

8

7

6

5

4

3

2

1

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

B

358898

PRODUCTION RELEASED

01/07/05

D

C

B

A

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CONTENTS

TITLE PAGE AND CONTENTS

PCB NOTES AND HOLES

DC POWER INPUT

USB I/O CONNECTOR (LEFT) & ALS (LEFT)

SNAPPER (AUDIO) CONTROL INTERFACE

SPEAKER DRIVER

HEADPHONE DRIVER

MICROPHONE AMP. & LINE-IN AMP.

SIGNAL & POWER CONSTRAINTS

REVISION HISTORY

SIGNAL LOCATIONS

COMPONENT LOCATIONS

SCHEM, LEFT I/O BRD, PB15"

01/07/2005

PART#

QTY

DESCRIPTION

REFERENCE DESIGNATOR(S)

BOM OPTION

051-6686

1

SCHEM, LEFT I/O BRD, PB15

SCH1

820-1685

1

PCBF, LEFT I/O BRD, PB15

PCB1

DIMENSIONS ARE IN MILLIMETERS

XX ±

X.XX ±

X.XXX ±

ANGLES ±

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

METRIC

DRAFTER

ENG APPD

QA APPD

RELEASE

DESIGN CK

MFG APPD

DESIGNER

SCALE

SIZE

NONE

MATERIAL/FINISH NOTED AS APPLICABLE

D

Apple Computer Inc.

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TITLE

SCHEM, LEFT I/O BRD, PB15

DRAWING NUMBER

051-6686

REV.

B

SHT

1

OF

12

8

7

6

5

4

3

2

1

D

C

B

A

87654321

PCB SPECS

THICKNESS : 1.2 MM / 0.047 IN
1/2 OZ CU THICKNESS: 0.7 MILS
1.0 OZ CU THICKNESS: 1.4 MILS

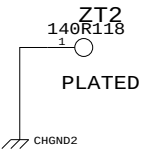
IMPEDANCE : 50 OHMS +/- 10%
DIELECTRIC: FR-4
LAYER COUNT: 10
SIGNAL TRACE WIDTH: 4 MILS
SIGNAL TRACE SPACING: 4 MILS
PREPREG THICKNESS: 3-6 MILS

SEE PCB CAD FILES FOR MORE SPECIFIC INFO.

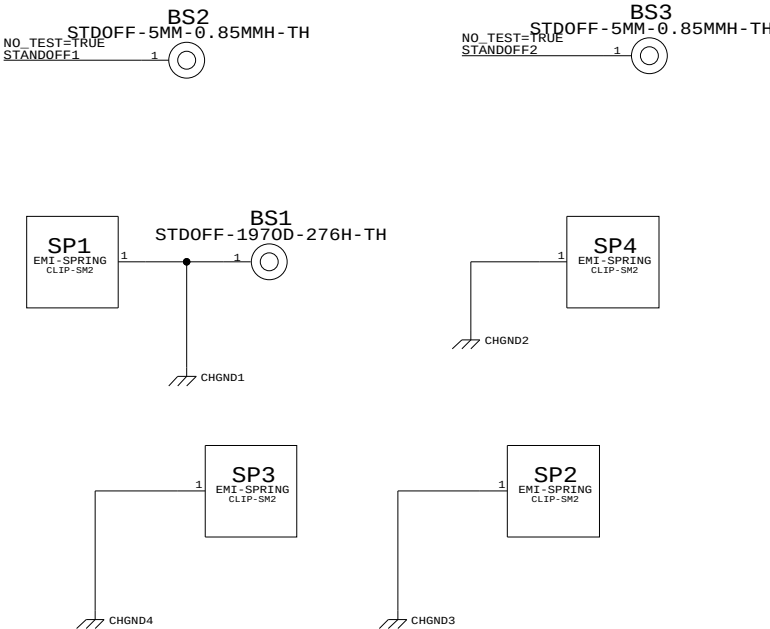
BOARD STACK-UP AND CONSTRUCTION

1	Micro Via (Blind)	20R10 TH Via	SIGNAL (1/2 OZ)
2	20R10 Buried Via		SIGNAL (1/2 OZ)
3			GROUND (1/2 OZ)
4			SIGNAL (1/2 OZ)
5			CUT POWER PLANE(DEFAULT 3V) POWER (1 OZ)
6			CUT POWER PLANE(DEFAULT 5V) POWER (1 OZ)
7			SIGNAL (1/2 OZ)
8			GROUND (1/2 OZ)
9			SIGNAL (1/2 OZ)
10			SIGNAL (1/2 OZ)

BOARD HOLES



PCB BOARD STANDOFFS / FINGER SPRINGS



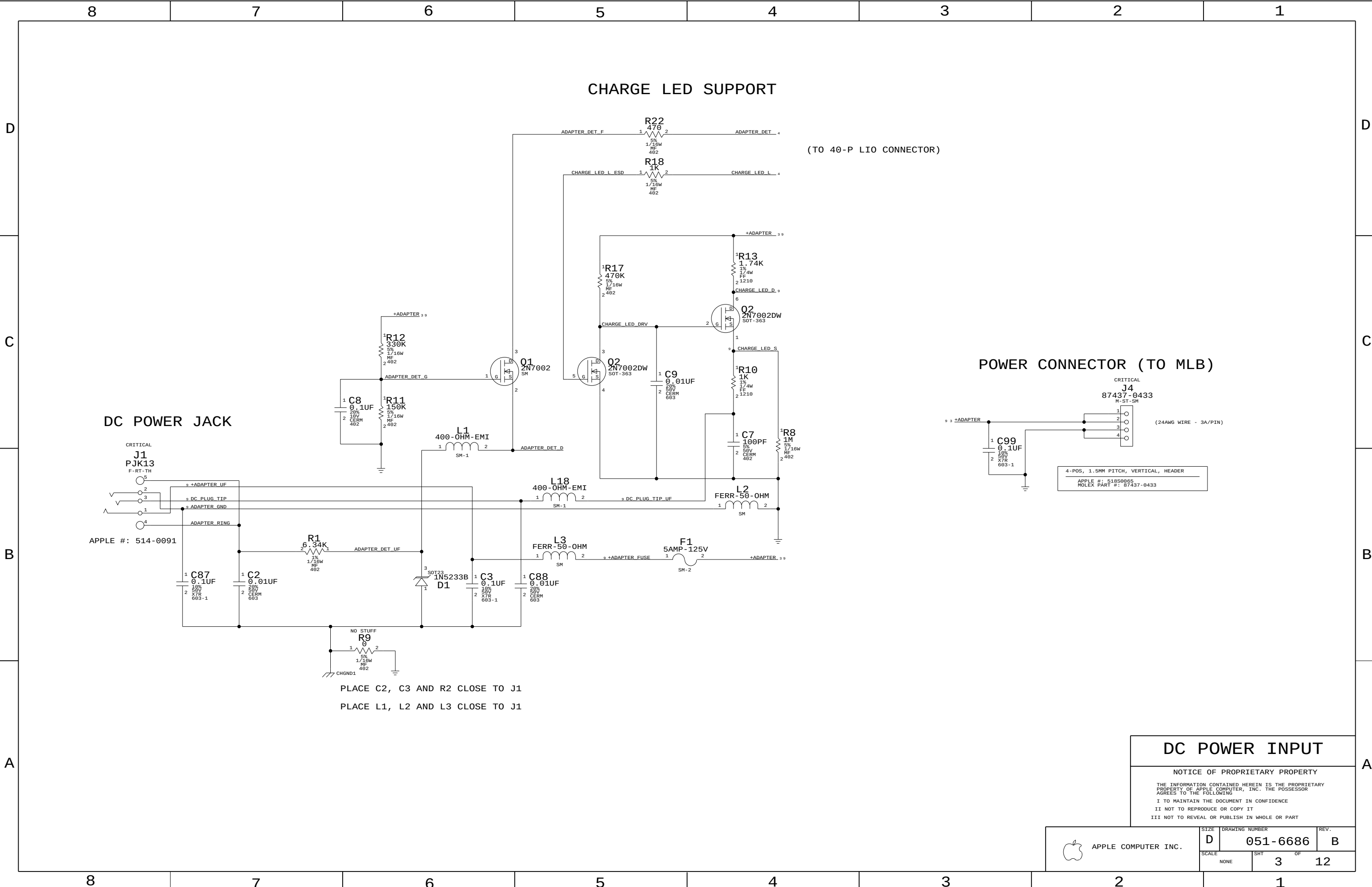
BOARD INFORMATION

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SIZE	DRAWING NUMBER	REV.
D	051-6686	B
SCALE	SHT	OF
NONE	2	12



DC POWER INPUT

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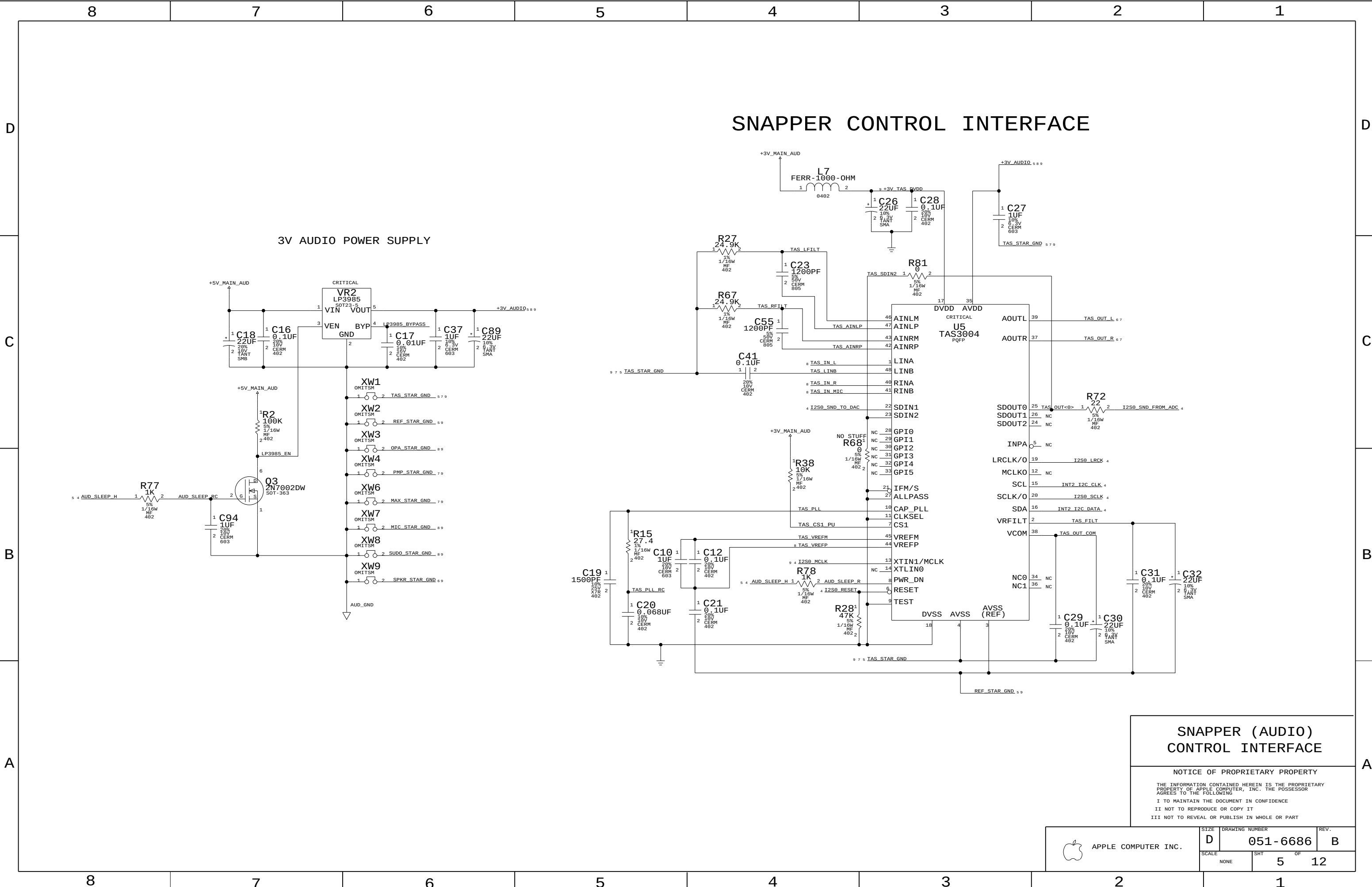
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APPLE COMPUTER INC.	SIZE D	DRAWING NUMBER 051-6686	REV. B
	SCALE NONE	SHT 3	OF 12



SNAPPER (AUDIO) CONTROL INTERFACE

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SIZE	DRAWING NUMBER	REV.
D	051-6686	B
SCALE	SHT	OF
NONE	5	12

D



C

B

B

A

SIZE D	DRAWING NUMBER 051-6686	REV. B
SCALE NONE	SHT OF 6 12	

D

D

C

B

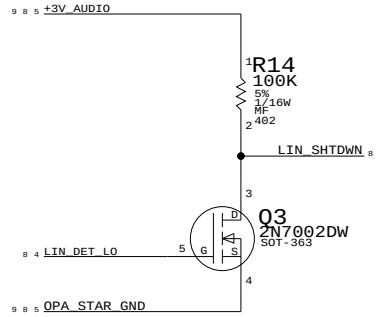
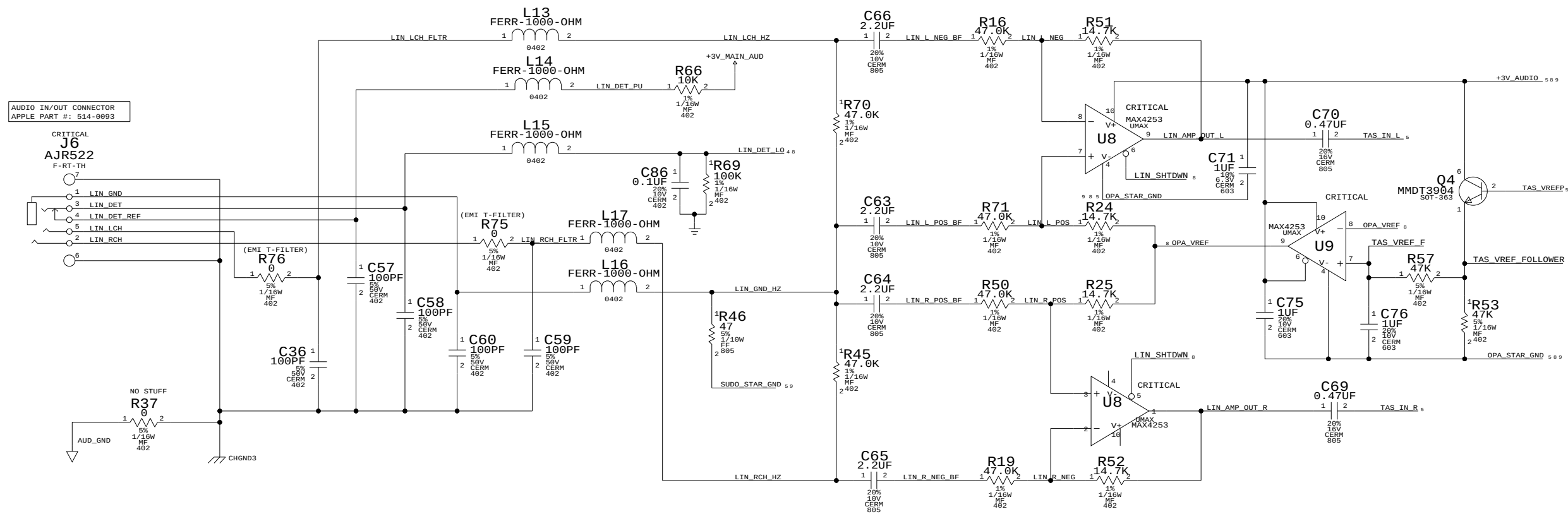
B

A

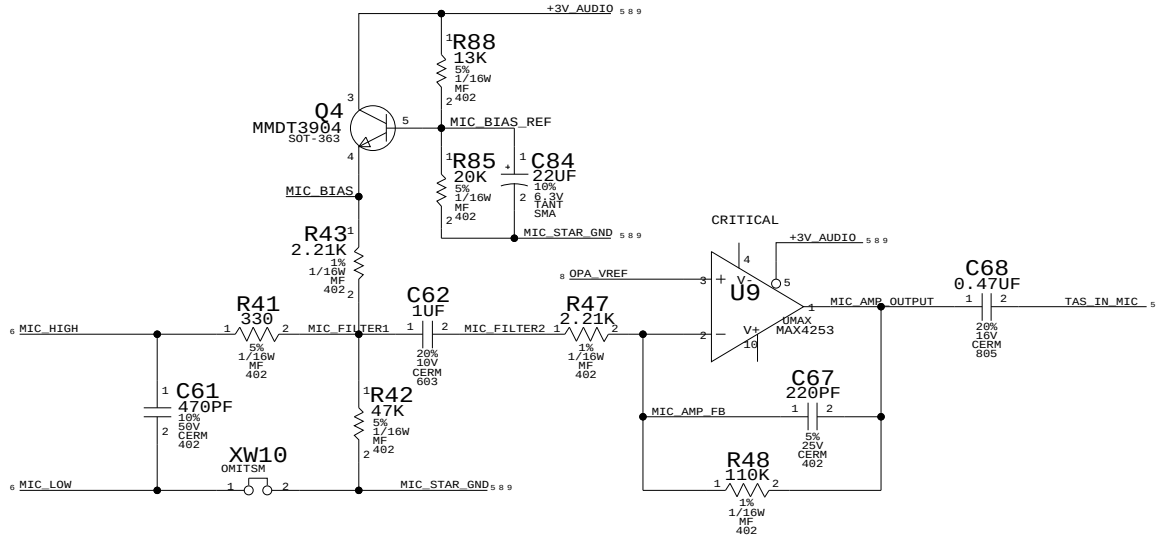


APPLE COMPUTER INC.

LINE-IN AMP



MICROPHONE AMP



MICROPHONE AMP.
& LINE-IN AMP.

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APPLE COMPUTER INC.	SIZE	DRAWING NUMBER	REV.
	D	051-6686	B
SCALE		SHT	OF
NONE		8	12

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

D

```

LAYER 2 (STRIP LINES)
E=3.8, W=4.7, H=3, T=0.7, S=12.3(IN MIL)
ZSINGLE = 45.0 OHM
ZDIFF = 89.1 OHM

```

D

C

C

B

A



SIZE	DRAWING NUMBER	REV.
D	051-6686	B
SCALE	SHT	OF
NONE	9	12

8		7		6		5		4		3		2		1	
REVISION HISTORY															
(REV. 01)07/07/2004 -SCHEMATIC ORIGINATED FROM Q16B L10 (REV. A)12/17/2004 -SCHEMATIC RELEASE FOR PRODUCTION															
D														D	
C														C	
B														B	
A														A	
8		7		6		5		4		3		2		1	
APPLE COMPUTER INC. SIZE D DRAWING NUMBER 051-6686 REV. B SCALE NONE SHT 10 OF 12												NOTICE OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE COMPUTER, INC. THE POSSESSOR AGREES TO THE FOLLOWING I TO MAINTAIN THE DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART			

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	SCALE NONE	SHT 10	OF 12

[illegible]

8		7		6		5		4		3		2		1		
D	C	B	A	*** Part Cross-Reference for the entire design ***												A
				B51	PCB_STANDOFF	2	R39	RES	6	R40	RES	6	D	C		
				C1	CAP_P	4	R41	RES	8	R42	RES	8				
				C2	CAP	3	R43	RES	8	R44	RES	6				
				C3	CAP	3	R45	RES	8	R46	RES	8				
				C4	CAP	6	R47	RES	8	R48	RES	8				
				C5	CAP	6	R49	RES	6	R50	RES	8				
				C6	CAP	6	R51	RES	8	R52	RES	8				
				C7	CAP	3	R53	RES	8	R54	RES	7				
				C8	CAP	3	R55	RES	6	R56	RES	6				
C9	CAP	3	R57	RES	8	R58	RES	7								
C				C10	CAP	5	R59	RES	7	R60	RES	6	B	A		
				C11	CAP	4	R61	RES	6	R62	RES	6				
				C12	CAP	5	R63	RES	6	R64	RES	6				
				C13	CAP	4	R65	RES	6	R66	RES	8				
				C14	CAP	4	R67	RES	5	R68	RES	5				
				C15	CAP	4	R69	RES	8	R70	RES	8				
				C16	CAP	5	R71	RES	8	R72	RES	5				
				C17	CAP	5	R73	RES	7	R74	RES	7				
				C18	CAP_P	5	R75	RES	8	R76	RES	8				
				C19	CAP	5	R77	RES	5	R78	RES	5				
B				C20	CAP	5	R81	RES	5	R82	RES	7	A	D		
				C21	CAP	5	R83	RES	7	R84	RES	7				
				C22	CAP	6	R85	RES	8	R88	RES	8				
				C23	CAP	5	SP1	SPRING_CLIP_IP_EMI	2	SP2	SPRING_CLIP_IP_EMI	2				
				C24	CAP	7	SP3	SPRING_CLIP_IP_EMI	2	SP4	SPRING_CLIP_IP_EMI	2				
				C25	CAP	7	U1	SMT_MTC2825	4	U2	AUDIO_LM4991LD	6				
				C26	CAP_P	5	U3	MAX4418	7	U4	AUDIO_LM4991LD	6				
				C27	CAP	5	U5	TAS3884	5	U6	AUDIO_LM4991LD	6				
				C28	CAP	5	U8	OPAMP_MAX4253	8	U9	OPAMP_MAX4253	8				
				C29	CAP	5	V82	VREG_LP3985	5	X81	SHORT	5				
A				C30	CAP_P	6	X82	SHORT	5	X83	SHORT	5	B	C		
				C31	CAP	5	X84	SHORT	5	X85	SHORT	5				
				C32	CAP_P	5	X86	SHORT	5	X87	SHORT	5				
				C33	CAP	7	X88	SHORT	5	X89	SHORT	5				
				C34	CAP	7	X90	SHORT	8	ZT2	MTGHOLE	2				
				C35	CAP	8										
				C36	CAP	8										
				C37	CAP	5										
				C38	CAP	7										
				C39	CAP	7										
A				C40	CAP_P	7							C	B		
				C41	CAP	5										
				C42	CAP	7										
				C43	CAP	7										
				C44	CAP	6										
				C45	CAP	7										
				C46	CAP	6										
				C47	CAP	7										
				C48	CAP	7										
				C49	CAP_P	6										
A				C50	CAP	7							B	A		
				C51	CAP	6										
				C52	CAP	6										
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				C77	CAP	6										
				C78	CAP	7										
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A				C80	CAP_P	6							C	B		
				C81	CAP_P	7										
				C82	CAP_P	7										
				C83	CAP_P	7										
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				C85	CAP	8										
				C86	CAP	8										
				C87	CAP	3										
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				C94	CAP	5										
				C95	CAP	4										
				C96	CAP	6										
				C97	CAP	6										
				C98	CAP	6										
				C99	CAP	3										
A				D1	ZENER	3							C	B		
				D2	SUPPL_TRANSIENT_AP1	7										
				F1	FUSE	3										
				J1	CON_F8RT_S2MT_TH3	3										
				J2	CON_M4BST_D4MT_SM	4										
				J3	CON_F4RT_USB_S2MT_TH_4											
				J4	CON_M4ST_S_SH_3											
				J5	CON_F8RT_S2MT_TH2	7										
				J6	CON_F8RT_S2MT_TH2	8										
				J7	CON_F8RT_S2MT_SH_6	6										
A				J8	CON_4RT_MR1B	4							B	A		
				L1	IND	3										
				L2	IND	3										
				L3	IND	3										
				L4	IND	7										
				L5	IND	7										
				L6	FILTER_4P	4										
				L7	IND	5										
				L8	IND	7										
				L9	IND	7										
A				L10	IND	7							C	B		
				L13	IND	8										
				L14	IND	8										
				L15	IND	8										
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				L17	IND	8										
				L18	IND	3										
				L19	IND	4										
				L20	IND	7										
				Q1	TRA_2N7002	3										
Q2	TRA_2N7002DM	3														
Q3	TRA_2N7002DM	5	8													
Q4	TRA_DUAL_MMOT3984	8														
R1	RES	3	3													
R2	RES	5														
R3	RES	6														
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R38	RES	5														
8		7		6		5		4		3		2		1		

12