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 DATE	ENG APPD DATE
02		384031	ENGINEERING RELEASED	06/01/05	

SCHEM,SPRINT,Q16C
06/01/2005

PAGE	CONTENTS
1	TITLE PAGE AND CONTENTS
2	BACK UP BATTERY
3	CONSTRAINTS
4	COMPONENT LOCATIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
051-6846	1	SCHEM,SPRINT,Q16B	SCH1	
820-1819	1	PCBF,SPRINT,Q16B	PCB1	

DIMENSIONS ARE IN MILLIMETERS
XX ±
X.XX ±
X.XXX ±
ANGLES ±
DO NOT SCALE DRAWING
THIRD ANGLE PROJECTION

METRIC

DRAFTER		DESIGN CK	
ENG APPD		MFG APPD	
QA APPD		DESIGNER	
RELEASE		SCALE	NONE

MATERIAL/FINISH NOTED AS APPLICABLE
SIZE D

Apple Computer Inc.

TITLE
SCHEME,SPRINT,Q16C

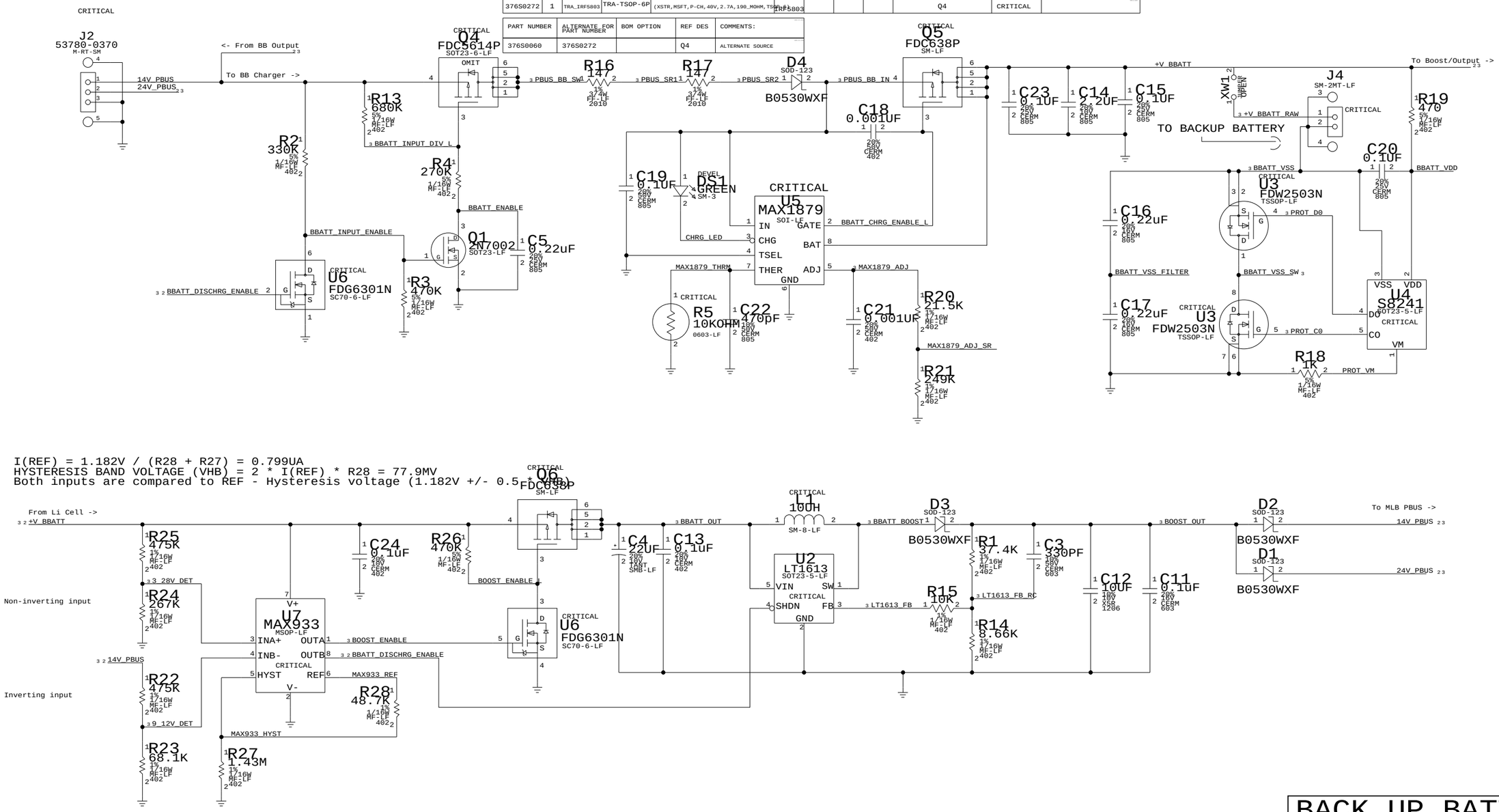
DRAWING NUMBER 051-6846 REV. 02

SHT 1 OF 5

BACKUP BATTERY CHARGER

PART #	QTY	DEVICE	PACKAGE	DESCRIPTION	VALUE	VOLT.	WATT.	TOL.	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
376S0272	1	TRA_IRF5803	TRA-TSOP-6P	(XSTR,MSFT,P-CH,40V,2.7A,190_MOHM,TSOP6)	IRF5803				Q4	CRITICAL	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S0060	376S0272		Q4	ALTERNATE SOURCE



I(REF) = 1.182V / (R28 + R27) = 0.799UA
HYSTERESIS BAND VOLTAGE (VHB) = 2 * I(REF) * R28 = 77.9MV
Both inputs are compared to REF - Hysteresis voltage (1.182V +/- 0.5 * VHB)

BACK UP BATTERY

NOTICE OF PROPRIETARY PROPERTY

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III NOT TO REVEAL OR PUBLISH IN WHOLE OR PART

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6846	02

SCALE	SHT
NONE	2 OF 5

REVISION HISTORY

02/21/05 - SCHEMATIC ORIGINATED FROM Q41B 051-6753-A
02/23/05 - CORRECTED THE NOTE

Power Signals

GROUP	SIG_NAME	VOLTAGE	MIN_LINE_WIDTH	MIN_NECK_WIDTH
BATTERY	24V_PBUS	VOLTAGE=24V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	14V_PBUS	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	PBUS_BB_IN	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	PBUS_SR2	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	PBUS_SR1	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	PBUS_BB_SW	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	+V_BBATT	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	+V_BBATT_RAW	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	BBATT_VSS	VOLTAGE=0V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	BBATT_VSS_SW	VOLTAGE=0V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
MAX1879	MAX1879_ADJ	VOLTAGE=1.4V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	BBATT_INPUT_DIV_L	VOLTAGE=14V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
S8241	PROT_D0	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	PROT_C0	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
MAX933	9_12V_DET	VOLTAGE=1.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.508MM
	3_28V_DET	VOLTAGE=1.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	BOOST_ENABLE	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	BBATT_DISCHRG_ENABLE	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
LT1613	BBATT_OUT	VOLTAGE=4.2V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	BBATT_BOOST	VOLTAGE=6.5V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	BOOST_OUT	VOLTAGE=6.5V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM
	LT1613_FB	VOLTAGE=1.3V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	LT1613_FB_RC	VOLTAGE=1.3V	MIN_LINE_WIDTH=0.203MM	MIN_NECK_WIDTH=0.254MM
	GND	VOLTAGE=0V	MIN_LINE_WIDTH=0.508MM	MIN_NECK_WIDTH=0.254MM

SIGNAL CONSTRAINTS

APPLE COMPUTER INC.

SIZE	DRAWING NUMBER	REV.
D	051-6846	02

SCALE	SHT	OF
NONE	3	5

*** Signal Cross-Reference for the entire design ***

```
+V_BBATT          2B8<> 2D1<> 3D6>
+V_BBATT_RAW      2D2<> 3D6>
3_28V_DET         2B7< 3C6>
9_12V_DET         2A7< 3C6>
14V_PBUS          2B1<> 2B8< 2D7<> 3D6>
24V_PBUS          2B1<> 2D7<> 3D6>
BBATT_BOOST       2B4<> 3C6>
BBATT_CHRG_ENABLE_L  2C4<>
BBATT_DISCHRG_ENABLE  2B6<> 2C7<> 3C6>
BBATT_ENABLE      2C6<
BBATT_INPUT_DIV_L  2D6<> 3C6>
BBATT_INPUT_ENABLE  2C7<>
BBATT_OUT         2B5<> 3C6>
BBATT_VDD         2C1<
BBATT_VSS         2C2<> 3D6>
BBATT_VSS_FILTER  2C2<
BBATT_VSS_SW      2C2<> 3D6>
BOOST_ENABLE      2B6<> 3C6>
BOOST_ENABLE_L    2B6<>
BOOST_OUT         2B3<> 3C6>
CHRG_LED          2C5<
LT1613_FB         2B4<> 3C6>
LT1613_FB_RC      2B3< 3C6>
MAX933_HYST       2A7<
MAX933_REF        2A6<>
MAX1879_ADJ       2C4<> 3C6>
MAX1879_ADJ_SR    2C3<
MAX1879_THRM      2C5<>
PBUS_BB_IN        2D4<> 3D6>
PBUS_BB_SW        2D6<> 3D6>
PBUS_SR1          2D5< 3D6>
PBUS_SR2          2D5<> 3D6>
PROT_C0           2C2<> 3C6>
PROT_D0           2C2<> 3C6>
PROT_VM           2C2<
```

*** Part Cross-Reference for the entire design ***

C3	CAP	2
C4	CAP_P	2
C5	CAP	2
C11	CAP	2
C12	CAP	2
C13	CAP	2
C14	CAP	2
C15	CAP	2
C16	CAP	2
C17	CAP	2
C18	CAP	2
C19	CAP	2
C20	CAP	2
C21	CAP	2
C22	CAP	2
C23	CAP	2
C24	CAP	2
D1	DIODE_SCHOT	2
D2	DIODE_SCHOT	2
D3	DIODE_SCHOT	2
D4	DIODE_SCHOT	2
DS1	LED	2
J2	CON_3RTSM_125	2
J4	CON_2RTSM_125	2
L1	IND	2
Q1	TRA_2N7002	2
Q4	TRA_FDC5614P	2
Q5	TRA_FDC638P	2
Q6	TRA_FDC638P	2
R1	RES	2
R2	RES	2
R3	RES	2
R4	RES	2
R5	THERMISTER	2
R13	RES	2
R14	RES	2
R15	RES	2
R16	RES	2
R17	RES	2
R18	RES	2
R19	RES	2
R20	RES	2
R21	RES	2
R22	RES	2
R23	RES	2
R24	RES	2
R25	RES	2
R26	RES	2
R27	RES	2
R28	RES	2
U2	DCDC_LT1613	2
U3	TRA_FDW2503N	2
U4	BAT_PROT_S8241	2
U5	MAX1879	2
U6	TRA_FDG6301N	2
U7	MAX933	2
XW1	JUMPER	2