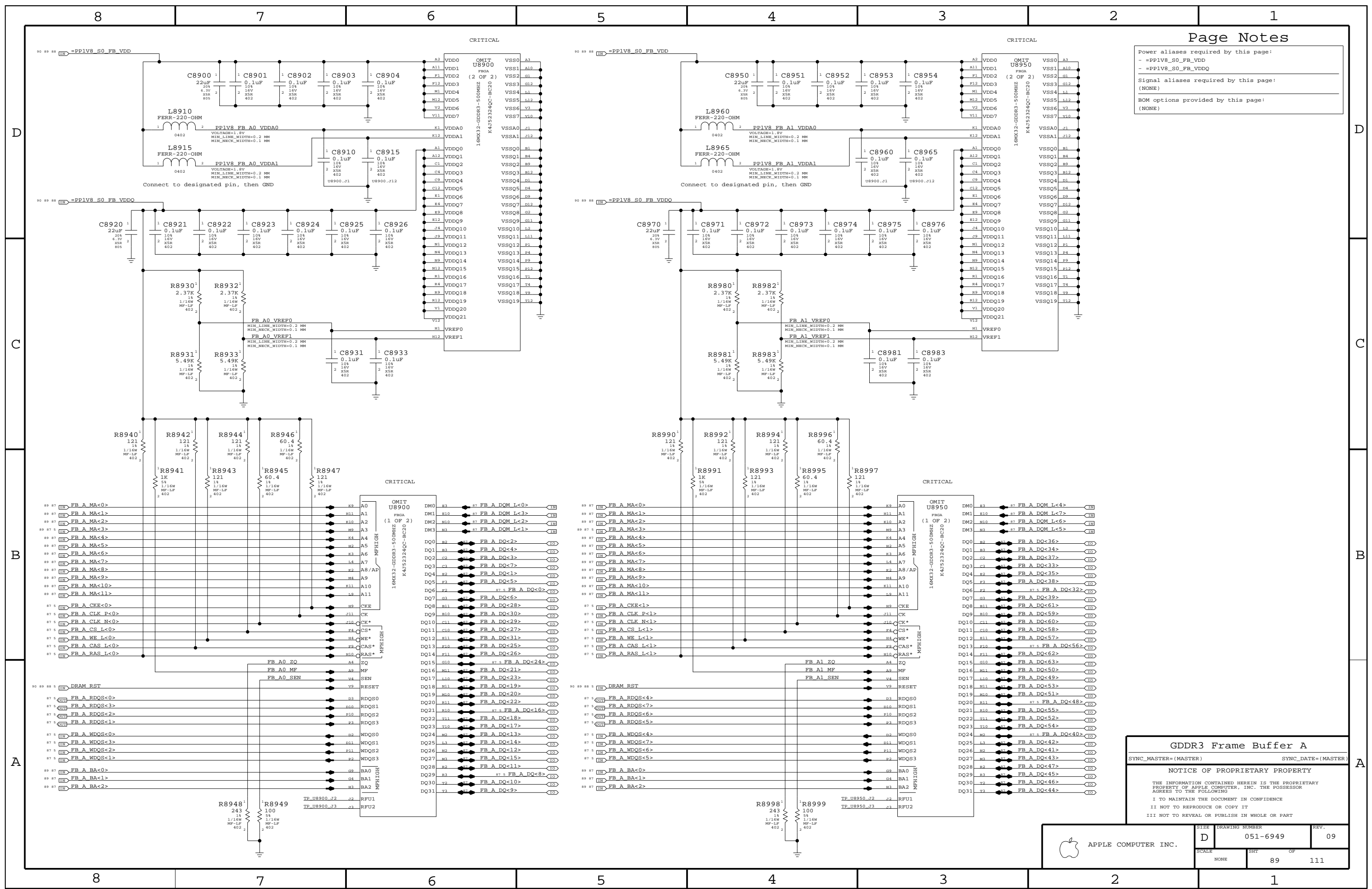
A

A

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)



**GDDR3 Frame Buffer A**

SYNC\_MASTER=(MASTER)      SYNC\_DATE=(MASTER)

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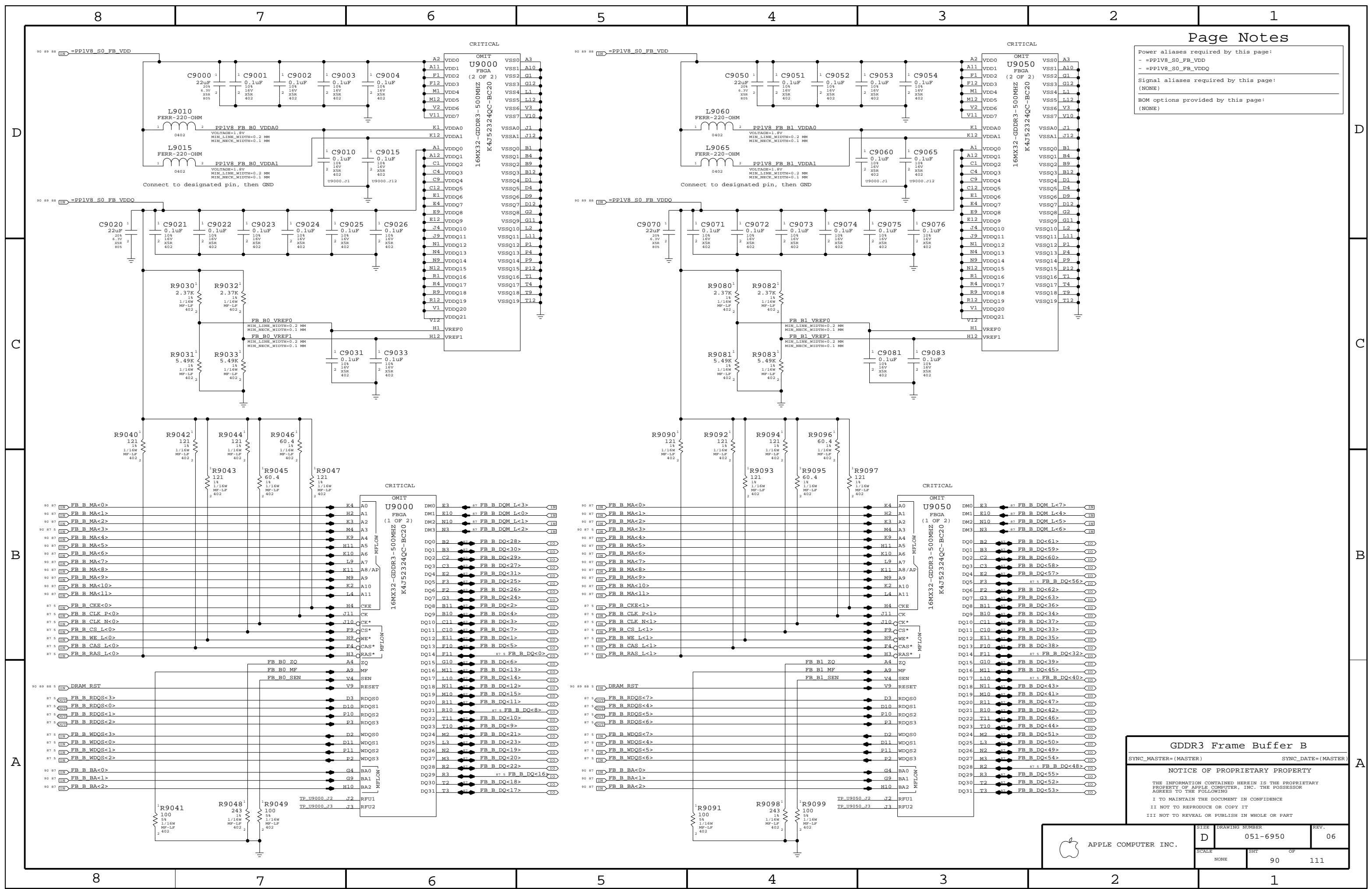
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Power aliases required by this page:  
 - =PPIV8\_S0\_FB\_VDD  
 - =PPIV8\_S0\_FB\_VDDQ

Signal aliases required by this page:  
 (NONE)

BOM options provided by this page:  
 (NONE)



**GDDR3 Frame Buffer B**

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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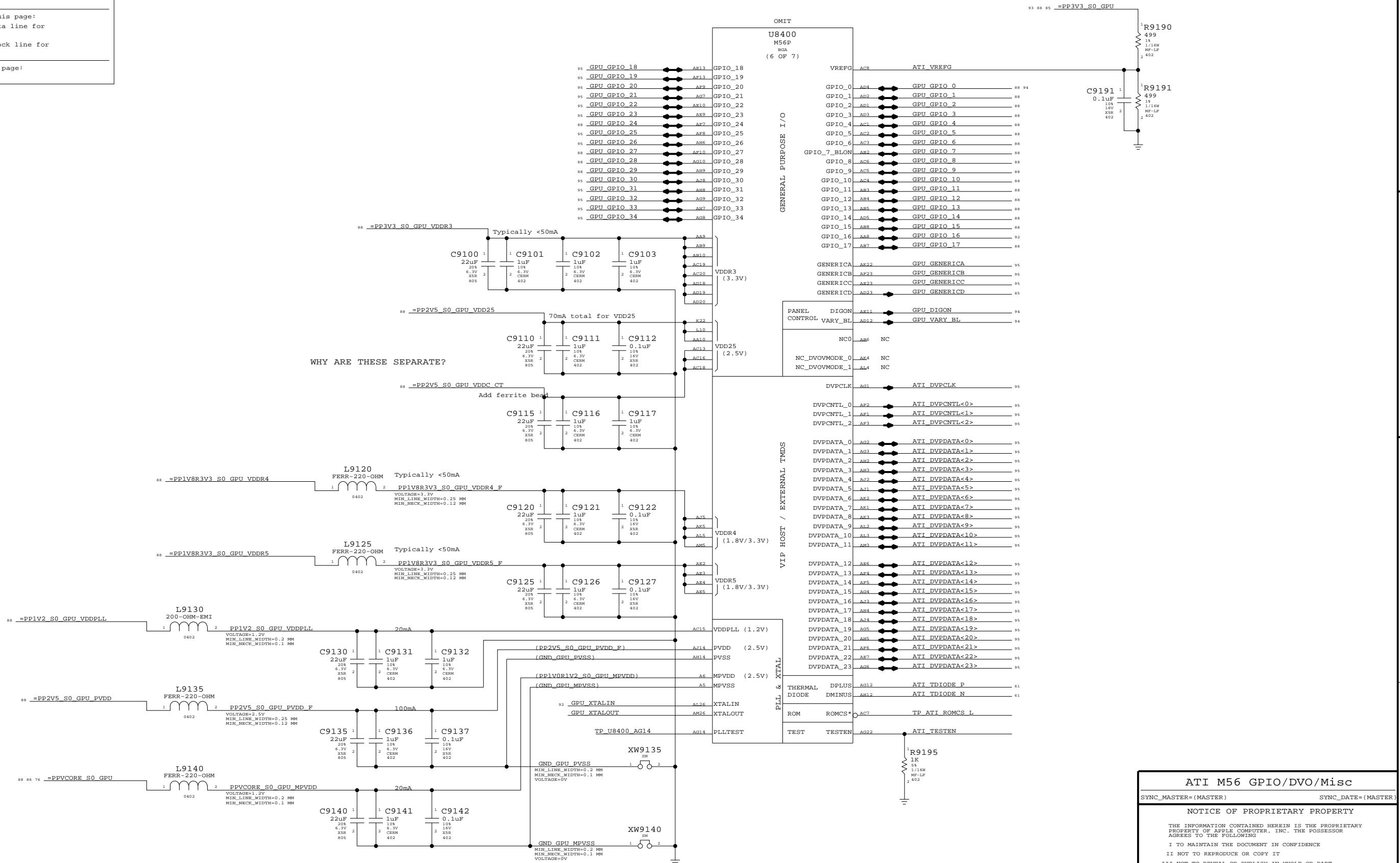
Power aliases required by this page:

- =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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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6949	09
SCALE	SHT	OF	
NONE	91	111	

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### Page Notes

Power aliases required by this page:

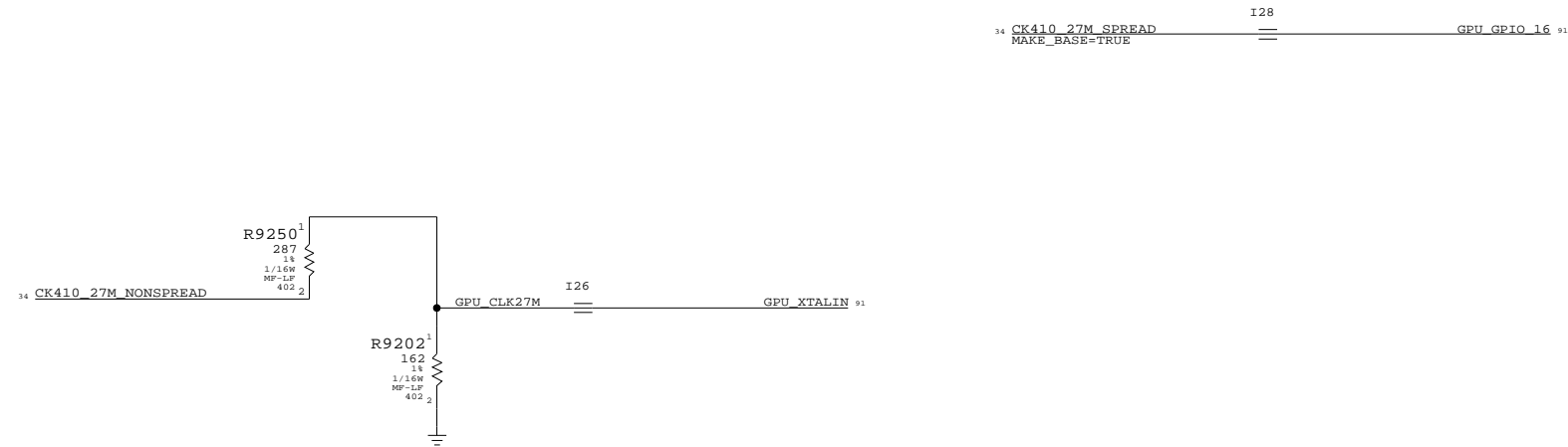
- =PP3V3\_GPU\_CLOCKS      - =PP3V3\_GPU\_PWRSEQ
- =PPVIN\_GPU\_LVDDR\_LDO   - =PP2V5\_GPU\_PWRSEQ
- =PP2V5\_GPU\_LVDDR\_LDO   - =PP1V8\_GPU\_PWRSEQ
- =PP1V5\_GPU\_PWRSEQ

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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	SCALE	SHT	OF	REV.
	NONE	92	111	09

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Page Notes

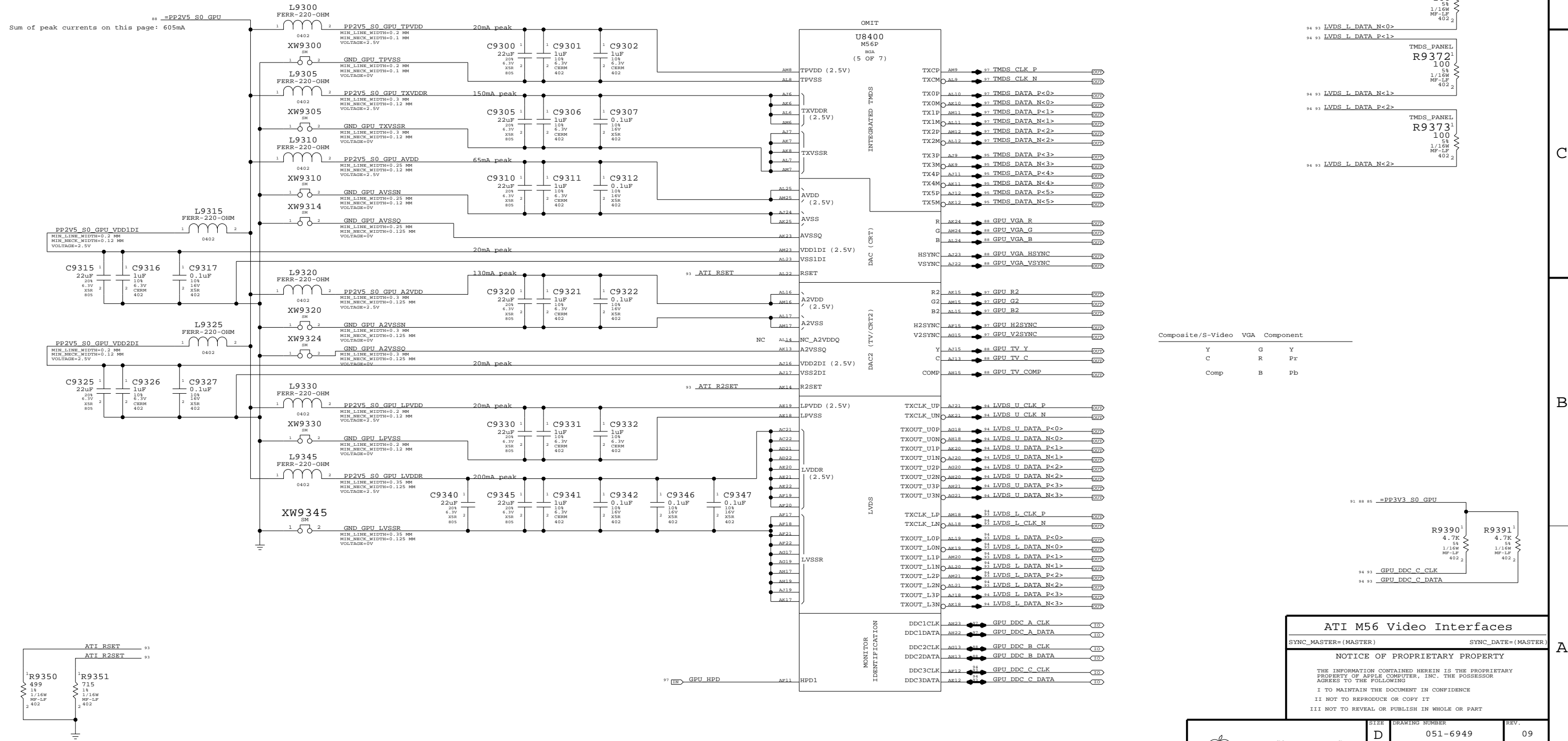
Power aliases required by this page:  
 - =PP2V5\_S0\_GPU  
 - =PP1V8R2V5\_S0\_GPU\_LVDDR

Signal aliases required by this page:  
 (NONE)

BOM options provided by this page:  
 (NONE)

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

Sum of peak currents on this page: 605mA



ATI M56 Video Interfaces

SYNC\_MASTER=(MASTER) SYNC\_DATE=(MASTER)

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	SHT	OF	
	93	111	



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### M56 TPS

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SCALE	SHT		OF
NONE	95		111

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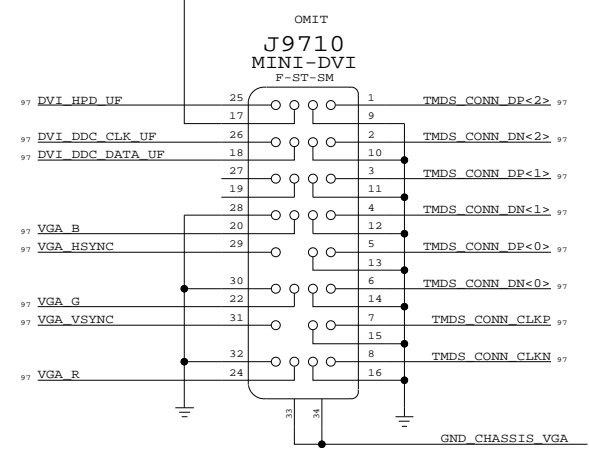
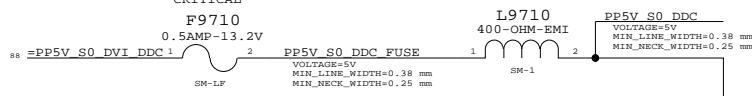
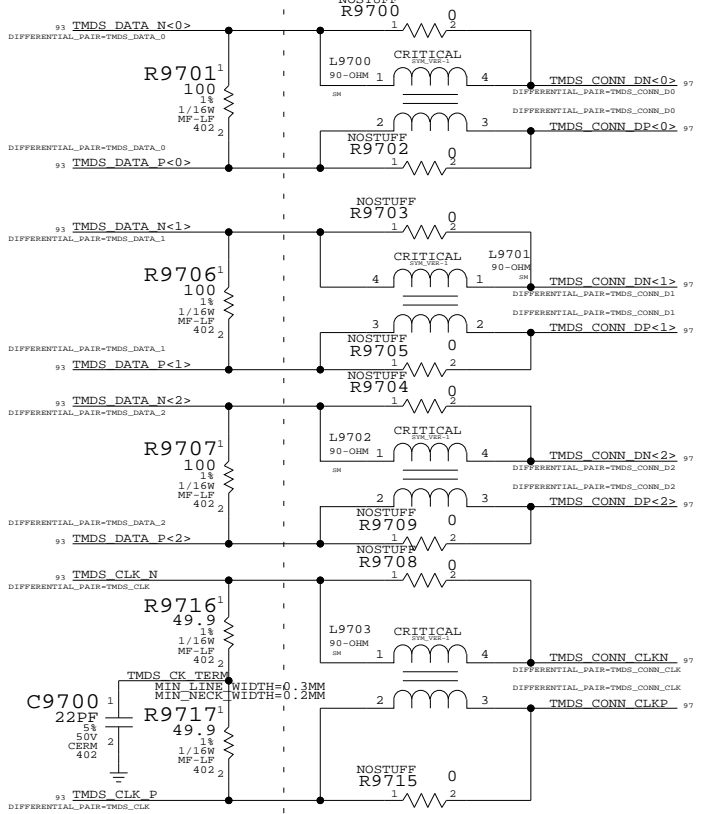
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PLACE LEFT SIDE  
AS CLOSE TO GPU (U8400)  
AS POSSIBLE

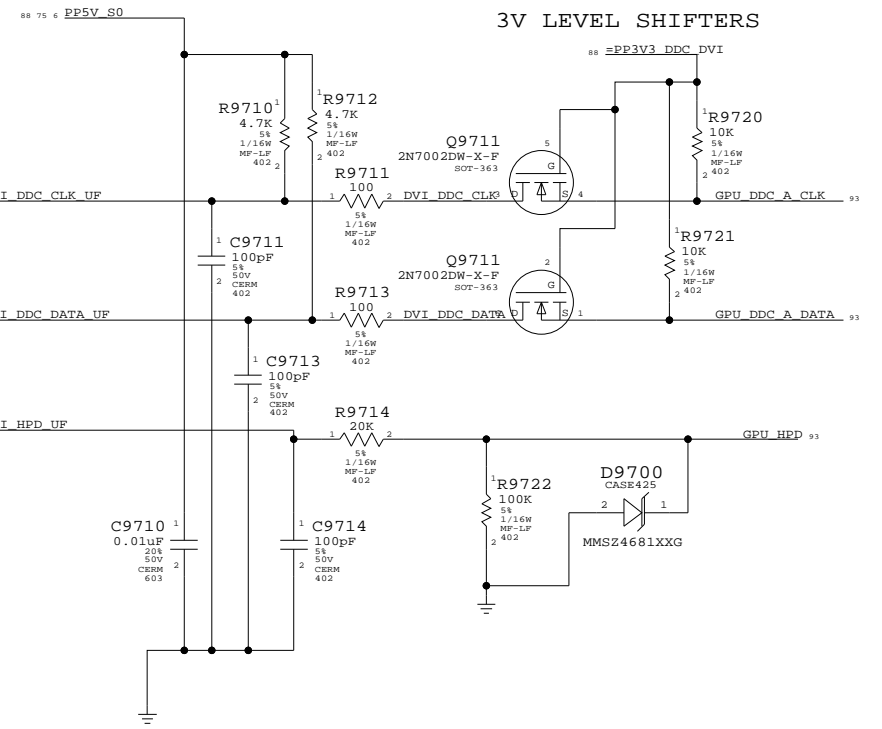
PLACE FILTER CLOSE  
TO TMD5 CONNECTOR

### DVI DDC CURRENT LIMIT DVI INTERFACE

(55mA requirement per DVI spec)

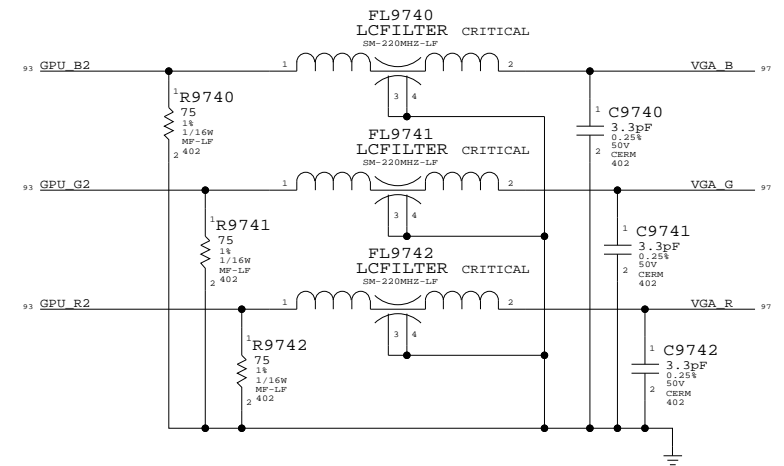


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
51480114	1	CONN, 32-P MINI-DVI RCPT MG3,LF	J9710	CRITICAL	17_INCH_LCD
51480116	1	CONN, 32-P MINI-DVI RCPT MG3,LF	J9710	CRITICAL	20_INCH_LCD

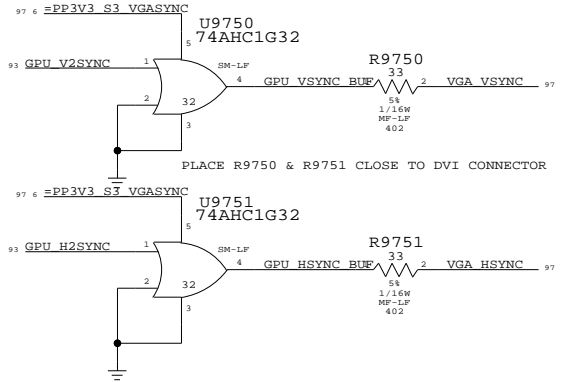


### ANALOG FILTERING

PLACE CLOSE TO CONNECTOR



### VGA SYNC BUFFERS



### External Display Conns

SYNC\_MASTER=BOZEMAN SYNC\_DATE=04/14/2005

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SCALE	SHT	OF	
NONE	97	111	











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PCI_AD<3>	PCI_AD<3> - @m39_11b.M39	2287	44D5	PEG_R2D_C_N<3>	PEG_R2D_C_N<3> - @m39_11b.M39	1383	84B5	PP1V8_FB_A0_VDDA0	PP1V8_FB_A0_VDDA0 - @m39_11b.M39	89D7		SB_RTC_X2	SB_RTC_X2 - @m39_11b.M39	21D6	26D7
PCI_AD<4>	PCI_AD<4> - @m39_11b.M39	2287	44D5	PEG_R2D_C_N<4>	PEG_R2D_C_N<4> - @m39_11b.M39	1383	84B5	PP1V8_FB_A1_VDDA0	PP1V8_FB_A1_VDDA0 - @m39_11b.M39	89D7		SB_SM_INTRUDER_L	SB_SM_INTRUDER_L - @m39_11b.M39	21D6	26C7
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PCI_AD<31>	PCI_AD<31> - @m39_11b.M39	22A7	44B5	PEG_R2D_C_P<15>	PEG_R2D_C_P<15> - @m39_11b.M39	13A3	84D5	PP3V3_FW_ESD_F	PP3V3_FW_ESD_F - @m39_11b.M39	46A7		SMC_BATT_TRICKLE_EN	SMC_BATT_TRICKLE_EN - @m39_11b.M39	58D7	59D6
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PCI_CLK_PORT80	PCI_CLK_PORT80 - @m39_11b.M39	34B4	60C3	PEG_R2D_N<1>	PEG_R2D_N<1> - @m39_11b.M39	84D4		PP3V3_LCSD_SW	PP3V3_LCSD_SW - @m39_11b.M39	94C6		NC_SMC_BATT_TRICKLE_EN_L	NC_SMC_BATT_TRICKLE_EN_L - @m39_11b.M39	59D5	
PCI_CLK_SB	PCI_CLK_SB - @m39_11b.M39	5C8	22A6 34B4	PEG_R2D_N<2>	PEG_R2D_N<2> - @m39_11b.M39	84D4		PP3V3_S0_CK410_VDD48	PP3V3_S0_CK410_VDD48 - @m39_11b.M39	33D5		SMC_BATT_VSET	SMC_BATT_VSET - @m39_11b.M39	58B5	59D6
PCI_CLK_SMC	PCI_CLK_SMC - @m39_11b.M39	34C4	58C7	PEG_R2D_N<3>	PEG_R2D_N<3> - @m39_11b.M39	84D4		PP3V3_S0_CK410_VDDA	PP3V3_S0_CK410_VDDA - @m39_11b.M39	33C6		NC_SMC_BATT_VSET	NC_SMC_BATT_VSET - @m39_11b.M39	59D5	
PCI_CLK_TPM	PCI_CLK_TPM - @m39_11b.M39	34C4	67C6	PEG_R2D_N<4>	PEG_R2D_N<4> - @m39_11b.M39	84D4		PP3V3_S0_CK410_VDDC	PP3V3_S0_CK410_VDDC_CPU_SRC - @m39_11b.M39	33D6		SMC_BC_ACOK	SMC_BC_ACOK - @m39_11b.M39	58C5	59B4
PCI_CBE_L<0>	PCI_CBE_L<0> - @m39_11b.M39	22B6	44B5	PEG_R2D_N<5>	PEG_R2D_N<5> - @m39_11b.M39	84C4		PU_SRC				SMC_BS_ALERT_L	SMC_BS_ALERT_L - @m39_11b.M39	58C5	59B4
PCI_CBE_L<1>	PCI_CBE_L<1> - @m39_11b.M39	22B6	44B5	PEG_R2D_N<6>	PEG_R2D_N<6> - @m39_11b.M39	84C4		PP3V3_S0_CK410_VDD_P	PP3V3_S0_CK410_VDD_PCI - @m39_11b.M39	33D5		SC31_CBSW_OPEN	SC31_CBSW_OPEN - @m39_11b.M39	59C1	59C1
PCI_CBE_L<2>	PCI_CBE_L<2> - @m39_11b.M39	22B6	44B5	PEG_R2D_N<7>	PEG_R2D_N<7> - @m39_11b.M39	84C4		CI				SMC_CPU_ISENSE	SMC_CPU_ISENSE - @m39_11b.M39	58D5	76D2
PCI_CBE_L<3>	PCI_CBE_L<3> - @m39_11b.M39	22B6	44B5	PEG_R2D_N<8>	PEG_R2D_N<8> - @m39_11b.M39	84C4		CP3V3_S0_CK410_VDD_R	CP3V3_S0_CK410_VDD_REF - @m39_11b.M39	33C5		SMC_CPU_RESET_3_3_L	SMC_CPU_RESET_3_3_L - @m39_11b.M39	58B5	59A7
PCI_CBE_L<4>	PCI_CBE_L<4> - @m39_11b.M39	22B6	44B5	PEG_R2D_N<9>	PEG_R2D_N<9> - @m39_11b.M39	84C4		EF				SMC_CPU_VSENSE	SMC_CPU_VSENSE - @m39_11b.M39	58D5	59A7
PCI_DEVSEL_L	PCI_DEVSEL_L - @m39_11b.M39	22A6	26D2 44B5	PEG_R2D_N<10>	PEG_R2D_N<10> - @m39_11b.M39	84B4		PP3V3_S0_IMVP6_3V3	PP3V3_S0_IMVP6_3V3 - @m39_11b.M39	75D6		SMC_DCIN_ISENSE	SMC_DCIN_ISENSE - @m39_11b.M39	58D5	76D5
PCI_FRAME_L	PCI_FRAME_L - @m39_11b.M39	22A7	26D2 44B5	PEG_R2D_N<11>	PEG_R2D_N<11> - @m39_11b.M39	84B4		PP3V3_S5_FW_VDDA	PP3V3_S5_FW_VDDA - @m39_11b.M39	44D5 45C6		SMC_EXCARD_CP	SMC_EXCARD_CP - @m39_11b.M39	58B7	59C4
PCI_GNT3_L	PCI_GNT3_L - @m39_11b.M39	22B4	44B5	PEG_R2D_N<12>	PEG_R2D_N<12> - @m39_11b.M39	84B4		PP3V3_S5_SB_RTC	PP3V3_S5_SB_RTC - @m39_11b.M39	5D2 21D6 24B3 25A3 26D7		SMC_EXCARD_PWR_EN	SMC_EXCARD_PWR_EN - @m39_11b.M39	58B7	59C5
PCI_IDSEL	PCI_IDSEL - @m39_11b.M39	44B5		PEG_R2D_N<13>	PEG_R2D_N<13> - @m39_11b.M39	84B4		PP3V3_S0_2V5REG_R	PP3V3_S0_2V5REG_R - @m39_11b.M39	77D5		SMC_EXCARD_PWR_OC_L	SMC_EXCARD_PWR_OC_L - @m39_11b.M39	58B7	59C4
PCI_IRDY_L	PCI_IRDY_L - @m39_11b.M39	22A6	26D2 44B5	PEG_R2D_N<14>	PEG_R2D_N<14> - @m39_11b.M39	84B4		PP3V3_TPM_3VSB	PP3V3_TPM_3VSB - @m39_11b.M39	59C5 67C4		SMC_EXTAL	SMC_EXTAL - @m39_11b.M39	58C3	59B8
PCI_LOCK_L	PCI_LOCK_L - @m39_11b.M39	22A6	26D2	PEG_R2D_N<15>	PEG_R2D_N<15> - @m39_11b.M39	84B4		PP4V5_AUDIO_ANALOG	PP4V5_AUDIO_ANALOG - @m39_11b.M39	68A2 68D2 74D8		SMC_EXTSMI_L	SMC_EXTSMI_L - @m39_11b.M39	58B7	65D8
PCI_PAR	PCI_PAR - @m39_11b.M39	22A6	44B5	PEG_R2D_P<0>	PEG_R2D_P<0> - @m39_11b.M39	84D4		PP5V5_BNDI_LB340	PP5V5_BNDI_LB340 - @m39_11b.M39	47D3		SMC_FAN_0_CTL	SMC_FAN_0_CTL - @m39_11b.M39	58B7	65D8
PCI_PERR_L	PCI_PERR_L - @m39_11b.M39	22A6	26D2 44B5	PEG_R2D_P<1>	PEG_R2D_P<1> - @m39_11b.M39	84D4		PP5V5_S0_PGOOD	PP5V5_S0_PGOOD - @m39_11b.M39	97D4		FAN_RPM0	FAN_RPM0 - @m39_11b.M39	65D7	
PCI_RST_FW_L	PCI_RST_FW_L - @m39_11b.M39	22B6	26D2	PEG_R2D_P<2>	PEG_R2D_P<2> - @m39_11b.M39	84D4		PP5V5_S0_PGOOD	PP5V5_S0_PGOOD - @m39_11b.M39	97D4		SMC_FAN_0_TACH	SMC_FAN_0_TACH - @m39_11b.M39	58B7	65C8
PCI_REQ0_L	PCI_REQ0_L - @m39_11b.M39	22B6	26D2	PEG_R2D_P<3>	PEG_R2D_P<3> - @m39_11b.M39	84D4		PP5V5_S0_PGOOD	PP5V5_S0_PGOOD - @m39_11b.M39	97D4		SMC_FAN_1_CTL	SMC_FAN_1_CTL - @m39_11b.M39	58B7	65B8 66D8
PCI_REQ1_L	PCI_REQ1_L - @m39_11b.M39	22B6	26D2	PEG_R2D_P<4>	PEG_R2D_P<4> - @m39_11b.M39	84D4		PP5V5_S0_GPUVCORE_VCC	PP5V5_S0_GPUVCORE_VCC - @m39_11b.M39	85D7 88D8		SMC_FAN_1_TACH	SMC_FAN_1_TACH - @m39_11b.M39	58B7	65B8 66C8
PCI_REQ2_L	PCI_REQ2_L - @m39_11b.M39	22B6	26D2	PEG_R2D_P<5>	PEG_R2D_P<5> - @m39_11b.M39	84C4		PP5V5_S0_IMVP6_VDD	PP5V5_S0_IMVP6_VDD - @m39_11b.M39	75D6		SMC_FAN_2_CTL	SMC_FAN_2_CTL - @m39_11b.M39	58B7	65B8 66C8
PCI_REQ3_L	PCI_REQ3_L - @m39_11b.M39	22B4	26D2 44B5	PEG_R2D_P<6>	PEG_R2D_P<6> - @m39_11b.M39	84C4		PP5V5_S0_SB_VSREF	PP5V5_S0_SB_VSREF - @m39_11b.M39	24D5 25D7		SMC_FAN_3_CTL	SMC_FAN_3_CTL - @m39_11b.M39	58B7	59C5
PCI_RST_FW_L	PCI_RST_FW_L - @m39_11b.M39	44A7 44B5		PEG_R2D_P<7>	PEG_R2D_P<7> - @m39_11b.M39	84C4		PP5V5_S3_BNDI	PP5V5_S3_BNDI - @m39_11b.M39	47B2 47D1		TP_SMC_FAN_3_CTL	TP_SMC_FAN_3_CTL - @m39_11b.M39	59C3	
PCI_RST_L	PCI_RST_L - @m39_11b.M39	22A6	44A8	PEG_R2D_P<8>	PEG_R2D_P<8> - @m39_11b.M39	84C4		PP5V5_S5_SB_VSREF_SUS	PP5V5_S5_SB_VSREF_SUS - @m39_11b.M39	24D5 25C7		SMC_FAN_3_TACH	SMC_FAN_3_TACH - @m39_11b.M39	59C3	59C5
PCI_SERR_L	PCI_SERR_L - @m														



8			7			6			5			4			3			2			1		
Title: Cref Part Report			C2515 CAP_402			m39[25B6]			C4115 CAP_402			m39[41B5]			C6309 CAP_402			m39[63C6]					
Design: m39			C2516 CAP_P_CASE-C2			m39[25D3]			C4116 CAP_402			m39[41B5]			C6311 CAP_402			m39[63C2]					
Date: Nov 15 18:33:07 2005			C2517 CAP_402			m39[25D6]			C4117 CAP_402			m39[41B2]			C6312 CAP_402			m39[63D3]					
C85A0 CAP_402			C2518 CAP_402			m39[25D4]			C4118 CAP_402			m39[41B2]			C6500 CAP_603			m39[65D5]					
C600 CAP_402			C2519 CAP_402			m39[25D3]			C4126 CAP_402			m39[41A8]			C6501 CAP_805			m39[65D5]					
C601 CAP_402			C2520 CAP_402			m39[25B6]			C4127 CAP_402			m39[41A8]			C6502 CAP_603			m39[65B4]					
C602 CAP_402			C2521 CAP_402			m39[25C3]			C4128 CAP_402			m39[41A8]			C6503 CAP_805			m39[65B5]					
C603 CAP_402			C2522 CAP_402			m39[25B3]			C4129 CAP_402			m39[41A8]			C6504 CAP_P_6_3X11-TH-LF			m39[65C4]					
C610 CAP_402			C2523 CAP_402			m39[25B4]			C4130 CAP_402			m39[41A7]			C6505 CAP_P_6_3X11-TH-LF			m39[65B3]					
C699 CAP_P_CASE-C1			C2524 CAP_603			m39[25B3]			C4131 CAP_402			m39[41A7]			C6600 CAP_603			m39[66D4]					
C0800 CAP_402			C2525 CAP_402			m39[25B3]			C4132 CAP_402			m39[41A7]			C6601 CAP_805			m39[66C5]					
C0801 CAP_603			C2526 CAP_402			m39[25A4]			C4133 CAP_402			m39[41A6]			C6602 CAP_P_SMA-LF			m39[66C3]					
C900 CAP_805			C2527 CAP_402			m39[25A3]			C4134 CAP_402			m39[41A6]			C6650 CAP_402			m39[66B5]					
C901 CAP_805			C2528 CAP_402			m39[25A3]			C4135 CAP_402			m39[41A5]			C6651 CAP_402			m39[66A5]					
C902 CAP_805			C2529 CAP_402			m39[25A3]			C4136 CAP_402			m39[41A5]			C6652 CAP_402			m39[66B3]					
C903 CAP_805			C2530 CAP_402			m39[25A3]			C4137 CAP_402			m39[41A5]			C6653 CAP_402			m39[66A3]					
C904 CAP_805			C2531 CAP_402			m39[25D1]			C4138 CAP_402			m39[41A4]			C6654 CAP_402			m39[66B4]					
C905 CAP_805			C2532 CAP_402			m39[25C1]			C4139 CAP_402			m39[41A4]			C6655 CAP_402			m39[66B4]					
C906 CAP_805			C2533 CAP_402			m39[25C1]			C4140 CAP_402			m39[41B3]			C6700 CAP_402			m39[67C4]					
C907 CAP_805			C2534 CAP_402			m39[25D1]			C4150 CAP_402			m39[41D5]			C6701 CAP_402			m39[67C4]					
C908 CAP_805			C2605 CAP_402			m39[26C7]			C4200 CAP_1210			m39[42D8]			C6702 CAP_402			m39[67C3]					
C909 CAP_805			C2607 CAP_402			m39[26D5]			C4201 CAP_402			m39[42D7]			C6703 CAP_402			m39[67C3]					
C910 CAP_805			C2608 CAP_402			m39[26D8]			C4202 CAP_1210			m39[42D7]			C6704 CAP_402			m39[67C3]					
C911 CAP_805			C2609 CAP_402			m39[26D8]			C4203 CAP_1206-1			m39[42D6]			C6705 CAP_402			m39[67C3]					
C912 CAP_805			C2610 CAP_402			m39[26C7]			C4204 CAP_402			m39[42D6]			C6800 CAP_603			m39[68D6]					
C913 CAP_805			C2611 CAP_402			m39[26B7]			C4205 CAP_1210			m39[42C5]			C6801 CAP_402			m39[68D6]					
C914 CAP_805			C2698 CAP_402			m39[26C4]			C4206 CAP_402			m39[42C5]			C6802 CAP_P_B2			m39[68D4]					
C915 CAP_805			C2699 CAP_402			m39[26C5]			C4209 CAP_603			m39[42B7]			C6803 CAP_P_B2			m39[68D3]					
C916 CAP_805			C2800 CAP_402			m39[28D6]			C4210 CAP_402			m39[42B6]			C6804 CAP_P_SMA-LF			m39[68B4]					
C917 CAP_805			C2801 CAP_603			m39[28B2]			C4300 CAP_402			m39[43D7]			C6805 CAP_805			m39[68B3]					
C918 CAP_805			C2802 CAP_603			m39[28B2]			C4301 CAP_402			m39[43D6]			C6806 CAP_805			m39[68B3]					
C919 CAP_805			C2803 CAP_603			m39[28B1]			C4304 CAP_402			m39[43C6]			C6807 CAP_P_SMA-LF			m39[68B3]					
C920 CAP_805			C2804 CAP_603			m39[28B1]			C4305 CAP_402			m39[43B6]			C6808 CAP_402			m39[68B3]					
C921 CAP_805			C2810 CAP_402			m39[28B2]			C4401 CAP_402			m39[44D1]			C6809 CAP_402			m39[68B2]					
C922 CAP_805			C2811 CAP_402			m39[28B2]			C4402 CAP_402			m39[44C1]			C6810 CAP_P_SMA-LF			m39[68B2]					
C923 CAP_805			C2812 CAP_402			m39[28B1]			C4410 CAP_402			m39[44D6]			C6811 CAP_402			m39[68B2]					
C924 CAP_805			C2813 CAP_402			m39[28B1]			C4412 CAP_402			m39[44D1]			C6812 CAP_402			m39[68B2]					
C925 CAP_805			C2814 CAP_402			m39[28B1]			C4500 CAP_402			m39[45D4]			C6813 CAP_402			m39[68B3]					
C926 CAP_402			C2815 CAP_402			m39[28B2]			C4501 CAP_402			m39[45D3]			C6821 CAP_402			m39[68C6]					
C928 CAP_805			C2816 CAP_402			m39[28B1]			C4502 CAP_402			m39[45D3]			C6822 CAP_603			m39[68A5]					
C929 CAP_805			C2817 CAP_402			m39[28B1]			C4503 CAP_603			m39[45C6]			C6823 CAP_402			m39[68A4]					
C930 CAP_805			C2818 CAP_402			m39[28B2]			C4504 CAP_402			m39[45C4]			C6825 CAP_402			m39[68A3]					
C931 CAP_805			C2819 CAP_402			m39[28B2]			C4505 CAP_402			m39[45C5]			C6826 CAP_603			m39[68A3]					
C932 CAP_805			C2820 CAP_402			m39[28B1]			C4506 CAP_402			m39[45C5]			C6829 CAP_402			m39[68B3]					
C933 CAP_402			C2821 CAP_402			m39[28B1]			C4507 CAP_402			m39[45C5]			C6830 CAP_402			m39[68D4]					
C934 CAP_402			C2850 CAP_603			m39[28D6]			C4508 CAP_402			m39[45D5]			C6832 CAP_402			m39[68B2]					
C935 CAP_402			C2851 CAP_603			m39[28A6]			C4509 CAP_402			m39[45D5]			C6833 CAP_402			m39[68B3]					
C936 CAP_402			C2852 CAP_402			m39[28A6]			C4510 CAP_402			m39[45D5]			C6834 CAP_402			m39[68B2]					
C937 CAP_402			C2900 CAP_402			m39[29D6]			C4515 CAP_603			m39[45D6]			C6835 CAP_402			m39[68D6]					
C938 CAP_402			C2908 CAP_402			m39[29B2]			C4520 CAP_402			m39[45D5]			C6836 CAP_402			m39[68D3]					
C939 CAP_805			C2909 CAP_402			m39[29B2]			C4521 CAP_402			m39[45D4]			C7200 CAP_P_6_3X8-SM			m39[72D5]					
C940 CAP_P_CASE-C1			C2910 CAP_402			m39[29B1]			C4522 CAP_402			m39[45D3]			C7201 CAP_1210			m39[72D5]					
C941 CAP_P_3P_D2T			C2911 CAP_402			m39[29B1]			C4523 CAP_402			m39[45D3]			C7202 CAP_805			m39[72D4]					
C942 CAP_P_3P_D2T			C2912 CAP_402			m39[29B2]			C4609 CAP_603-1			m39[46D5]			C7203 CAP_1210			m39[72D3]					
C943 CAP_P_3P_D2T			C2913 CAP_402			m39[29B2]			C4610 CAP_402			m39[46D4]			C7204 CAP_805			m39[72D6]					
C944 CAP_P_3P_D2T			C2914 CAP_402			m39[29B1]			C4611 CAP_402			m39[46D4]			C7205 CAP_805			m39[72C6]					
C945 CAP_P_3P_D2T			C2915 CAP_402			m39[29B1]			C4612 CAP_402			m39[46C2]			C7206 CAP_805			m39[72C6]					
C946 CAP_P_3P_D2T			C2916 CAP_402			m39[29B2]			C4613 CAP_402			m39[46C4]			C7207 CAP_805			m39[72C6]					
C950 CAP_402			C2917 CAP_402			m39[29B2]			C4615 CAP_603-1			m39[46C2]			C7208 CAP_603-1			m39[72C4]					
C951 CAP_402			C2918 CAP_402			m39[29B1]			C4616 CAP_402			m39[46B2]			C7209 CAP_805			m39[72B4]					
C952 CAP_402			C2919 CAP_402			m39[29B1]			C4620 CAP_402			m39[46B4]			C7210 CAP_402			m39[72B3]					
C953 CAP_402			C2920 CAP_402			m39[29B2]			C4621 CAP_402			m39[46B4]			C7211 CAP_402			m39[72B2]					
C1000 CAP_402			C2921 CAP_402			m39[29B2]			C4622 CAP_402			m39[46A4]			C7212 CAP_402			m39[72B2]					
C1001 CAP_402			C2922 CAP_402			m39[29B1]			C4623 CAP_402			m39[46A4]			C7213 CAP_402			m39[72B2]					
C1100 CAP_402			C2923 CAP_402			m39[29B1]			C4625 CAP_603-1			m39[46A2]			C7214 CAP_603			m39[72B5]					
C1211 CAP_402			C2950 CAP_603			m39[29D6]			C4626 CAP_402			m39[46A2]			C7215 CAP_402			m39[72C6]					
C1226 CAP_402			C2951 CAP_603			m39[29A7]			C4650 CAP_402			m39[46C7]			C7216 CAP_402			m39[72C6]					
C1236 CAP_402			C2952 CAP_402			m39[29A6]			C4654 CAP_402			m39[46B8]			C7217 CAP_P_6_3X8-SM			m39[72D6]					
C1610 CAP_402			C3004 CAP_402			m39[30B4]			C4660 CAP_402			m39[46C7]			C7218 CAP_603			m39[72D5]					
C1611 CAP_402			C3005 CAP_402			m39[30D4]			C4664 CAP_402			m39[46B7]			C7219 CAP_603			m39[72D4]					
C1612 CAP_402			C3006 CAP_402			m39[30B3]			C4710 CAP_P_SMB2			m39[47D6]			C7220 CAP_402			m39[72B7]					
C1613 CAP_402			C3007 CAP_402			m39[30D3]			C4712 CAP_402			m39[47D5]			C7221 CAP_402			m39[72B7]					
C1614 CAP_402			C3008 CAP_402			m39[30A3]			C4713 CAP_402			m39[47D5]			C7222 CAP_1210			m39[72D3]					
C1615 CAP_402			C3009 CAP_402			m39[30A4]			C4720 CAP_P_SMB			m39[47C6]			C7300 CAP_402			m39[73D7]					
C1620 CAP_603			C3010 CAP_402			m39[30D4]			C4722 CAP_402			m39[47C5]			C7301 CAP_402			m39[73D6]					
C1711 CAP_402			C3011 CAP_402			m39[30D3]			C4723 CAP_402			m39[47C5]			C7302 CAP_402			m39[73D6]					
C1712 CAP_402			C3013 CAP_402			m39[30A4]			C4732 CAP_402			m39[47A5]			C7303 CAP_402			m39[73D6]					
C1713 CAP_402			C3014 CAP_402			m39[30A4]			C4733 CAP_402			m39[47A5]			C7311 CAP_402			m39[73A7]					
C1900 CAP_P_CASE-C1			C3015 CAP_402			m39[30A3]			C4742 CAP_402			m39[47D2]			C7312 CAP_402			m39[73A6]					
C1901 CAP_P_CASE-C1			C3030 CAP_402			m39[30C4]			C4743 CAP_402			m39[47D1]			C7313 CAP_402			m39[73A6]					
C1902 CAP_603			C3033 CAP_402			m39[30C3]			C4797 CAP_805-2			m39[47D3]			C7314 CAP_402			m39[73A7]					
C1903 CAP_603			C3035 CAP_402			m39[30C3]			C4798 CAP_402			m39[47A2]			C7315 CAP_402			m39[73A6]					
C1904 CAP_402			C3100 CAP_402			m39[31C4]			C4799 CAP_805-2			m39[47A2]			C7317 CAP_402			m39[73B4]					
C1905 CAP_402			C3101 CAP_603			m39[31B6]			C4950 CAP_805-2			m39[49C4]			C7318 CAP_805			m39[73B4]					
C1906 CAP_402			C3102 CAP_603			m39[31B4]			C4951 CAP_402			m39[49C4]			C7321 CAP_402			m39[73C5]					
C1907 CAP_402			C3105 CAP_P_SMC-LF			m39[31B4]			C4952 CAP_402			m39[49C4]			C7322 CAP_402			m39[73C6]					
C1914 CAP_603			C3109 CAP_603			m39[31C5]			C5301 CAP_402			m39[53B7]			C7323 CAP_402			m39[73A6]					
C1915 CAP_402			C3110 CAP_402			m39[31B6]			C5304 CAP_402			m39[53D5]			C7324 CAP_402			m39[73A5]					
C1916 CAP_402			C3301 CAP_402			m39[33D6]			C5305 CAP_402			m39[53D5]			C7400 CAP_402			m39[74B4]					
C1918 CAP_402			C3302 CAP_402			m39[33D6]			C5306 CAP_402			m39[53D4]			C7401 CAP_402			m39[74C4]					
C1920 CAP_402			C3303 CAP_402			m39[33D6]			C5307 CAP_402			m39[53C4]			C7402 CAP_402			m39[74A4]					
C1921 FILTER_3P_A_NFM18			C3304 CAP_402																				

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C	C7526 CAP_603 m39[75D6]	C7527 CAP_603 m39[75C5]	C7528 CAP_402 m39[75B5]	C7529 CAP_402 m39[75B5]	C7530 CAP_402 m39[75D6]	C7531 CAP_402 m39[75B5]	C7532 CAP_402 m39[75B6]	C7533 CAP_402 m39[75B6]
B	C7534 CAP_402 m39[75B5]	C7535 CAP_603 m39[75D1]	C7551 CAP_603 m39[75D1]	C7590 CAP_402 m39[75C3]	C7592 CAP_402 m39[75B3]	C7596 CAP_402 m39[75D6]	C7597 CAP_1210 m39[75D1]	C7598 CAP_1210 m39[75D1]
A	C7599 CAP_402 m39[76D6]	C7600 CAP_402 m39[76D3]	C7601 CAP_402 m39[76D3]	C7602 CAP_402 m39[76D2]	C7603 CAP_402 m39[76C4]	C7612 CAP_402 m39[76B2]	C7633 CAP_402 m39[76C7]	C7659 CAP_402 m39[76D4]
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	C7712 CAP_402 m39[77C7]	C7750 CAP_402 m39[77A5]	C7751 CAP_805 m39[77B4]	C7752 CAP_805 m39[77B4]	C7753 CAP_402 m39[77A7]	C7754 CAP_805 m39[77B3]	C7755 CAP_805 m39[77B3]	C7756 CAP_805 m39[77B3]
	C7757 CAP_402 m39[77A6]	C7799 CAP_402 m39[77A3]	C7800 CAP_1210 m39[78C3]	C7801 CAP_P_SM-LF m39[78C4]	C7802 CAP_603 m39[78C6]	C7803 CAP_603 m39[78B6]	C7804 CAP_402 m39[78C6]	C7805 CAP_603 m39[78C4]
	C7806 CAP_805-1 m39[78B2]	C7807 CAP_P_CASE-D2E-LF m39[78B3]	C7809 CAP_402 m39[78B3]	C7810 CAP_402 m39[78B4]	C7811 CAP_402 m39[78B5]	C7813 CAP_1206 m39[78B4]	C7814 CAP_402 m39[78B5]	C7817 CAP_P_CASE-D2E-LF m39[78B2]
	C7900 CAP_402 m39[79D6]	C7901 CAP_603 m39[79D5]	C7902 CAP_402 m39[79C5]	C7903 CAP_603 m39[79C7]	C7906 CAP_402 m39[79C5]	C7907 CAP_402 m39[79C3]	C7908 CAP_402 m39[79C5]	C7909 CAP_1206 m39[79C4]
	C7910 CAP_P_SM-3 m39[79D4]	C7911 CAP_1210 m39[79D3]	C7912 CAP_P_CASE-D2E-LF m39[79C3]	C7913 CAP_1206 m39[79C2]	C7980 CAP_402 m39[79B3]	C7992 CAP_603 m39[79D6]	C7998 CAP_P_CASE-D2E-LF m39[79C3]	C8000 CAP_1210 m39[80D3]
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	C8011 CAP_402 m39[80C5]	C8012 CAP_402 m39[80C5]	C8014 CAP_P_TH-MCZ m39[80D4]	C8015 CAP_1210 m39[80D3]	C8016 CAP_805-1 m39[80C2]	C8099 CAP_P_CASE-D2E-LF m39[80C2]	C8100 CAP_402 m39[81D6]	C8101 CAP_603 m39[81C5]
	C8102 CAP_402 m39[81C5]	C8103 CAP_603 m39[81C7]	C8106 CAP_402 m39[81C5]	C8107 CAP_402 m39[81C3]	C8108 CAP_402 m39[81C5]	C8109 CAP_1206 m39[81C4]	C8110 CAP_1210 m39[81D4]	C8111 CAP_1210 m39[81D3]
	C8112 CAP_1210 m39[81D3]	C8114 CAP_P_CASE-D2E-LF m39[81C3]	C8115 CAP_805-1 m39[81C2]	C8190 CAP_P_CASE-D2E-LF m39[81C3]	C8192 CAP_603 m39[81D6]	C8198 CAP_1210 m39[81D3]	C8199 CAP_402 m39[81A5]	C8398 CAP_603 m39[83B4]
	C8399 CAP_603 m39[83C4]	C8400 CAP_805 m39[84C7]	C8401 CAP_402 m39[84C7]	C8402 CAP_402 m39[84C7]	C8405 CAP_805 m39[84B7]	C8406 CAP_402 m39[84B7]	C8407 CAP_402 m39[84B7]	C8410 CAP_805 m39[84B6]
	C8411 CAP_402 m39[84B7]	C8412 CAP_402 m39[84B7]	C8413 CAP_402 m39[84B7]	C8420 CAP_402 m39[84D5]	C8421 CAP_402 m39[84D5]	C8422 CAP_402 m39[84D5]	C8423 CAP_402 m39[84D5]	C8424 CAP_402 m39[84D5]
	C8425 CAP_402 m39[84D5]	C8426 CAP_402 m39[84D5]	C8427 CAP_402 m39[84D5]	C8428 CAP_402 m39[84D5]	C8429 CAP_402 m39[84C5]	C8430 CAP_402 m39[84C5]	C8431 CAP_402 m39[84C5]	C8432 CAP_402 m39[84C5]
	C8433 CAP_402 m39[84C5]	C8434 CAP_402 m39[84C5]	C8435 CAP_402 m39[84C5]	C8436 CAP_402 m39[84C5]	C8437 CAP_402 m39[84C5]	C8438 CAP_402 m39[84C5]	C8439 CAP_402 m39[84C5]	C8440 CAP_402 m39[84B5]
	C8441 CAP_402 m39[84B5]	C8442 CAP_402 m39[84B5]	C8443 CAP_402 m39[84B5]	C8444 CAP_402 m39[84B5]	C8445 CAP_402 m39[84B5]	C8446 CAP_402 m39[84B5]	C8447 CAP_402 m39[84B5]	C8448 CAP_402 m39[84B5]
	C8449 CAP_402 m39[84B5]	C8450 CAP_402 m39[84B5]	C8451 CAP_402 m39[84B5]	C8455 CAP_402 m39[84D2]	C8456 CAP_402 m39[84D2]	C8457 CAP_402 m39[84D2]	C8458 CAP_402 m39[84D2]	C8459 CAP_402 m39[84D2]
	C8460 CAP_402 m39[84D2]	C8461 CAP_402 m39[84D2]	C8462 CAP_402 m39[84D2]	C8463 CAP_402 m39[84D2]	C8464 CAP_402 m39[84C2]	C8465 CAP_402 m39[84C2]	C8466 CAP_402 m39[84C2]	C8467 CAP_402 m39[84C2]
	C8468 CAP_402 m39[84C2]	C8469 CAP_402 m39[84C2]	C8470 CAP_402 m39[84C2]	C8471 CAP_402 m39[84C2]	C8472 CAP_402 m39[84C2]	C8473 CAP_402 m39[84C2]	C8474 CAP_402 m39[84C2]	C8475 CAP_402 m39[84B2]
	C8476 CAP_402 m39[84B2]	C8477 CAP_402 m39[84B2]	C8478 CAP_402 m39[84B2]	C8479 CAP_402 m39[84B2]	C8480 CAP_402 m39[84B2]	C8481 CAP_402 m39[84B2]	C8482 CAP_402 m39[84B2]	C8483 CAP_402 m39[84B2]
	C8484 CAP_402 m39[84B2]	C8485 CAP_402 m39[84B2]	C8486 CAP_402 m39[84B2]	C8500 CAP_603 m39[85D6]	C8501 CAP_603 m39[85D6]	C8502 CAP_603 m39[85D6]	C8506 CAP_402 m39[85C8]	C8507 CAP_402 m39[85C7]
	C8508 CAP_402 m39[85C7]	C8509 CAP_402 m39[85C5]	C8520 CAP_603 m39[85C3]	C8521 CAP_402 m39[85C4]	C8522 CAP_402 m39[85C5]	C8523 CAP_402 m39[85B2]	C8530 CAP_1210 m39[85D4]	C8531 CAP_1210 m39[85D4]
	C8532 CAP_1210 m39[85D4]	C8540 CAP_805 m39[85C2]	C8541 CAP_805 m39[85C2]	C8542 CAP_P_CASE-D2E-LF m39[85C2]	C8543 CAP_P_CASE-D2E-LF m39[85C2]	C8551 CAP_603 m39[85B8]	C8555 CAP_402 m39[85B7]	C8556 CAP_805 m39[85B6]
	C8557 CAP_402 m39[85B6]	C8560 CAP_402 m39[85A6]	C8570 CAP_402 m39[85A5]	C8580 CAP_603 m39[85A4]	C8585 CAP_402 m39[85A4]	C8586 CAP_402 m39[85A3]	C8589 CAP_805 m39[85A3]	C8590 CAP_402 m39[85D3]
	C8592 CAP_402 m39[85C2]	C8595 CAP_402 m39[85D1]	C8598 CAP_402 m39[85D2]	C8599 CAP_1206 m39[85C4]	C8600 CAP_805 m39[86C7]	C8601 CAP_805 m39[86C7]	C8604 CAP_402 m39[86C7]	C8605 CAP_402 m39[86C6]
	C8606 CAP_402 m39[86C6]	C8607 CAP_402 m39[86C6]	C8608 CAP_402 m39[86C5]	C8609 CAP_402 m39[86C5]	C8610 CAP_402 m39[86C5]	C8611 CAP_402 m39[86C7]	C8612 CAP_402 m39[86C6]	C8613 CAP_402 m39[86C6]
	C8614 CAP_402 m39[86C6]	C8615 CAP_402 m39[86C5]	C8616 CAP_402 m39[86C5]	C8630 CAP_805 m39[86C6]	C8631 CAP_402 m39[86C6]	C8632 CAP_402 m39[86C5]	C8633 CAP_402 m39[86C5]	C8634 CAP_402 m39[86C5]
	C8650 CAP_805 m39[86B7]	C8651 CAP_805 m39[86B7]	C8652 CAP_805 m39[86B7]	C8653 CAP_805 m39[86B6]	C8655 CAP_402 m39[86B6]	C8656 CAP_402 m39[86B6]	C8657 CAP_402 m39[86B6]	C8658 CAP_402 m39[86B5]
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	C8667 CAP_402 m39[86B6]	C8668 CAP_402 m39[86B6]	C8669 CAP_402 m39[86B6]	C8670 CAP_402 m39[86B5]	C8671 CAP_402 m39[86B5]	C8672 CAP_402 m39[86B5]	C8673 CAP_402 m39[86B6]	C8674 CAP_402 m39[86B6]
	C8675 CAP_402 m39[86B5]	C8676 CAP_402 m39[86B5]	C8677 CAP_402 m39[86B5]	C8678 CAP_402 m39[86B5]	C8679 CAP_402 m39[86A6]	C8680 CAP_402 m39[86A6]	C8681 CAP_402 m39[86A6]	C8682 CAP_402 m39[86A5]
	C8683 CAP_402 m39[86A5]	C8690 CAP_805 m39[86D5]	C8691 CAP_402 m39[86D5]	C8692 CAP_402 m39[86D5]	C8695 CAP_805 m39[86D2]	C8696 CAP_402 m39[86D3]	C8697 CAP_402 m39[86D3]	C8711 CAP_402 m39[87B7]
	C8713 CAP_402 m39[87B7]	C8715 CAP_402 m39[87A7]	C8716 CAP_402 m39[87A6]	C8721 CAP_402 m39[87B4]	C8723 CAP_402 m39[87B4]	C8725 CAP_402 m39[87A4]	C8726 CAP_402 m39[87A3]	C8900 CAP_805 m39[89D7]
	C8901 CAP_402 m39[89D7]	C8902 CAP_402 m39[89D7]	C8903 CAP_402 m39[89D7]	C8904 CAP_402 m39[89D6]	C8910 CAP_402 m39[89D7]	C8915 CAP_402 m39[89D6]	C8920 CAP_805 m39[89C8]	C8921 CAP_402 m39[89C8]
	C8922 CAP_402 m39[89C7]	C8923 CAP_402 m39[89C7]	C8924 CAP_402 m39[89C7]	C8925 CAP_402 m39[89C7]	C8926 CAP_402 m39[89C6]	C8931 CAP_402 m39[89C7]	C8933 CAP_402 m39[89C6]	C8950 CAP_805 m39[89D4]
	C8951 CAP_402 m39[89D4]	C8952 CAP_402 m39[89D4]	C8953 CAP_402 m39[89D3]	C8954 CAP_402 m39[89D3]	C8960 CAP_402 m39[89D3]	C8965 CAP_402 m39[89D3]	C8970 CAP_805 m39[89C5]	C8971 CAP_402 m39[89C4]
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	C9001 CAP_402 m39[90D7]	C9002 CAP_402 m39[90D7]	C9003 CAP_402 m39[90D7]	C9004 CAP_402 m39[90D6]	C9010 CAP_402 m39[90D7]	C9015 CAP_402 m39[90D6]	C9020 CAP_805 m39[90C8]	C9021 CAP_402 m39[90C8]
	C9022 CAP_402 m39[90C7]	C9023 CAP_402 m39[90C7]	C9024 CAP_402 m39[90C7]	C9025 CAP_402 m39[90C7]	C9026 CAP_402 m39[90C6]	C9031 CAP_402 m39[90C7]	C9033 CAP_402 m39[90C6]	C9050 CAP_805 m39[90D4]
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	C9101 CAP_402 m39[91C5]	C9102 CAP_402 m39[91C5]	C9103 CAP_402 m39[91C5]	C9110 CAP_805 m39[91C5]	C9111 CAP_402 m39[91C5]	C9112 CAP_402 m39[91C5]	C9115 CAP_805 m39[91B5]	C9116 CAP_402 m39[91B5]
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	C9131 CAP_402 m39[91A6]	C9132 CAP_402 m39[91A5]	C9135 CAP_805 m39[91A6]	C9136 CAP_402 m39[91A6]	C9137 CAP_402 m39[91A5]	C9140 CAP_805 m39[91A6]	C9141 CAP_402 m39[91A6]	C9142 CAP_402 m39[91A5]
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	C9311 CAP_402 m39[93C6]	C9312 CAP_402 m39[93C5]	C9315 CAP_805 m39[93B8]	C9316 CAP_402 m39[93B8]	C9317 CAP_402 m39[93B7]	C9320 CAP_805 m39[93B6]	C9321 CAP_402 m39[93B6]	C9322 CAP_402 m39[93B5]
	C9325 CAP_805 m39[93B8]	C9326 CAP_402 m39[93B8]	C9327 CAP_402 m39[93B7]	C9330 CAP_805 m39[93B6]	C9331 CAP_402 m39[93B6]	C9332 CAP_402 m39[93B5]	C9340 CAP_805 m39[93A6]	C9341 CAP_402 m39[93A6]
	C9342 CAP_402 m39[93A5]	C9345 CAP_805 m39[93A6]	C9346 CAP_402 m39[93A5]	C9347 CAP_402 m39[93A5]	C9400 CAP_603-1 m39[94C7]	C9401 CAP_402 m39[94C6]	C9410 CAP_402 m39[94C6]	C9420 CAP_1210 m39[94B2]
	C9470 CAP_402 m39[97C8]	C9700 CAP_402 m39[97C3]	C9711 CAP_402 m39[97D3]	C9713 CAP_402 m39[97C2]	C9714 CAP_402 m39[97C2]	C9740 CAP_402 m39[97A7]	C9741 CAP_402 m39[97A6]	C9742 CAP_402 m39[97A6]
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	D4702 DIODE_SCHOT_3P_A_SC-75 m39[47A5]	D4705 DIODE_SCHOT_3P_A_SC-75 m39[47C6]	D4706 DIODE_SCHOT_3P_A_SC-75 m39[47B6]	D4707 DIODE_SCHOT_3P_A_SC-75 m39[47A6]	D4710 DIODE_SCHOT_3P_A_SC-75 m39[47C6]	D4900 DIODE_SCHOT_3P_A_SC-75 m39[49B4]	D6500 DIODE_SOT23 m39[65C4]	D6501 DIODE_SOT23 m39[65B4]
	D6502 DIODE_SCHOT_SMB m39[65C4]	D6503 DIODE_SCHOT_SMB m39[65B4]	D6600 DIODE_SOT23 m39[66C4]	D6601 DIODE_SCHOT_SMB m39[66C3]	D7500 DIODE_SCHOT_SMB m39[75C3]	D7501 DIODE_SCHOT_SMB m39[75B9]	D7599 DIODE_SOT23 m39[76D6]	D8520 DIODE_SCHOT_SMB m39[85C3]
	D9700 ZENER_CASE425 m39[97C1]	DP4610 DIODE_DUAL_6P_SOT-36 m39[46D4 46D3]	DP4611 DIODE_DUAL_6P_SOT-36 m39[46C4 46C3]	DP4620 DIODE_DUAL_6P_SOT-36 m39[46B4 46B3]	DP4621 DIODE_DUAL_6P_SOT-36 m39[46A4 46A3]	DZ7300 SUPPR_TRANSIENT_4P1_0405 m39[73C6]	DZ7301 SUPPR_TRANSIENT_4P1_0405 m39[73A5]	DZ7302 SUPPR_TRANSIENT_4P1_0405 m39[73A4]
	DZ7303 SUPPR_TRANSIENT_4P1_0405 m39[73C5]	DZ7304 SUPPR_TRANSIENT_4P1_0405 m39[73C4]	F4600 FUSE_SM-LF m39[46D2]	F4601 FUSE_SM-LF m39[46D2]	F4602 FUSE_MINISMD-LF m39[46D3]	F4701 FUSE_MINISMD-LF m39[47D3]	F9710 FUSE_SM-LF m39[97D5]	FL4610 FILTER_4P_2012 m39[46C3]
	FL4620 FILTER_4P_2012 m39[46B3]	FL9740 FILTER_LC_SM-220MHZ-LF m39[97B7]	FL9741 FILTER_LC_SM-220MHZ-LF m39[97A7]	FL9742 FILTER_LC_SM-220MHZ-LF m39[97A7]	FLE011 FILTER_4P_2012 m39[46C3]	FLE021 FILTER_4P_2012 m39[46B3]	GV3801 HOLE_VIA m39[38A8]	GV3802 HOLE_VIA m39[38A7]
	GV3803 HOLE_VIA m39[38A8]	GV3804 HOLE_VIA m39[38A7]	GV3805 HOLE_VIA m39[38A8]	GV3806 HOLE_VIA m39[38A7]	GV3807 HOLE_VIA m39[38A7]	GV3808 HOLE_VIA m39[38A7]	J2 CON_2RTSM_125_SM-2MT -BLK-LF m39[61B7]	J3 CON_2RTSM_125_SM-2MT -BLK-LF m39[61B6]

		8	7	6	5	4	3	2	1			
		J600	CON_M14RT_D_THA_RT_M39[5D7]	L7500	IND_SM	m39[75D1]	PP627	PROBEPOINT_SM	m39[5C8]	PP8908	PROBEPOINT_SM	m39[5B5]
		J0700	CPU_YONAH_SKT_BGA	L7501	IND_SM	m39[75B2]	PP628	PROBEPOINT_SM	m39[5C8]	PP8909	PROBEPOINT_SM	m39[5B5]
		J0700	CPU_YONAH_SKT_BGA	L7502	IND_TH-VERT-LF	m39[76D8]	PP629	PROBEPOINT_SM	m39[5C8]	PP8910	PROBEPOINT_SM	m39[5B5]
		J1000	CON_2RTSM_125_SM-2MT	L7700	IND_SM-LF	m39[77C4]	PP630	PROBEPOINT_SM	m39[5C8]	PP8911	PROBEPOINT_SM	m39[5B5]
		J1101	CON_F28RT_S2MT_SM-F	L7750	IND_SM-LF	m39[77B4]	PP631	PROBEPOINT_SM	m39[5D6]	PP8912	PROBEPOINT_SM	m39[5B5]
		J2600	BATTERY_2P_TH	L7800	IND_3P_SM	m39[78B3]	PP632	PROBEPOINT_SM	m39[5D6]	PP8913	PROBEPOINT_SM	m39[5B5]
		J2800	CON_F200RT_DDR2DIMM	L7900	IND_3P_SM	m39[79C3]	PP633	PROBEPOINT_SM	m39[5D6]	PP8914	PROBEPOINT_SM	m39[5A5]
		J2900	5MT_SM_F-RT-SM1	L8000	IND_IHLF	m39[80C3]	PP634	PROBEPOINT_SM	m39[5D6]	PP8915	PROBEPOINT_SM	m39[5A5]
		J2900	CON_F200RT_DDR2DIMM	L8100	IND_IHLF	m39[81C3]	PP635	PROBEPOINT_SM	m39[5D6]	PP8916	PROBEPOINT_SM	m39[5A5]
		J2901	CON_F45T_S2MT_SM-F-S	L8400	IND_0402	m39[84B7]	PP636	PROBEPOINT_SM	m39[5D6]	PP8920	PROBEPOINT_SM	m39[5A5]
		J2903	CON_M2ST_S2MT_SM-M-S	L8520	IND_IHLF	m39[85C3]	PP637	PROBEPOINT_SM	m39[5D6]	PP8921	PROBEPOINT_SM	m39[5A5]
		J4700	CON_F10ST_D_SMA-F-ST	L8585	IND_4P_2COIL_SDQ1215	m39[85A3]	PP638	PROBEPOINT_SM	m39[5D6]	PP8922	PROBEPOINT_SM	m39[5A5]
		J4950	CON_F45T_S2MT_SM-F-S	L8715	IND_0402	m39[87A7]	PP639	PROBEPOINT_SM	m39[5D6]	PP8923	PROBEPOINT_SM	m39[5A5]
		J5300	CON_F52RT_D2MT_SM-F	L8725	IND_0402	m39[87A4]	PP640	PROBEPOINT_SM	m39[5D6]	PP8924	PROBEPOINT_SM	m39[5A5]
		J6000	CON_F30STSM_5047_SM1	L8910	IND_0402	m39[89D7]	PP641	PROBEPOINT_SM	m39[5D6]	PP8925	PROBEPOINT_SM	m39[5A5]
		J6500	CON_M4RT_S2MT_SM-M-R	L8915	IND_0402	m39[89D7]	PP642	PROBEPOINT_SM	m39[5D6]	PP8926	PROBEPOINT_SM	m39[5A5]
		J6501	CON_M5RT_S2MT_SM-M	L8915	IND_0402	m39[89D7]	PP643	PROBEPOINT_SM	m39[5D6]	PP8927	PROBEPOINT_SM	m39[5A5]
		J6600	CON_F45T_S2MT_SM-F-S	L8960	IND_0402	m39[89D4]	PP644	PROBEPOINT_SM	m39[5D6]	PP8928	PROBEPOINT_SM	m39[5A5]
		J6601	CON_M4RT_S2MT_SM-M-R	L8965	IND_0402	m39[89D4]	PP645	PROBEPOINT_SM	m39[5D6]	PP8929	PROBEPOINT_SM	m39[5A5]
		J6602	CON_M4RT_S2MT_SM-M-R	L9010	IND_0402	m39[90D7]	PP646	PROBEPOINT_SM	m39[5D6]	PP8930	PROBEPOINT_SM	m39[5A5]
		J7300	CON_F45T_S4MT_TH1-F	L9015	IND_0402	m39[90D7]	PP647	PROBEPOINT_SM	m39[5D6]	PP8931	PROBEPOINT_SM	m39[5A5]
		J7301	CON_M7RT_S2MT_SM-M-R	L9060	IND_0402	m39[90D4]	PP648	PROBEPOINT_SM	m39[5D6]	PP8932	PROBEPOINT_SM	m39[5A5]
		J7303	CON_F9ANG_S4MT_TH1-F	L9065	IND_0402	m39[90D4]	PP649	PROBEPOINT_SM	m39[5D6]	PP8933	PROBEPOINT_SM	m39[5A5]
		J9402	CON_F30ST_D_SM-F-ST-	L9120	IND_0402	m39[91B6]	PP650	PROBEPOINT_SM	m39[5D6]	PP8934	PROBEPOINT_SM	m39[5A5]
		J9710	CON_DVI_F32ST_Q2MT-S	L9125	IND_0402	m39[91B6]	PP651	PROBEPOINT_SM	m39[5D6]	PP8935	PROBEPOINT_SM	m39[5A5]
		JC900	CON_M7ST_SATA_SM-M-S	L9130	IND_0402	m39[91B7]	PP652	PROBEPOINT_SM	m39[5C6]	PP8936	PROBEPOINT_SM	m39[5A5]
		JC901	CON_M50SM_5MM_M-ST-S	L9135	IND_0402	m39[91A7]	PP653	PROBEPOINT_SM	m39[5C6]	PP9000	PROBEPOINT_SM	m39[5B4]
		JD600	CON_RJ45_10ANG_S3MT-	L9140	IND_0402	m39[91A7]	PP654	PROBEPOINT_SM	m39[5C6]	PP9001	PROBEPOINT_SM	m39[5B4]
		JE000	CON_F6ST_S4MT_TH1-F	L9300	IND_0402	m39[93C7]	PP655	PROBEPOINT_SM	m39[5C6]	PP9002	PROBEPOINT_SM	m39[5B4]
		JE001	CON_F6ST_S4MT_TH1-F	L9305	IND_0402	m39[93C7]	PP656	PROBEPOINT_SM	m39[5C6]	PP9003	PROBEPOINT_SM	m39[5B4]
		JE310	CON_F45T_USB_S3MT_TH	L9310	IND_0402	m39[93C7]	PP657	PROBEPOINT_SM	m39[5C6]	PP9004	PROBEPOINT_SM	m39[5B4]
		JE320	CON_F45T_USB_S3MT_TH	L9315	IND_0402	m39[93C7]	PP658	PROBEPOINT_SM	m39[5C6]	PP9005	PROBEPOINT_SM	m39[5B4]
		JE330	CON_F45T_USB_S3MT_TH	L9320	IND_0402	m39[93B7]	PP659	PROBEPOINT_SM	m39[5C6]	PP9006	PROBEPOINT_SM	m39[5B4]
		JE350	CON_M14RT_S2MT_SM-M-	L9325	IND_0402	m39[93B7]	PP660	PROBEPOINT_SM	m39[5C6]	PP9007	PROBEPOINT_SM	m39[5B4]
		L1934	IND_0603	L9330	IND_0402	m39[93B7]	PP661	PROBEPOINT_SM	m39[5C6]	PP9008	PROBEPOINT_SM	m39[5B4]
		L1936	IND_0603	L9345	IND_0402	m39[93B7]	PP662	PROBEPOINT_SM	m39[5C6]	PP9009	PROBEPOINT_SM	m39[5B4]
		L1970	IND_1210	L9400	IND_SM	m39[94C6]	PP663	PROBEPOINT_SM	m39[5C6]	PP9010	PROBEPOINT_SM	m39[5B4]
		L1975	IND_0805	L9700	FILTER_4P_SM	m39[97D7]	PP664	PROBEPOINT_SM	m39[5C6]	PP9011	PROBEPOINT_SM	m39[5B4]
		L2500	IND_SMA-3	L9701	FILTER_4P_SM	m39[97D7]	PP665	PROBEPOINT_SM	m39[5C6]	PP9012	PROBEPOINT_SM	m39[5B4]
		L2507	IND_1206	L9702	FILTER_4P_SM	m39[97C7]	PP666	PROBEPOINT_SM	m39[5C6]	PP9013	PROBEPOINT_SM	m39[5B4]
		L3301	IND_0402	L9703	FILTER_4P_SM	m39[97C7]	PP667	PROBEPOINT_SM	m39[5C6]	PP9014	PROBEPOINT_SM	m39[5A4]
		L3302	IND_0402	L9710	IND_SM-1	m39[97D5]	PP668	PROBEPOINT_SM	m39[5C6]	PP9015	PROBEPOINT_SM	m39[5A4]
		L4200	IND_SM	LED600	LED_2_0X1.25MM-SM	m39[6A7]	PP669	PROBEPOINT_SM	m39[5C6]	PP9016	PROBEPOINT_SM	m39[5A4]
		L4201	IND_SM	LED601	LED_2_0X1.25MM-SM	m39[6A8]	PP670	PROBEPOINT_SM	m39[5C6]	PP9020	PROBEPOINT_SM	m39[5A4]
		L4300	IND_SM	LED602	LED_2_0X1.25MM-SM	m39[6A7]	PP671	PROBEPOINT_SM	m39[5B6]	PP9021	PROBEPOINT_SM	m39[5A4]
		L4409	IND_0402	LED603	LED_2_0X1.25MM-SM	m39[6A7]	PP672	PROBEPOINT_SM	m39[5B6]	PP9022	PROBEPOINT_SM	m39[5A4]
		L4610	IND_1206-LF	LED2901	LED_3X2MM-SM	m39[59D6]	PP673	PROBEPOINT_SM	m39[5B6]	PP9023	PROBEPOINT_SM	m39[5A4]
		L4620	IND_1206-LF	LED3800	LED_2_0X1.25MM-SM	m39[63B3]	PP674	PROBEPOINT_SM	m39[5B6]	PP9024	PROBEPOINT_SM	m39[5A4]
		L4690	IND_SM-1	LED4300	LED_2_0X1.25MM-SM	m39[43D2]	PP675	PROBEPOINT_SM	m39[5B6]	PP9025	PROBEPOINT_SM	m39[5A4]
		L4710	IND_SM	LED4301	LED_2_0X1.25MM-SM	m39[43D2]	PP676	PROBEPOINT_SM	m39[5B6]	PP9026	PROBEPOINT_SM	m39[5A4]
		L4712	FILTER_4P_2012	LED4302	LED_2_0X1.25MM-SM	m39[43D1]	PP677	PROBEPOINT_SM	m39[5B6]	PP9027	PROBEPOINT_SM	m39[5A4]
		L4720	IND_SM	LED4303	LED_2_0X1.25MM-SM	m39[43D1]	PP678	PROBEPOINT_SM	m39[5B6]	PP9028	PROBEPOINT_SM	m39[5A4]
		L4722	FILTER_4P_2012	LED7900	LED_2_0X1.25MM-SM	m39[79A4]	PP679	PROBEPOINT_SM	m39[5B6]	PP9029	PROBEPOINT_SM	m39[5A4]
		L4730	IND_SM	LED8000	LED_2_0X1.25MM-SM	m39[80A4]	PP680	PROBEPOINT_SM	m39[5B6]	PP9030	PROBEPOINT_SM	m39[5A4]
		L4732	FILTER_4P_2012	LED8100	LED_2_0X1.25MM-SM	m39[81A4]	PP681	PROBEPOINT_SM	m39[5B6]	PP9031	PROBEPOINT_SM	m39[5A4]
		L4740	IND_SM	PP5E1	PROBEPOINT_SM	m39[5B8]	PP682	PROBEPOINT_SM	m39[5B6]	PP9032	PROBEPOINT_SM	m39[5A4]
		L4742	FILTER_4P_2012	PP5E2	PROBEPOINT_SM	m39[5B8]	PP683	PROBEPOINT_SM	m39[5B6]	PP9033	PROBEPOINT_SM	m39[5A4]
		L7352	FILTER_4P_2012	PP6A0	PROBEPOINT_SM	m39[5A6]	PP684	PROBEPOINT_SM	m39[5B6]	PP9034	PROBEPOINT_SM	m39[5A4]
		L5300	FILTER_4P_2012	PP6A1	PROBEPOINT_SM	m39[5A6]	PP685	PROBEPOINT_SM	m39[5B6]	PP9035	PROBEPOINT_SM	m39[5A4]
		L6800	IND_0402	PP6A2	PROBEPOINT_SM	m39[5A6]	PP686	PROBEPOINT_SM	m39[5B6]	PP9036	PROBEPOINT_SM	m39[5A4]
		L6801	IND_0402	PP6A3	PROBEPOINT_SM	m39[5A6]	PP687	PROBEPOINT_SM	m39[5B6]	Q4200	TRA_2N7002_SOT23-LF	m39[42D2]
		L7200	IND_SM-1	PP6A4	PROBEPOINT_SM	m39[5A6]	PP688	PROBEPOINT_SM	m39[5B6]	Q4201	TRA_PBSS55402_SOT223	m39[42C6]
		L7201	IND_0603	PP6A5	PROBEPOINT_SM	m39[5A6]	PP689	PROBEPOINT_SM	m39[5B6]	Q4400	TRA_SINGLE_MOSFET_NC	m39[44A7]
		L7202	IND_0603	PP6A6	PROBEPOINT_SM	m39[5A6]	PP690	PROBEPOINT_SM	m39[5B6]			
		L7203	IND_0603	PP6A7	PROBEPOINT_SM	m39[5A6]	PP691	PROBEPOINT_SM	m39[5B6]			
		L7204	IND_0603	PP6A8	PROBEPOINT_SM	m39[5A6]	PP692	PROBEPOINT_SM	m39[5B6]			
		L7205	IND_0603	PP6A9	PROBEPOINT_SM	m39[5A6]	PP693	PROBEPOINT_SM	m39[5B6]			
		L7206	IND_0603	PP6B0	PROBEPOINT_SM	m39[5A6]	PP694	PROBEPOINT_SM	m39[5B6]			
		L7207	IND_0603	PP6B1	PROBEPOINT_SM	m39[5A6]	PP695	PROBEPOINT_SM	m39[5B6]			
		L7208	IND_0603	PP6B2	PROBEPOINT_SM	m39[5A6]	PP696	PROBEPOINT_SM	m39[5B6]			
		L7300	IND_SM	PP6B3	PROBEPOINT_SM	m39[5A6]	PP697	PROBEPOINT_SM	m39[5B6]			
		L7301	IND_SM	PP6B4	PROBEPOINT_SM	m39[5A6]	PP698	PROBEPOINT_SM	m39[5B6]			
		L7302	IND_SM	PP6B5	PROBEPOINT_SM	m39[5A6]	PP699	PROBEPOINT_SM	m39[5B6]			
		L7303	IND_SM	PP6B6	PROBEPOINT_SM	m39[5A6]	PP700	TP_SM-TP50-TOP	m39[5D3]			
		L7304	IND_SM	PP6B7	PROBEPOINT_SM	m39[5A6]	PP701	TP_SM-TP50-TOP	m39[5D3]			
		L7305	IND_SM	PP6B8	PROBEPOINT_SM	m39[5A6]	PP1200	TP_SM-TP50-TOP	m39[5D3]			
		L7306	IND_SM	PP6B9	PROBEPOINT_SM	m39[5A6]	PP1201	TP_SM-TP50-TOP	m39[5D3]			
		L7307	IND_SM	PP6C0	PROBEPOINT_SM	m39[5A6]	PP1202	TP_SM-TP50-TOP	m39[5D3]			
		L7309	IND_SM	PP6C1	PROBEPOINT_SM	m39[5A6]	PP2800	TP_SM-TP50-TOP	m39[5C3]			
		L7310	IND_SM	PP6C2	PROBEPOINT_SM	m39[5A6]	PP2801	TP_SM-TP50-TOP	m39[5C3]			
		L7312	IND_SM	PP6C3	PROBEPOINT_SM	m39[5A6]	PP2802	TP_SM-TP50-TOP	m39[5C3]			
		L7313	IND_SM	PP6C4	PROBEPOINT_SM	m39[5A6]	PP4100	PROBEPOINT_SM	m39[5D4]			
		L7314	IND_SM	PP6C5	PROBEPOINT_SM	m39[5A6]	PP4101	PROBEPOINT_SM	m39[5D4]			
		L7315	IND_SM	PP6C6	PROBEPOINT_SM	m39[5A6]	PP8400	PROBEPOINT_SM	m39[5C5]			
		L7316	IND_SM	PP6C7	PROBEPOINT_SM	m39[5A6]	PP8401	PROBEPOINT_SM	m39[5C5]			
		L7317	IND_SM	PP6C8	PROBEPOINT_SM	m39[5A6]	PP8700	PROBEPOINT_SM	m39[5D5]			
		L7318	IND_SM	PP6C9	PROBEPOINT_SM	m39[5A6]	PP8701	PROBEPOINT_SM	m39[5D5]			
		L7319	IND_SM	PP6D0	PROBEPOINT_SM	m39[5A6]	PP8702	PROBEPOINT_SM	m39[5D5]			
		L7320	IND_SM	PP6D1	PROBEPOINT_SM	m39[5A6]	PP8703	PROBEPOINT_SM	m39[5D5]			
		L7322	IND_SM	PP6D2	PROBEPOINT_SM	m39[5A6]	PP8704	PROBEPOINT_SM	m39[5D5]			
		L7323	IND_SM	PP6D3	PROBEPOINT_SM	m39[5A6]	PP8705	PROBEPOINT_SM	m39[5D5]			
		L7324	IND_SM	PP6D4								

	8	7	6	5	4	3	2	1
	Q8301 TRA_IRP7413_SO-8 m39[83B4]	R2306 RES_402 m39[23B7]	R3454 RES_402 m39[34B7]	R5818 RES_402 m39[58B3]				
	Q8302 TRA_2N7002DW_SOT-363 m39[83B5]	R2307 RES_402 m39[23A7]	R3455 RES_402 m39[34B8]	R5819 RES_402 m39[58B4]				
	Q8303 TRA_2N7002DW_SOT-363 m39[83C5]	R2308 RES_402 m39[23B7]	R3456 RES_402 m39[34B7]	R5821 RES_402 m39[58B3]				
	Q8520 TRA_HAT2168H_LFFPAK m39[85D4]	R2309 RES_402 m39[23A7]	R3457 RES_402 m39[34B7]	R5822 RES_402 m39[58B3]				
	Q8521 TRA_HAT2165H_LFFPAK m39[85C4]	R2310 RES_402 m39[23A7]	R3458 RES_402 m39[34B8]	R5823 RES_402 m39[58B3]				
	Q8522 TRA_HAT2165H_LFFPAK m39[85C5]	R2311 RES_402 m39[23A7]	R3459 RES_402 m39[34A7]	R5824 RES_402 m39[58B3]				
	Q8523 TRA_2N7002DW_SOT-363 m39[85B3 85B2]	R2313 RES_402 m39[23A7]	R3460 RES_402 m39[34A7]	R5825 RES_402 m39[58B3]				
	Q8554 TRA_2N7002_SOT23-LF m39[85A8]	R2314 RES_402 m39[23A7]	R3461 RES_402 m39[34A7]	R5826 RES_402 m39[58B3]				
	Q8570 TRA_2N7002_SOT23-LF m39[85A5]	R2316 RES_402 m39[23D7]	R3462 RES_402 m39[34A8]	R5827 RES_402 m39[58C5]				
	Q8575 TRA_FDC796N_SUPERSOT m39[85B6]	R2317 RES_402 m39[23D7]	R3463 RES_402 m39[34A7]	R5828 RES_402 m39[58B3]				
	-6	R2318 RES_402 m39[23D7]	R3470 RES_402 m39[34A5]	R5829 RES_402 m39[58C3]				
	Q8576 TRA_FDC796N_SUPERSOT m39[85A2]	R2319 RES_402 m39[23D2]	R3471 RES_402 m39[34A5]	R5830 RES_402 m39[58C3]				
	-6	R2320 RES_402 m39[23D7]	R3485 RES_402 m39[34D1]	R5831 RES_402 m39[58C3]				
	Q9400 TRA_SI3443DV_TSOP-LF m39[94C7]	R2323 RES_402 m39[23D5]	R3486 RES_402 m39[34D1]	R5832 RES_402 m39[58C3]				
	Q9401 TRA_2N7002_SOT23-LF m39[94C7]	R2326 RES_402 m39[23D6]	R3487 RES_402 m39[34D1]	R5833 RES_402 m39[58B3]				
	Q9711 TRA_2N7002DW_SOT-363 m39[97D2 97C2]	R2327 RES_402 m39[23D6]	R3488 RES_402 m39[34D1]	R5838 RES_402 m39[58C2]				
	R75A0 RES_402 m39[75C7]	R2343 RES_402 m39[23D1]	R3489 RES_402 m39[34D2]	R5839 RES_402 m39[58D3]				
	R85A0 RES_402 m39[85B1]	R2388 RES_402 m39[23A3]	R3490 RES_402 m39[34D2]	R5900 RES_402 m39[59D7]				
	R600 RES_603 m39[6A7]	R2389 RES_402 m39[23D5]	R3491 RES_402 m39[34D2]	R5901 RES_402 m39[59D6]				
	R601 RES_402 m39[6D8]	R2390 RES_402 m39[23B3]	R3492 RES_402 m39[34D2]	R5902 RES_402 m39[59D7]				
	R602 RES_603 m39[6A8]	R2395 RES_402 m39[23D7]	R3493 RES_402 m39[34D7]	R5903 RES_402 m39[59D2]				
	R603 RES_402 m39[6B1]	R2396 RES_402 m39[23D6]	R3494 RES_402 m39[34D7]	R5904 RES_402 m39[59D2]				
	R605 RES_603 m39[6A7]	R2397 RES_402 m39[23D6]	R3495 RES_402 m39[34D7]	R5905 RES_402 m39[59D2]				
	R611 RES_402 m39[6B7]	R2398 RES_402 m39[23D8]	R3496 RES_402 m39[34C5]	R5906 RES_402 m39[59D2]				
	R612 RES_402 m39[6B7]	R2399 RES_402 m39[23C1]	R3497 RES_402 m39[34D4]	R5907 RES_402 m39[59B7]				
	R614 RES_402 m39[6B7]	R2500 RES_603 m39[25A8]	R3498 RES_402 m39[34D5]	R5910 RES_402 m39[59D2]				
	R615 RES_402 m39[6B7]	R2501 RES_402 m39[25C8]	R3499 RES_402 m39[34D5]	R5911 RES_402 m39[59D2]				
	R616 RES_402 m39[6A7]	R2502 RES_402 m39[25D8]	R3824 RES_402 m39[38D2]	R5912 RES_402 m39[59D2]				
	R617 RES_402 m39[6A7]	R2600 RES_402 m39[26C7]	R3851 RES_402 m39[38D3]	R5913 RES_402 m39[59D2]				
	R618 RES_402 m39[6C7]	R2606 RES_402 m39[26C7]	R3852 RES_402 m39[38D2]	R5914 RES_402 m39[59C2]				
	R619 RES_402 m39[6B7]	R2607 RES_402 m39[26C8]	R3853 RES_402 m39[38D2]	R5915 RES_402 m39[59C2]				
	R0702 RES_402 m39[7D6]	R2609 RES_402 m39[26D7]	R3857 RES_402 m39[38B3]	R5916 RES_402 m39[59C2]				
	R0703 RES_402 m39[7C6]	R2611 RES_402 m39[26D5]	R3858 RES_402 m39[38B3]	R5917 RES_402 m39[59C2]				
	R0704 RES_402 m39[7C5]	R2612 RES_402 m39[26D5]	R3859 RES_402 m39[38B2]	R5919 RES_402 m39[59B4]				
	R0705 RES_402 m39[7B4]	R2622 RES_402 m39[26D4]	R3897 RES_402 m39[38B7]	R5920 RES_402 m39[59B5]				
	R0706 RES_402 m39[7B5]	R2623 RES_402 m39[26D2]	R3899 RES_402 m39[38B5]	R5921 RES_402 m39[59B5]				
	R0707 RES_402 m39[7B4]	R2624 RES_402 m39[26D2]	R4101 RES_402 m39[41D7]	R5922 RES_402 m39[59B5]				
	R0712 RES_402 m39[7A3]	R2625 RES_402 m39[26D2]	R4102 RES_402 m39[41C7]	R5923 RES_402 m39[59B5]				
	R0716 RES_402 m39[7B1]	R2626 RES_402 m39[26D2]	R4103 RES_402 m39[41C2]	R5924 RES_402 m39[59B5]				
	R0717 RES_402 m39[7B1]	R2627 RES_402 m39[26D2]	R4104 RES_402 m39[41C2]	R5925 RES_402 m39[59A1]				
	R0718 RES_402 m39[7B1]	R2628 RES_402 m39[26D2]	R4105 RES_402 m39[41C2]	R5927 RES_402 m39[59A3]				
	R0719 RES_402 m39[7B1]	R2629 RES_402 m39[26D2]	R4106 RES_402 m39[41C2]	R5930 RES_402 m39[59B6]				
	R0720 RES_402 m39[7B7]	R2630 RES_402 m39[26D2]	R4117 RES_402 m39[41B2]	R5931 RES_402 m39[59B6]				
	R0721 RES_402 m39[7B7]	R2631 RES_402 m39[26D2]	R4118 RES_402 m39[41B2]	R5932 RES_402 m39[59A7]				
	R0722 RES_402 m39[7A7]	R2632 RES_402 m39[26D2]	R4119 RES_402 m39[41B2]	R5933 RES_402 m39[59A7]				
	R0730 RES_402 m39[7A4]	R2633 RES_402 m39[26D2]	R4120 RES_402 m39[41B2]	R5934 RES_402 m39[59A6]				
	R0802 RES_402 m39[8A4]	R2634 RES_402 m39[26D2]	R4122 RES_402 m39[41A1]	R5935 RES_402 m39[59A7]				
	R0803 RES_402 m39[8A7]	R2636 RES_402 m39[26D2]	R4123 RES_402 m39[41A2]	R5940 RES_402 m39[59A3]				
	R1000 RES_402 m39[10D3]	R2637 RES_402 m39[26D2]	R4130 RES_402 m39[41C4]	R5941 RES_402 m39[59A5]				
	R1001 RES_402 m39[10D3]	R2638 RES_402 m39[26D2]	R4131 RES_402 m39[41C4]	R5942 RES_402 m39[59A4]				
	R1002 RES_402 m39[10C6]	R2639 RES_402 m39[26D2]	R4150 RES_402 m39[41C8]	R5955 RES_402 m39[59A5]				
	R1005 RES_402 m39[10D3]	R2640 RES_402 m39[26C2]	R4151 RES_402 m39[41D7]	R6100 RES_402 m39[61C4]				
	R1017 RES_402 m39[10C6]	R2641 RES_402 m39[26C2]	R4200 RES_402 m39[42D2]	R6101 RES_402 m39[61C5]				
	R1018 RES_402 m39[10B6]	R2642 RES_402 m39[26C2]	R4201 RES_402 m39[42C2]	R6102 RES_402 m39[61C5]				
	R1019 RES_402 m39[10B6]	R2643 RES_402 m39[26C2]	R4202 RES_402 m39[42D6]	R6103 RES_402 m39[61C6]				
	R1100 RES_402 m39[11B5]	R2650 RES_402 m39[26C4]	R4300 RES_402 m39[43D7]	R6104 RES_402 m39[61B6]				
	R1101 RES_402 m39[11C5]	R2651 RES_402 m39[26C1]	R4301 RES_402 m39[43D2]	R6301 RES_402 m39[63D4]				
	R1102 RES_402 m39[11B4]	R2696 RES_402 m39[26B4]	R4302 RES_603 m39[43D2]	R6302 RES_402 m39[63D4]				
	R1103 RES_402 m39[11C5]	R2697 RES_402 m39[26C3]	R4303 RES_603 m39[43D1]	R6303 RES_402 m39[63C2]				
	R1104 RES_402 m39[11B5]	R2698 RES_402 m39[26C5]	R4304 RES_603 m39[43D1]	R6306 RES_402 m39[63C2]				
	R1106 RES_402 m39[11A3]	R2699 RES_402 m39[26C5]	R4350 RES_402 m39[43C7]	R6307 RES_402 m39[63C5]				
	R1210 RES_402 m39[12C3]	R2718 RES_402 m39[27B7]	R4351 RES_402 m39[43C7]	R6309 RES_402 m39[63C5]				
	R1211 RES_402 m39[12C3]	R2719 RES_402 m39[27B7]	R4352 RES_402 m39[43C7]	R6399 RES_402 m39[63D2]				
	R1220 RES_402 m39[12B7]	R2800 RES_402 m39[28C7]	R4353 RES_402 m39[43C7]	R6500 RES_402 m39[65C7]				
	R1221 RES_402 m39[12B7]	R2801 RES_402 m39[28C7]	R4354 RES_402 m39[43C7]	R6501 RES_402 m39[65A7]				
	R1225 RES_402 m39[12B7]	R2900 RES_402 m39[29A3]	R4355 RES_402 m39[43C7]	R6502 RES_1206 m39[65D6]				
	R1226 RES_402 m39[12B7]	R3001 RES_402 m39[30B4]	R4356 RES_402 m39[43C7]	R6503 RES_805 m39[65D7]				
	R1230 RES_402 m39[12A7]	R3009 RES_402 m39[30D4]	R4357 RES_402 m39[43B7]	R6504 RES_805 m39[65C5]				
	R1231 RES_402 m39[12A7]	R3011 RES_402 m39[30C4]	R4402 RES_402 m39[44B3]	R6505 RES_805 m39[65D5]				
	R1235 RES_402 m39[12A7]	R3025 RES_402 m39[30C4]	R4403 RES_402 m39[44B5]	R6506 RES_402 m39[65D6]				
	R1236 RES_402 m39[12A7]	R3035 RES_402 m39[30B4]	R4404 RES_402 m39[44A7]	R6507 RES_805 m39[65B5]				
	R1310 RES_402 m39[13D3]	R3100 RES_402 m39[31C5]	R4407 RES_402 m39[44A7]	R6508 RES_805 m39[65B5]				
	R1410 RES_402 m39[14C3]	R3101 RES_402 m39[31C5]	R4409 RES_402 m39[44B3]	R6509 RES_805 m39[65B5]				
	R1411 RES_402 m39[14C3]	R3300 RES_402 m39[33B6]	R4410 RES_402 m39[44D2]	R6510 RES_1206 m39[65B6]				
	R1420 RES_402 m39[14B6]	R3301 RES_402 m39[33B7]	R4411 RES_402 m39[44D6]	R6511 RES_402 m39[65B6]				
	R1430 RES_402 m39[14B6]	R3302 RES_402 m39[33B4]	R4412 RES_402 m39[44C1]	R6512 RES_805 m39[65C5]				
	R1440 RES_402 m39[14D6]	R3303 RES_402 m39[33C4]	R4413 RES_402 m39[44C3]	R6513 RES_805 m39[65B5]				
	R1441 RES_402 m39[14D6]	R3304 RES_402 m39[33C7]	R4414 RES_402 m39[44C3]	R6514 RES_805 m39[65B4]				
	R1975 RES_402 m39[19A4]	R3400 RES_402 m39[34C5]	R4416 RES_402 m39[44A5]	R6515 RES_805 m39[65C4]				
	R1980 RES_402 m39[19B7]	R3401 RES_402 m39[34B5]	R4450 RES_402 m39[44B3]	R6580 RES_402 m39[65B8]				
	R1981 RES_402 m39[19B7]	R3402 RES_402 m39[34B5]	R4451 RES_402 m39[44B3]	R6581 RES_402 m39[65B7]				
	R1982 RES_402 m39[19B8]	R3403 RES_402 m39[34C5]	R4452 RES_402 m39[44B3]	R6597 RES_402 m39[65A7]				
	R1983 RES_402 m39[19B8]	R3404 RES_402 m39[34C5]	R4453 RES_402 m39[44B3]	R6598 RES_402 m39[65A7]				
	R2058 RES_402 m39[20B4]	R3405 RES_402 m39[34C5]	R4454 RES_402 m39[44B3]	R6599 RES_402 m39[65C7]				
	R2059 RES_402 m39[20B4]	R3406 RES_402 m39[34C5]	R4455 RES_402 m39[44B3]	R6600 RES_402 m39[66C7]				
	R2060 RES_402 m39[20A4]	R3407 RES_402 m39[34B5]	R4456 RES_402 m39[44D5]	R6601 RES_805 m39[66B5]				
	R2075 RES_402 m39[20C7]	R3408 RES_402 m39[34B5]	R4650 RES_402 m39[46C8]	R6602 RES_805 m39[66C4]				
	R2077 RES_402 m39[20B7]	R3409 RES_402 m39[34B5]	R4651 RES_402 m39[46C7]	R6603 RES_805 m39[66D5]				
	R2079 RES_402 m39[20B7]	R3410 RES_402 m39[34B5]	R4652 RES_402 m39[46B8]	R6604 RES_1206 m39[66D5]				
	R2085 RES_402 m39[20C4]	R3411 RES_402 m39[34B5]	R4653 RES_402 m39[46B7]	R6605 RES_402 m39[66D6]				
	R2100 RES_402 m39[21C3]	R3412 RES_402 m39[34B5]	R4654 RES_402 m39[46B7]	R6606 RES_805 m39[66C5]				
	R2101 RES_402 m39[21C4]	R3413 RES_402 m39[34B5]	R4656 RES_2512 m39[46D6]	R6607 RES_805 m39[66C3]				
	R2105 RES_402 m39[21D6]	R3414 RES_402 m39[34B5]	R4660 RES_402 m39[46C7]	R6680 RES_402 m39[66D8]				
	R2107 RES_402 m39[21C2]	R3415 RES_402 m39[34B5]	R4661 RES_402 m39[46C7]	R6681 RES_402 m39[66D7]				
	R2108 RES_402 m39[21C2]	R3416 RES_402 m39[34B5]	R4662 RES_402 m39[46B7]	R6697 RES_402 m39[66C8]				
	R2110 RES_402 m39[21C2]	R3417 RES_402 m39[34B5]	R4663 RES_402 m39[46B7]	R6698 RES_402 m39[66C8]				
	R2194 RES_402 m39[21D4]	R3418 RES_402 m39[34B5]	R4664 RES_402 m39[46B7]	R6700 RES_402 m39[67C6]				
	R2195 RES_402 m39[21C6]	R3419 RES_402 m39[34A5]	R4690 RES_402 m39[46A7]	R6702 RES_402 m39[67C4]				
	R2196 RES_402 m39[21C6]	R3420 RES_402 m39[34A5]	R4					



	8	7	6	5	4	3	2	1
D	R7217 RES_402 m39[72B5]	R7404 RES_402 m39[74B4]	R7903 RES_402 m39[79C3]	R8948 RES_402 m39[89A7]	U601 SM74VLC1G04_SOT23-5 m39[6C7]	U2603 SM74VLC1G04_SOT23-5 m39[26A7]		
	R7218 RES_402 m39[72A5]	R7405 RES_402 m39[74C4]	R7904 RES_402 m39[79C5]	R8949 RES_402 m39[89A7]	U1000 AD77461_MSP08 m39[10D5]	U2698 MC74VHC1G08_SOT23-5 m39[26C4]		
	R7219 RES_402 m39[72B4]	R7407 RES_402 m39[74D3]	R7905 RES_402 m39[79D7]	R8980 RES_402 m39[89C4]	U1200 NB_945GM_BGA m39[12D5]	U2699 MAX6816_SOT143 m39[26C5]		
	R7302 RES_402 m39[73A3]	R7408 RES_402 m39[74B4]	R7906 RES_402 m39[79A4]	R8981 RES_402 m39[89C4]	U1200 NB_945GM_BGA m39[13D4]	U3100 LREG_BD3533FVM_MSP08 m39[31C5]		
	R7313 RES_402 m39[73C2]	R7409 RES_402 m39[74B4]	R7910 RES_402 m39[79B2]	R8982 RES_402 m39[89C4]	U1200 NB_945GM_BGA m39[14D5]	8		
	R7314 RES_402 m39[73C2]	R7410 RES_805 m39[74D2]	R7911 RES_402 m39[79B3]	R8983 RES_402 m39[89C4]	U1200 NB_945GM_BGA m39[15D3 15D7]	U3301 CLK_GEN_CY284455_QFN m39[33C5]		
	R7400 RES_402 m39[74B4]	R7411 RES_805 m39[74C2]	R7912 RES_402 m39[79B3]	R8990 RES_402 m39[89B5]	U1200 NB_945GM_BGA m39[16D2 16C8]	U4101 88E8053_QFN m39[41D5]		
	R7404 RES_402 m39[74C4]	R7412 RES_805 m39[74D2]	R7913 RES_402 m39[79A2]	R8991 RES_402 m39[89B4]	U1200 NB_945GM_BGA m39[17D5]	U4102 EEPROM_M24C08_S08 m39[41A3]		
	R7405 RES_402 m39[74B4]	R7413 RES_402 m39[74B4]	R7914 RES_402 m39[79A3]	R8992 RES_402 m39[89B4]	U1200 NB_945GM_BGA m39[18D4 18D7]	U4400 FW32306_TQFP m39[44D5]		
	R7408 RES_402 m39[74A4]	R7414 RES_805 m39[74B7]	R7915 RES_402 m39[79A3]	R8993 RES_402 m39[89B4]	U2100 SB_1CH7M_BGA m39[21D6]	U4700 SWI_TPS2024_S01 m39[47C8]		
	R7409 RES_402 m39[74B4]	R7415 RES_805 m39[74C7]	R7916 RES_402 m39[79A4]	R8994 RES_402 m39[89B4]	U2100 SB_1CH7M_BGA m39[22B7 22D3]	U5800 SMC_H8S2116_BGA m39[58A8 58C3 58C6 58D6]		
	R7410 RES_805 m39[74D2]	R7416 RES_402 m39[74C7]	R7917 RES_402 m39[79A5]	R8995 RES_402 m39[89B4]	U2100 SB_1CH7M_BGA m39[23D4]	U5900 VDET_RMSVD_SOT23-5 m39[59D8]		
	R7411 RES_805 m39[74C2]	R7417 RES_805 m39[74C8]	R7918 RES_402 m39[79A5]	R8996 RES_402 m39[89B4]	U2100 SB_1CH7M_BGA m39[24D4 24D7]	U5940 VREF_REF3133_SOT23-3 m39[59A4]		
	R7412 RES_805 m39[74D2]	R7418 RES_402 m39[74B6]	R7919 RES_402 m39[79C7]	R8997 RES_402 m39[89B4]	U2601 MC74VHC1G08_SOT23-5 m39[26D5]	U5999 COMPARATOR_LMV339_TS m39[59A6 59A6 59A8 59A8]		
	R7413 RES_402 m39[74B4]	R7419 RES_402 m39[74B6]	R7920 RES_402 m39[79C7]	R8998 RES_402 m39[89A4]		SOP		
	R7414 RES_805 m39[74B7]	R7420 RES_402 m39[74D4]	R7921 RES_402 m39[79C7]	R8999 RES_402 m39[89A4]	U6100 MAX6695_UMAX m39[61C4]	U6301 FLASH_SST25VF016B_SO m39[63D3]		
	R7415 RES_805 m39[74B8]	R7421 RES_402 m39[74D8]	R7922 RES_402 m39[79C7]	R9000 RES_402 m39[90C7]	U6700 TFM_TSSOP m39[67C5]			
	R7416 RES_805 m39[74C7]	R7422 RES_402 m39[74D7]	R7923 RES_402 m39[79C7]	R9001 RES_402 m39[90C7]	U6800 AUD10_STAC9220_LQFP m39[68D5]	U7200 MAX31714_QFN-LF m39[72C5]		
	R7417 RES_805 m39[74C8]	R7423 RES_402 m39[74D7]	R7924 RES_402 m39[79C7]	R9002 RES_402 m39[90C7]	U7500 ISL6262_QFN m39[75C6]	U7501 INAL38_SOT23-5-LF m39[75D7]		
	R7418 RES_402 m39[74B6]	R7424 RES_402 m39[74B6]	R7925 RES_402 m39[79C7]	R9003 RES_402 m39[90C7]	U7600 OPAMP_LMV2011_SOT23-3 m39[76D3]	5		
	R7419 RES_402 m39[74B6]	R7425 RES_402 m39[74B5]	R7926 RES_402 m39[79C7]	R9004 RES_402 m39[90A8]	U7700 LTC3411_MSP08-LF m39[77D5]	U7710 MC74VHC1G08_SOT23-5 m39[77C7]		
	R7420 RES_402 m39[74D4]	R7426 RES_402 m39[74A4]	R7927 RES_402 m39[79C7]	R9005 RES_402 m39[90A8]	U7711 MC74VHC1G08_SOT23-5 m39[77B7]	U7712 MC74VHC1G08_SOT23-5 m39[77B7]		
	R7421 RES_402 m39[74D8]	R7427 RES_402 m39[74A4]	R7928 RES_402 m39[79C7]	R9006 RES_402 m39[90A8]	U7712 MC74VHC1G08_SOT23-5 m39[77B7]	U7750 LTC3412_TSSOP-LF m39[77B5]		
	R7422 RES_402 m39[74D7]	R7428 RES_402 m39[74A4]	R7929 RES_402 m39[79C7]	R9007 RES_402 m39[90A8]	U7750 LTC3412_TSSOP-LF m39[77B5]	U7800 ISL6549_QFN m39[78C6]		
	R7423 RES_402 m39[74B6]	R7429 RES_805 m39[74C2]	R7930 RES_402 m39[79C7]	R9008 RES_402 m39[90A4]	U7900 ISL6549_QFN m39[79D6]	U7901 COMPARATOR_LM339A_SO m39[79A5]		
	R7424 RES_402 m39[74B6]	R7430 RES_402 m39[74C1]	R7931 RES_402 m39[79C7]	R9009 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7425 RES_402 m39[74B5]	R7431 RES_402 m39[74C2]	R7932 RES_402 m39[79C7]	R9010 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7426 RES_402 m39[74A4]	R7432 RES_402 m39[74B1]	R7933 RES_402 m39[79C7]	R9011 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7427 RES_402 m39[74A4]	R7433 RES_402 m39[74B1]	R7934 RES_402 m39[79C7]	R9012 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7428 RES_402 m39[74A4]	R7500 RES_402 m39[75C2]	R7935 RES_402 m39[79C7]	R9013 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7429 RES_805 m39[74C2]	R7501 RES_603 m39[75C2]	R7936 RES_402 m39[79C7]	R9014 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7430 RES_402 m39[74C1]	R7502 RES_1206 m39[75B2]	R7937 RES_402 m39[79C7]	R9015 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7431 RES_402 m39[74C2]	R7503 RES_1206 m39[75D2]	R7938 RES_402 m39[79C7]	R9016 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7432 RES_402 m39[74B1]	R7504 RES_402 m39[75C1]	R7939 RES_402 m39[79C7]	R9017 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7433 RES_402 m39[74B1]	R7505 RES_402 m39[75B2]	R7940 RES_402 m39[79C7]	R9018 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7500 RES_402 m39[75C2]	R7506 RES_603 m39[75B2]	R7941 RES_402 m39[79C7]	R9019 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7501 RES_603 m39[75C2]	R7507 RES_402 m39[75B1]	R7942 RES_402 m39[79C7]	R9020 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7502 RES_1206 m39[75B2]	R7508 RES_402 m39[75B8]	R7943 RES_402 m39[79C7]	R9021 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7503 RES_1206 m39[75D2]	R7509 RES_402 m39[75B8]	R7944 RES_402 m39[79C7]	R9022 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7504 RES_402 m39[75C1]	R7510 RES_402 m39[75B6]	R7945 RES_402 m39[79C7]	R9023 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7505 RES_402 m39[75B2]	R7511 RES_402 m39[75B7]	R7946 RES_402 m39[79C7]	R9024 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7506 RES_603 m39[75B2]	R7512 RES_402 m39[75B7]	R7947 RES_402 m39[79C7]	R9025 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7507 RES_402 m39[75B1]	R7513 RES_402 m39[75B7]	R7948 RES_402 m39[79C7]	R9026 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7508 RES_402 m39[75B8]	R7514 RES_402 m39[75B8]	R7949 RES_402 m39[79C7]	R9027 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7509 RES_402 m39[75B8]	R7515 RES_402 m39[75B4]	R7950 RES_402 m39[79C7]	R9028 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7510 RES_402 m39[75B6]	R7516 RES_402 m39[75B4]	R7951 RES_402 m39[79C7]	R9029 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7511 RES_402 m39[75B7]	R7517 RES_402 m39[75B5]	R7952 RES_402 m39[79C7]	R9030 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7512 RES_402 m39[75B7]	R7518 RES_402 m39[75B5]	R7953 RES_402 m39[79C7]	R9031 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7513 RES_402 m39[75B7]	R7519 RES_402 m39[75C7]	R7954 THERMIST_402 m39[75C8]	R9032 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7514 RES_402 m39[75B8]	R7520 RES_402 m39[75D7]	R7526 THERMIST_402 m39[75C8]	R9033 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7515 RES_402 m39[75B4]	R7521 RES_402 m39[75D7]	R7527 RES_402 m39[75C8]	R9034 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7516 RES_402 m39[75B4]	R7522 RES_402 m39[75A5]	R7528 RES_402 m39[75A5]	R9035 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7517 RES_402 m39[75B5]	R7523 RES_402 m39[75A5]	R7529 RES_402 m39[75A5]	R9036 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7518 RES_402 m39[75B5]	R7524 THERMIST_402 m39[75C8]	R7530 RES_402 m39[75B4]	R9037 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7519 RES_402 m39[75C7]	R7525 RES_402 m39[75C8]	R7531 THERMIST_0603-LF m39[75B4]	R9038 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7520 RES_402 m39[75D7]	R7526 RES_402 m39[75C8]		R9039 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7521 RES_402 m39[75D7]	R7527 RES_402 m39[75C8]		R9040 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7522 RES_402 m39[75A5]	R7528 RES_402 m39[75A5]		R9041 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7523 RES_402 m39[75A5]	R7529 RES_402 m39[75A5]		R9042 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7526 THERMIST_402 m39[75C8]	R7530 RES_402 m39[75B4]		R9043 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7527 RES_402 m39[75C8]	R7531 THERMIST_0603-LF m39[75B4]		R9044 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7528 RES_402 m39[75A5]			R9045 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7529 RES_402 m39[75A5]			R9046 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7530 RES_402 m39[75B4]			R9047 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7531 THERMIST_0603-LF m39[75B4]			R9048 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7590 RES_402 m39[75C7]			R9049 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7591 RES_402 m39[75C7]			R9050 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7592 RES_402 m39[75C7]			R9051 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7593 RES_402 m39[75C7]			R9052 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7594 RES_402 m39[75C7]			R9053 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7595 RES_402 m39[75C7]			R9054 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7596 RES_402 m39[75D7]			R9055 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7597 RES_402 m39[76D6]			R9056 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7598 RES_402 m39[76C7]			R9057 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7599 RES_2512-1 m39[76D7]			R9058 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7600 RES_402 m39[76D3]			R9059 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7602 RES_402 m39[76D3]			R9060 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7603 RES_402 m39[76C3]			R9061 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7604 RES_402 m39[76C3]			R9062 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7605 RES_402 m39[76D4]			R9063 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7606 RES_402 m39[76D4]			R9064 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7607 RES_402 m39[76C3]			R9065 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7612 RES_402 m39[76B2]			R9066 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		
	R7620 RES_402 m39[76D2]			R9067 RES_402 m39[90A4]	U7901 COMPARATOR_LM339A_SO m39[79A5]	I-LF		

