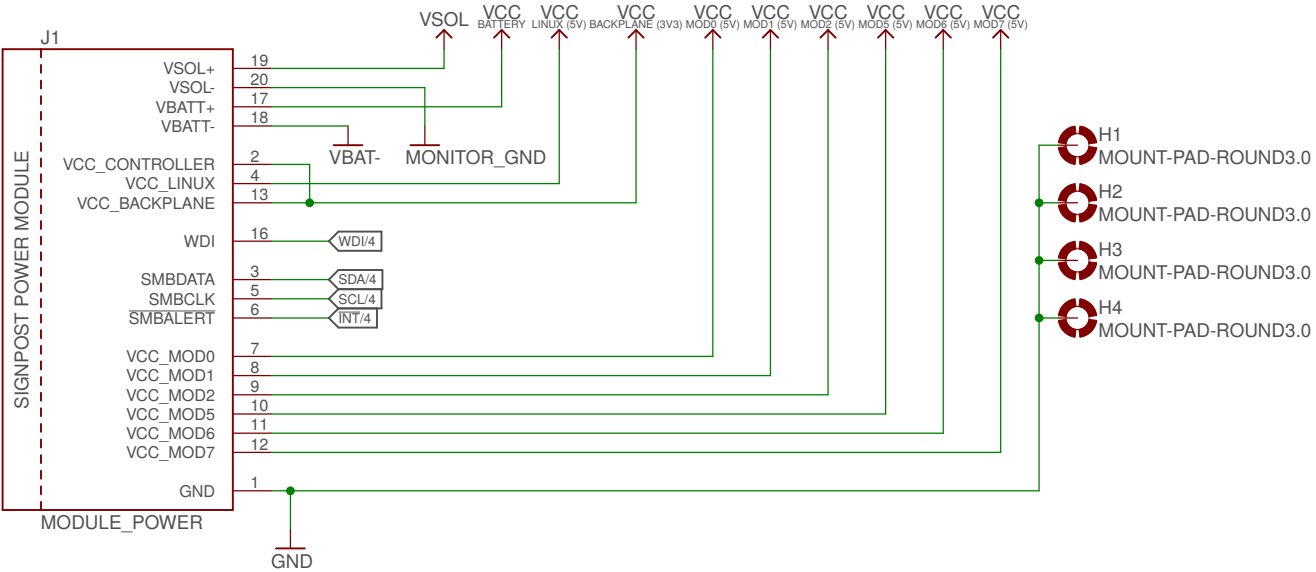


Power Module Header



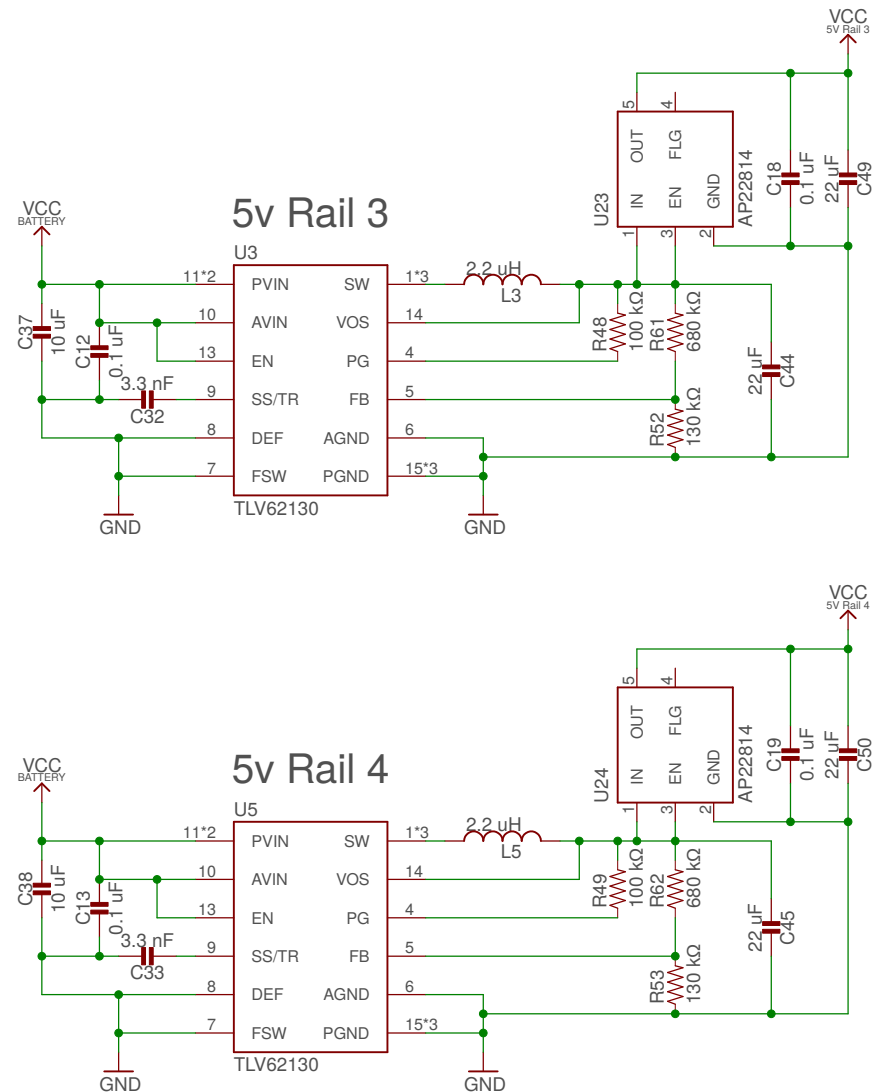
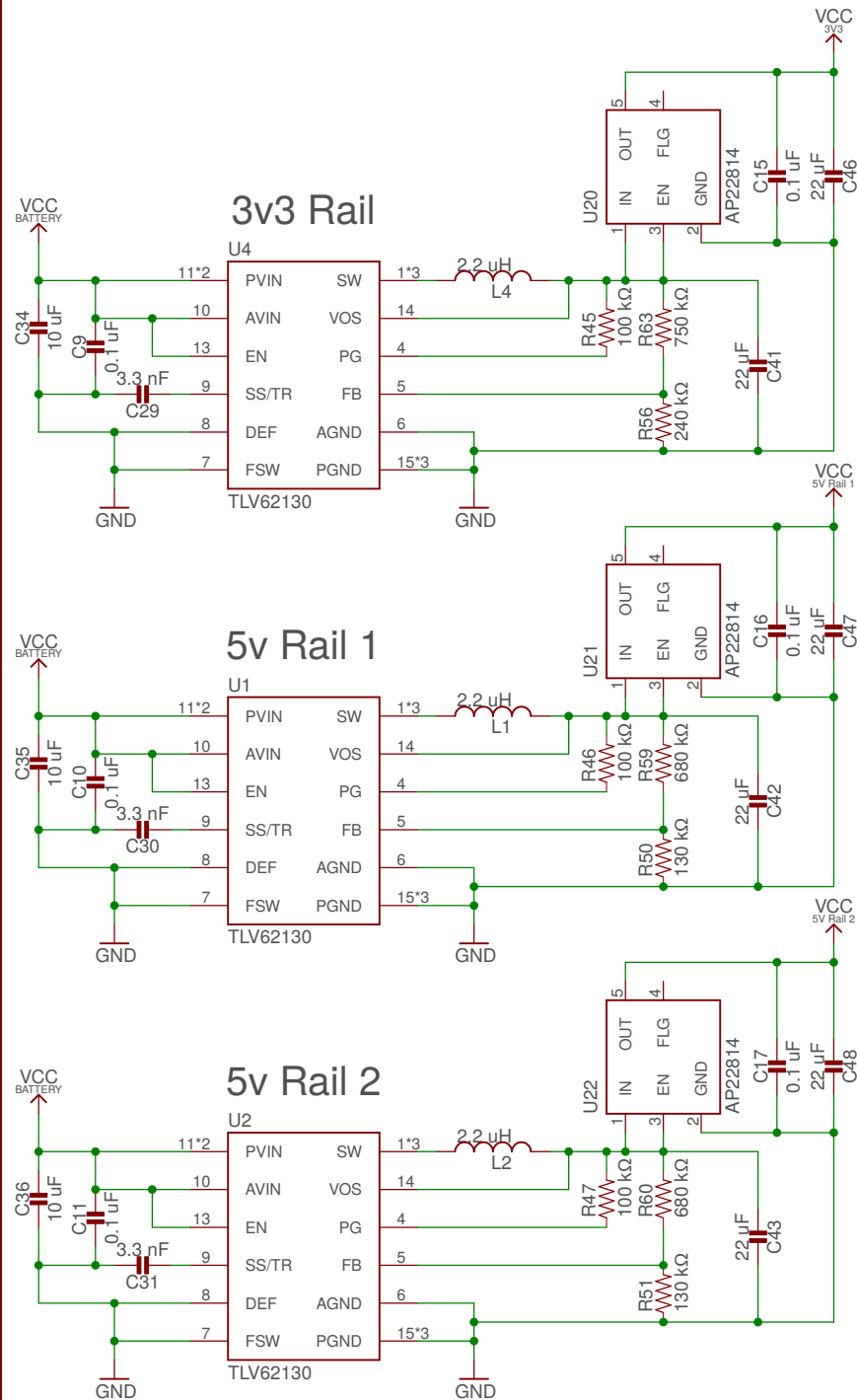
Power Supply Module

REV:
D

Author: Neal Jackson

Date: 5/17/17 2:52 PM

Sheet: 1/8



Power Supply Module

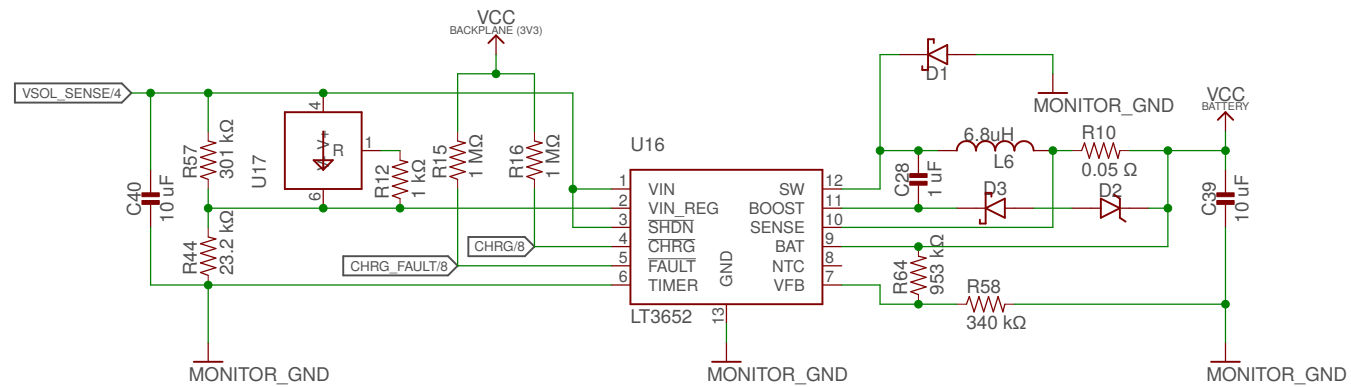
Author: Neal Jackson

Date: 5/17/17 2:52 PM

REV:
D

Sheet: 2/8

Solar Charger



Power Supply Module

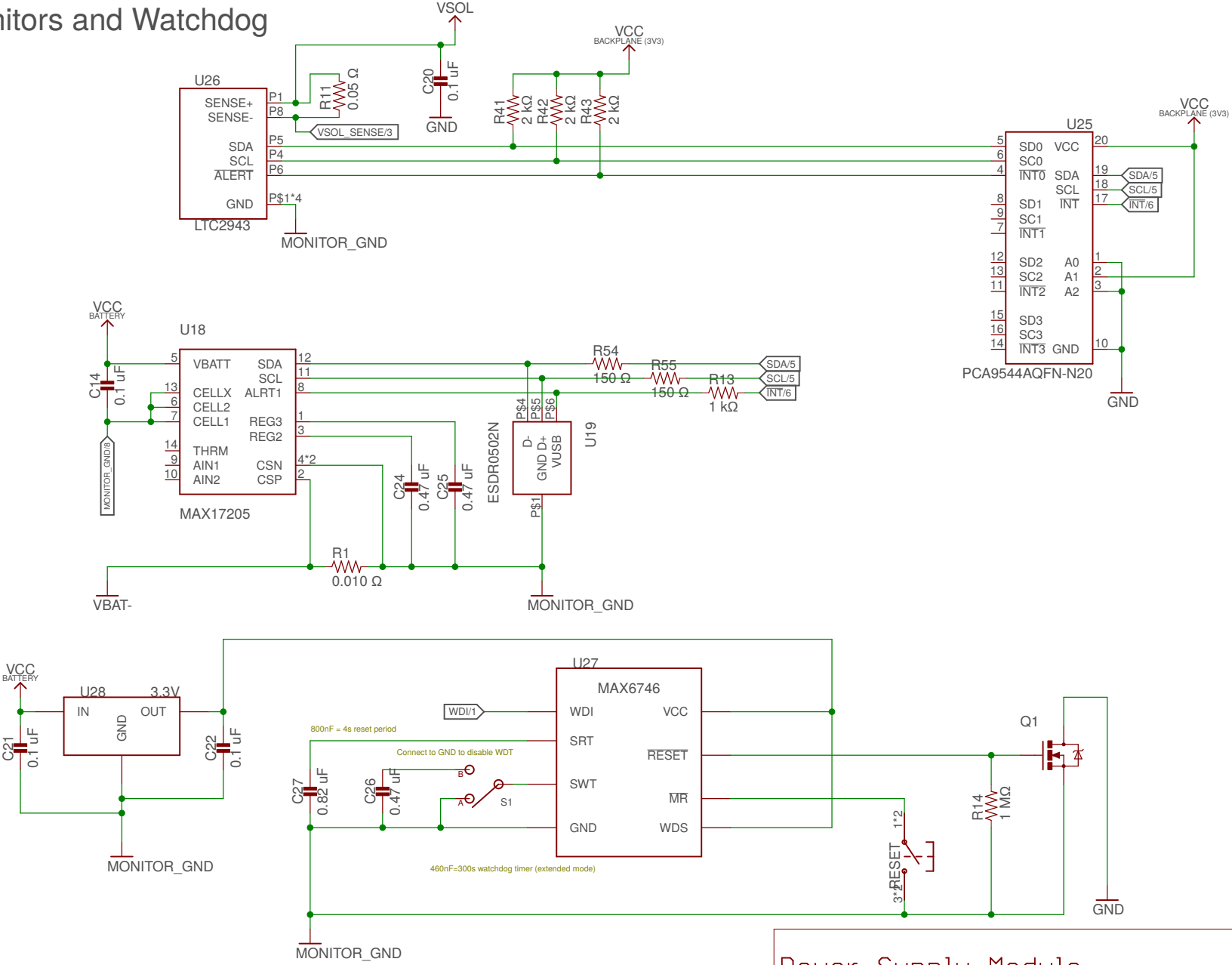
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Author: Neal Jackson

Date: 5/17/17 2:52 PM

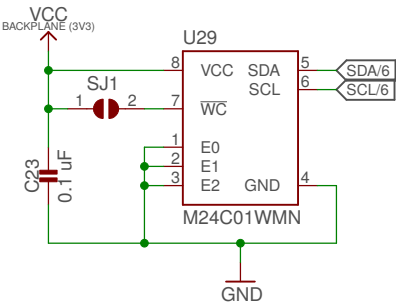
Sheet: 3/8

Monitors and Watchdog



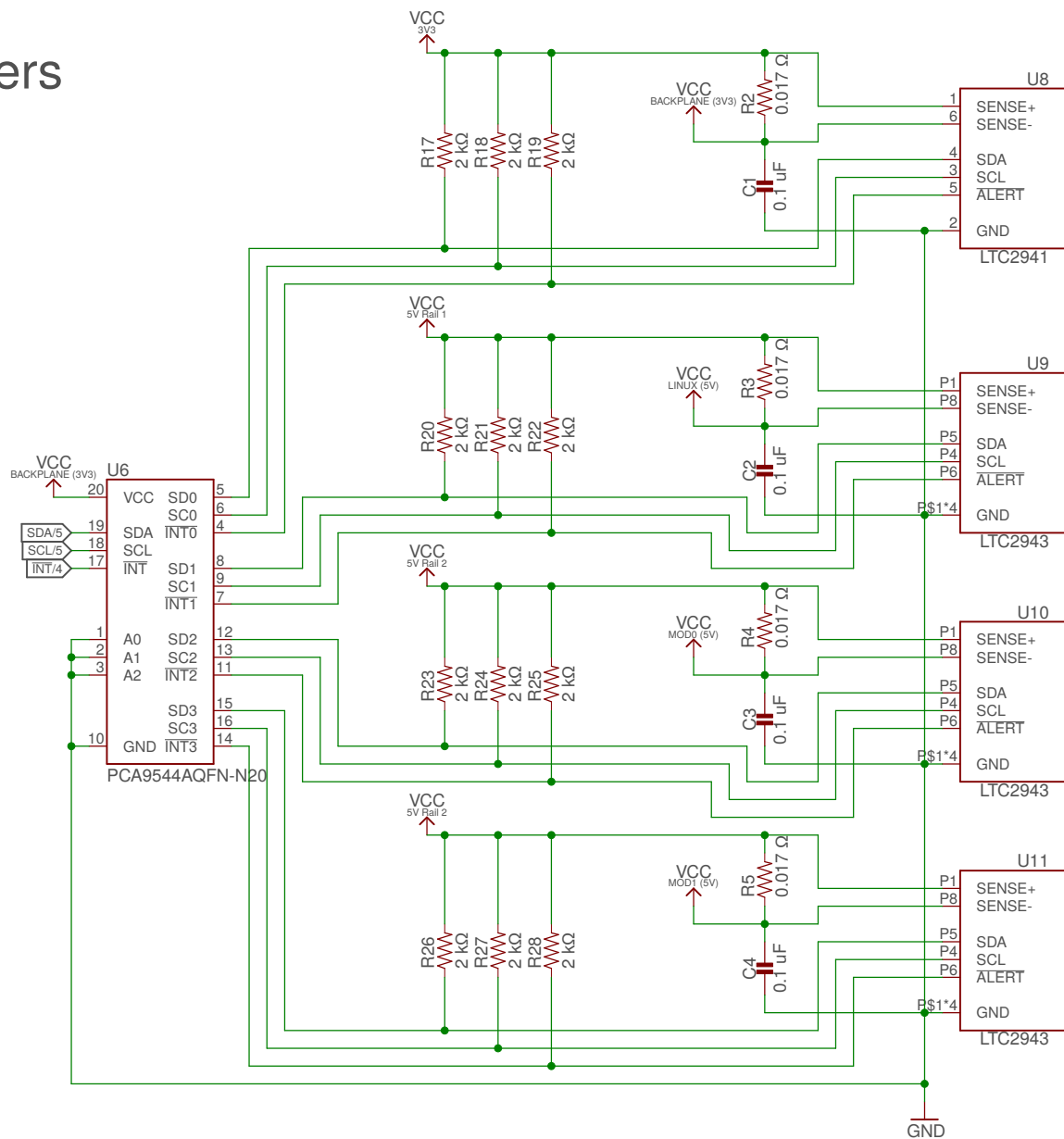
Power Supply Module		REV: D
Author: Neal Jackson		
Date: 5/17/17 2:52 PM	Sheet: 4/8	

EEPROM ID



Coulomb Counters

For MOD0-2,5



Power Supply Module

REV:
D

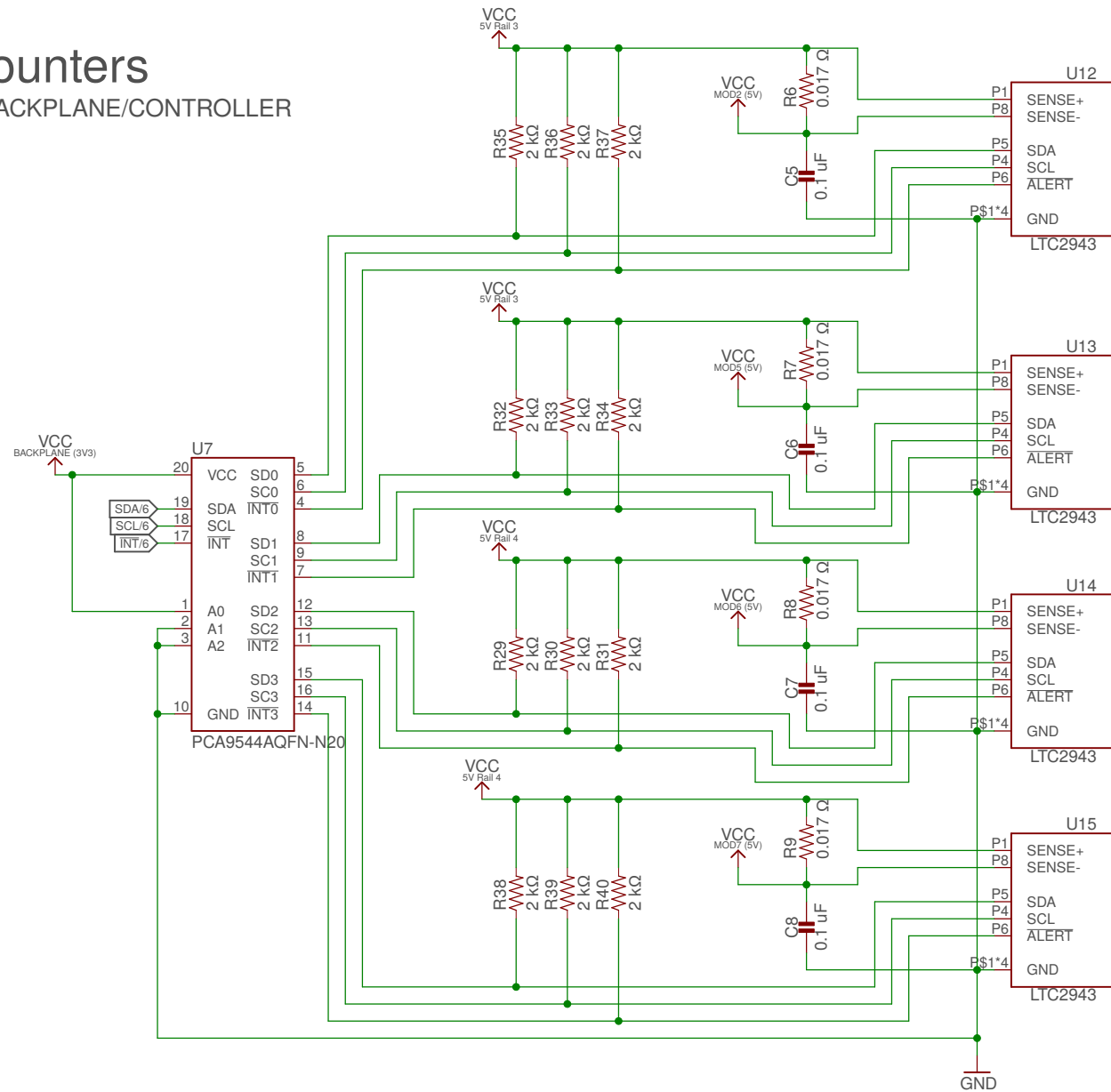
Author: Neal Jackson

Date: 5/17/17 2:52 PM

Sheet: 6/8

Coulomb Counters

For MOD6-7, LINUX, BACKPLANE/CONTROLLER



Power Supply Module

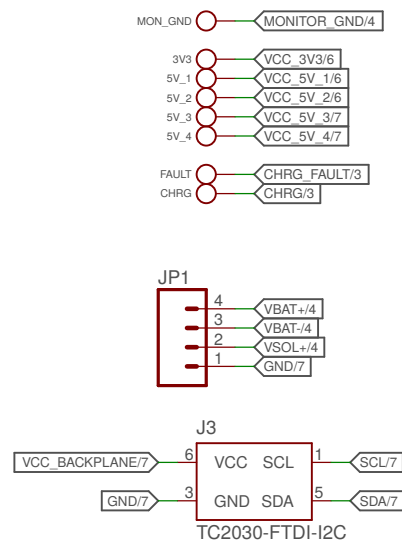
REV:
D

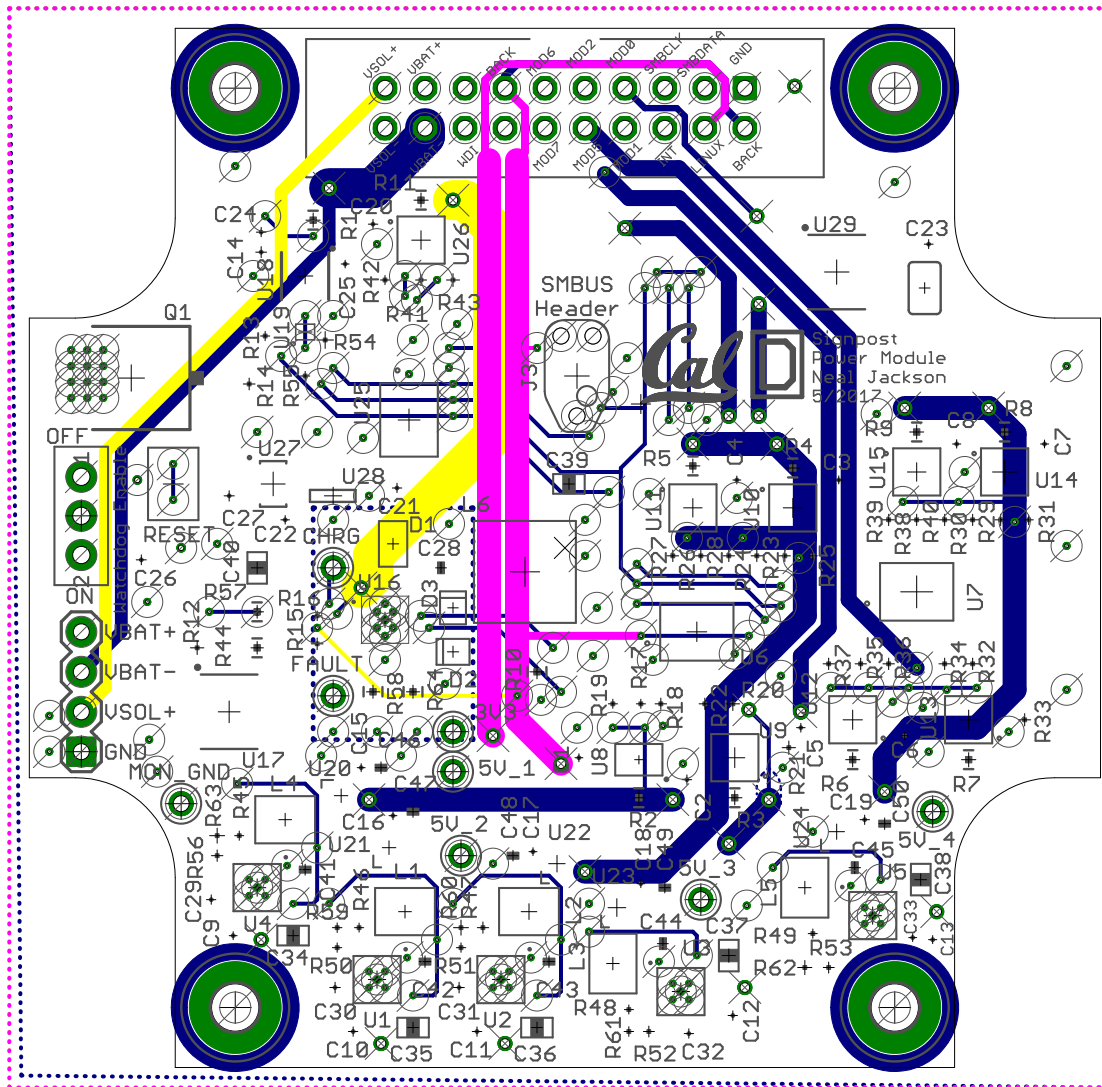
Author: Neal Jackson

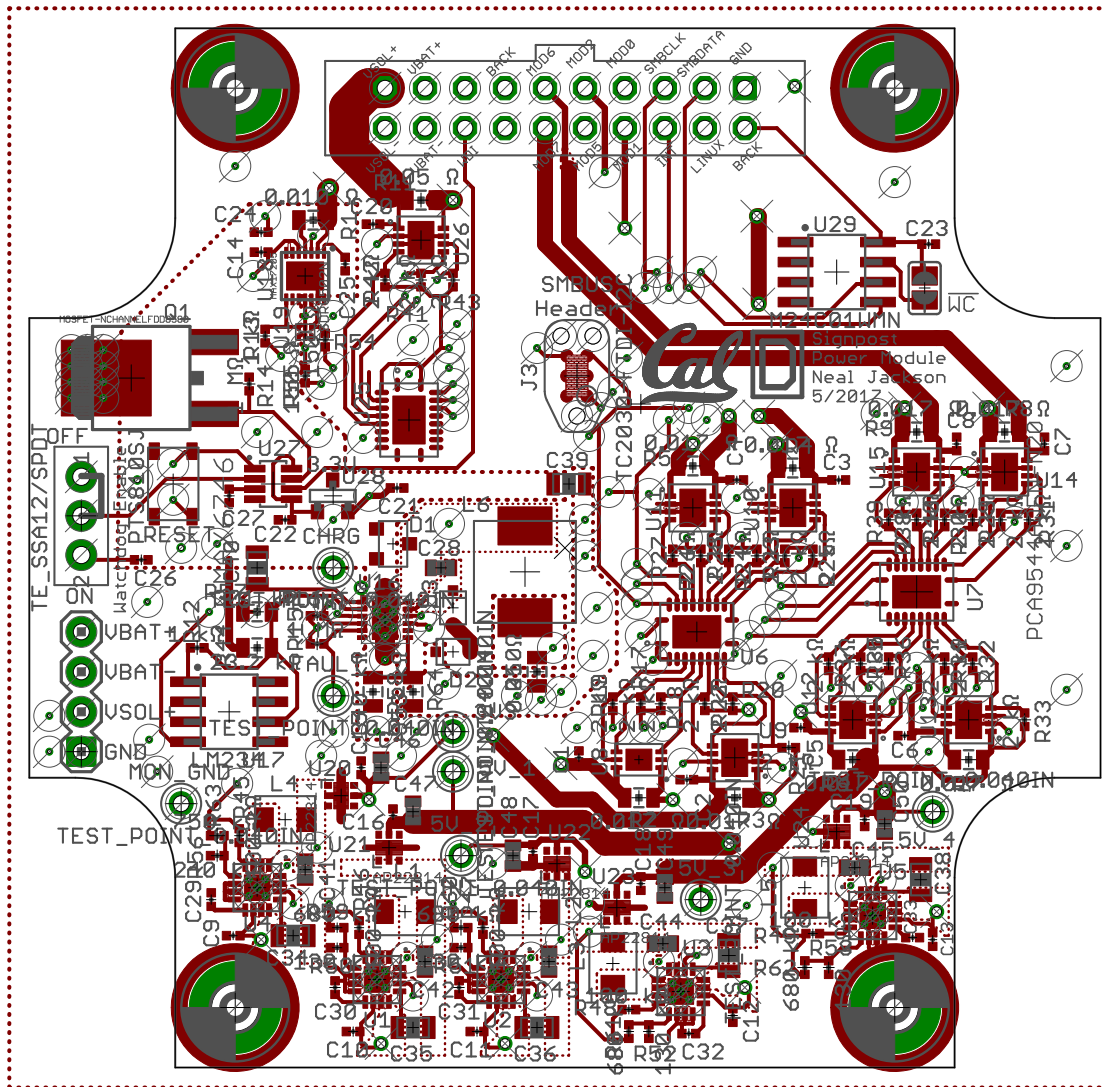
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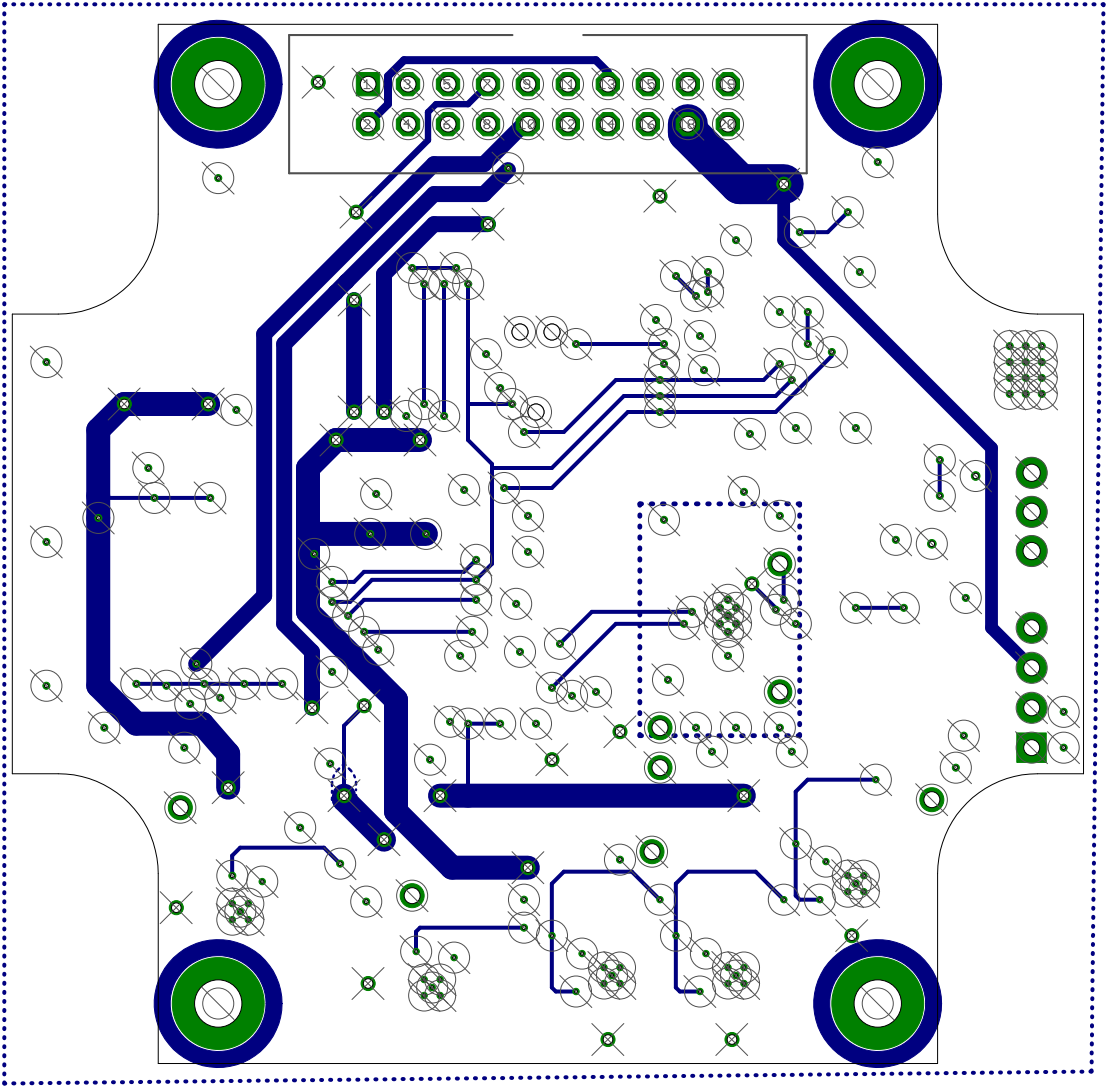
Sheet: 7/8

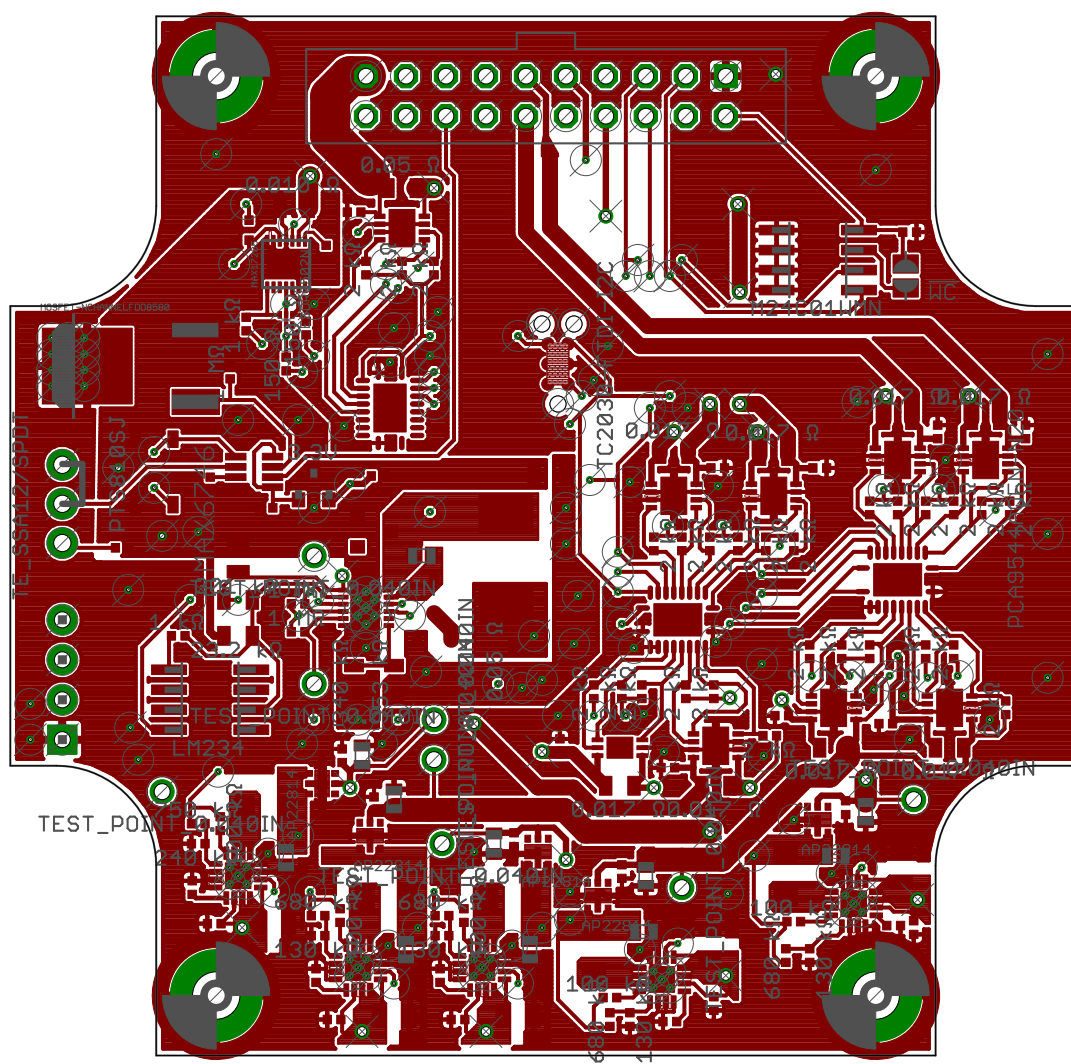
Debugging

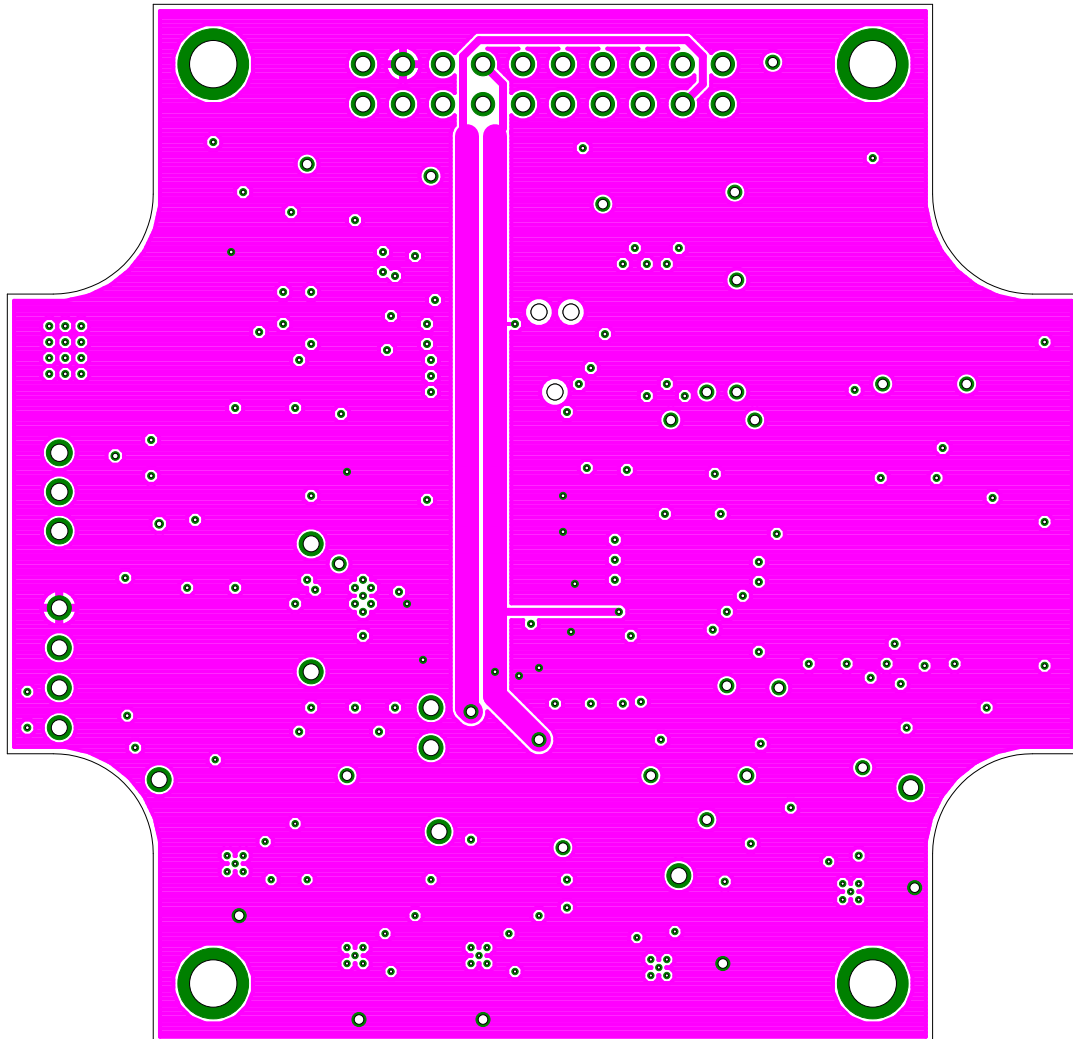


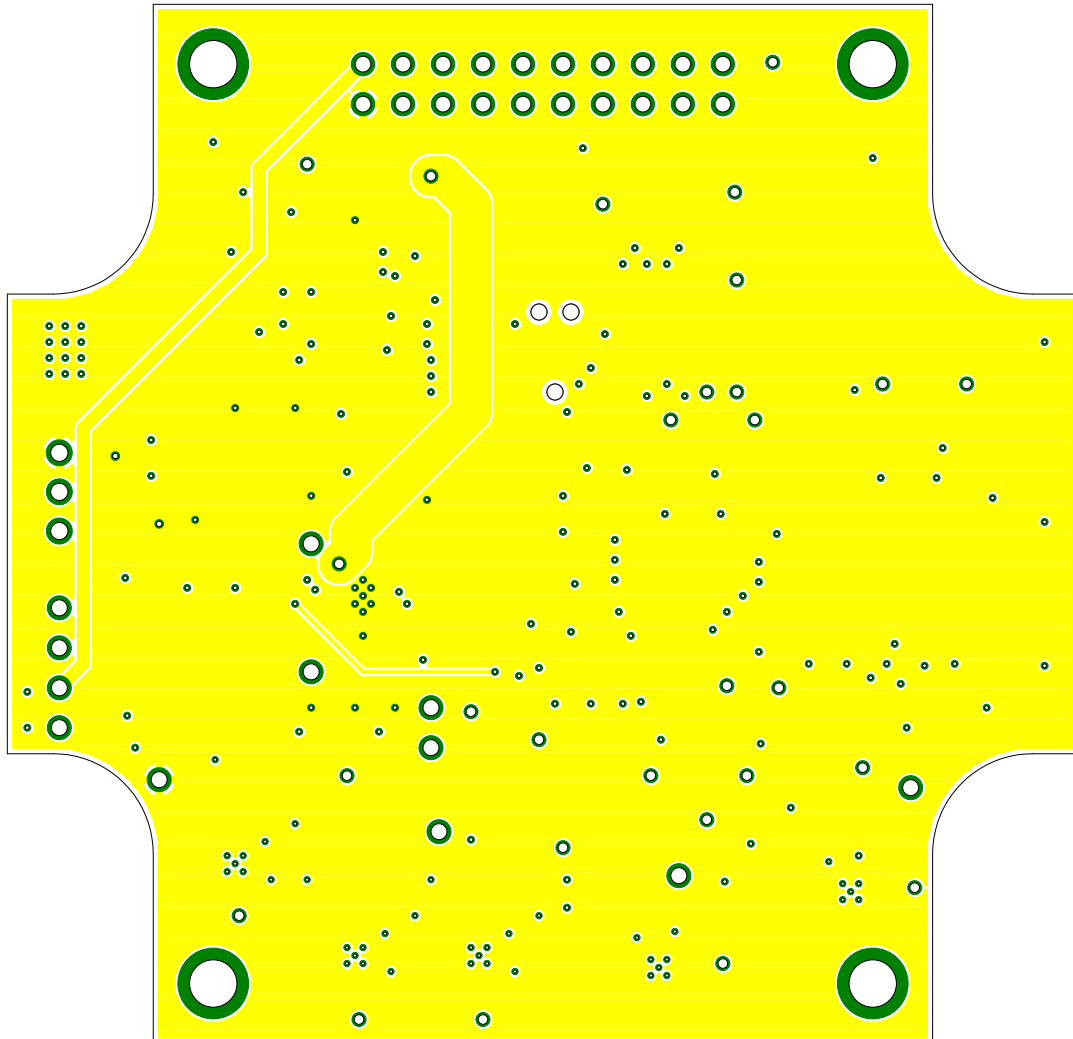




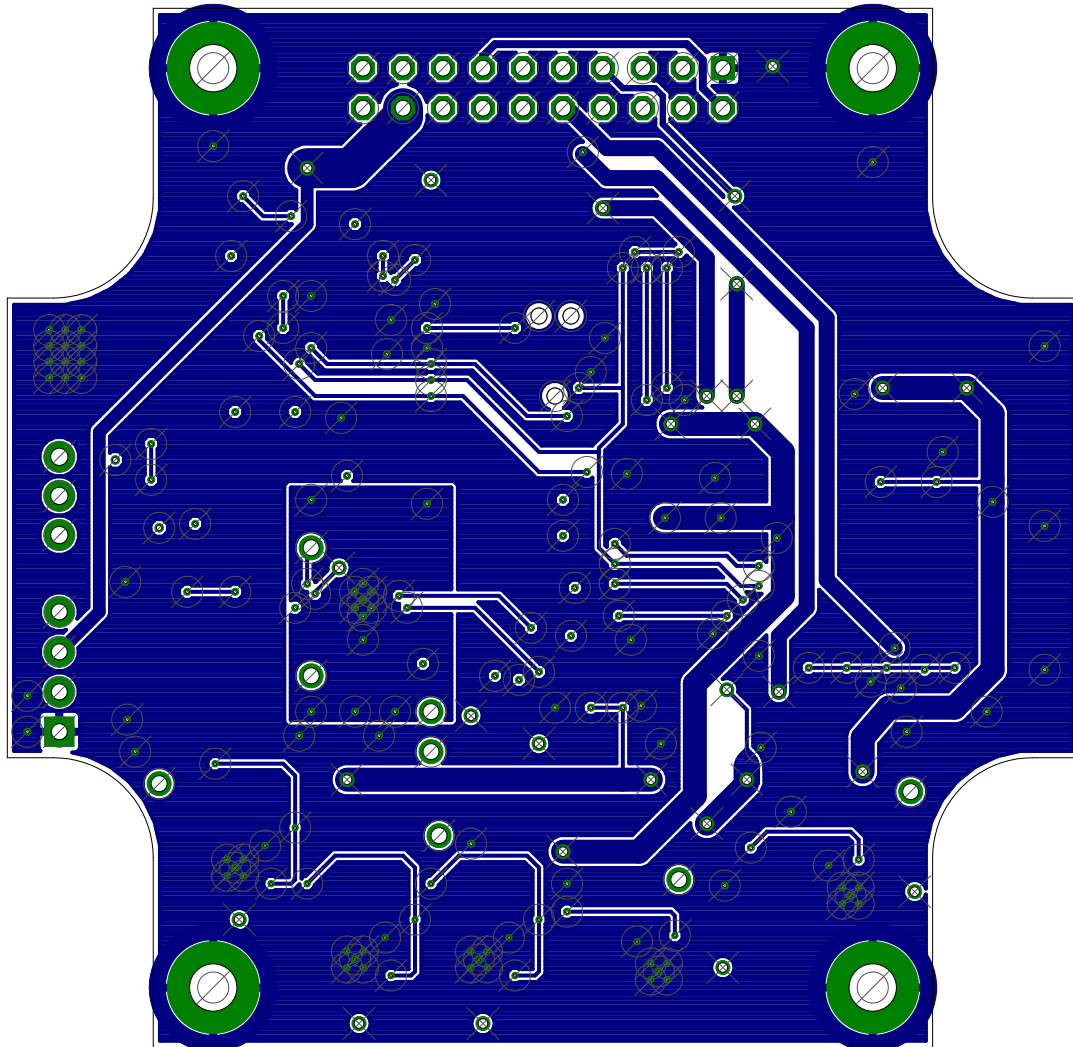


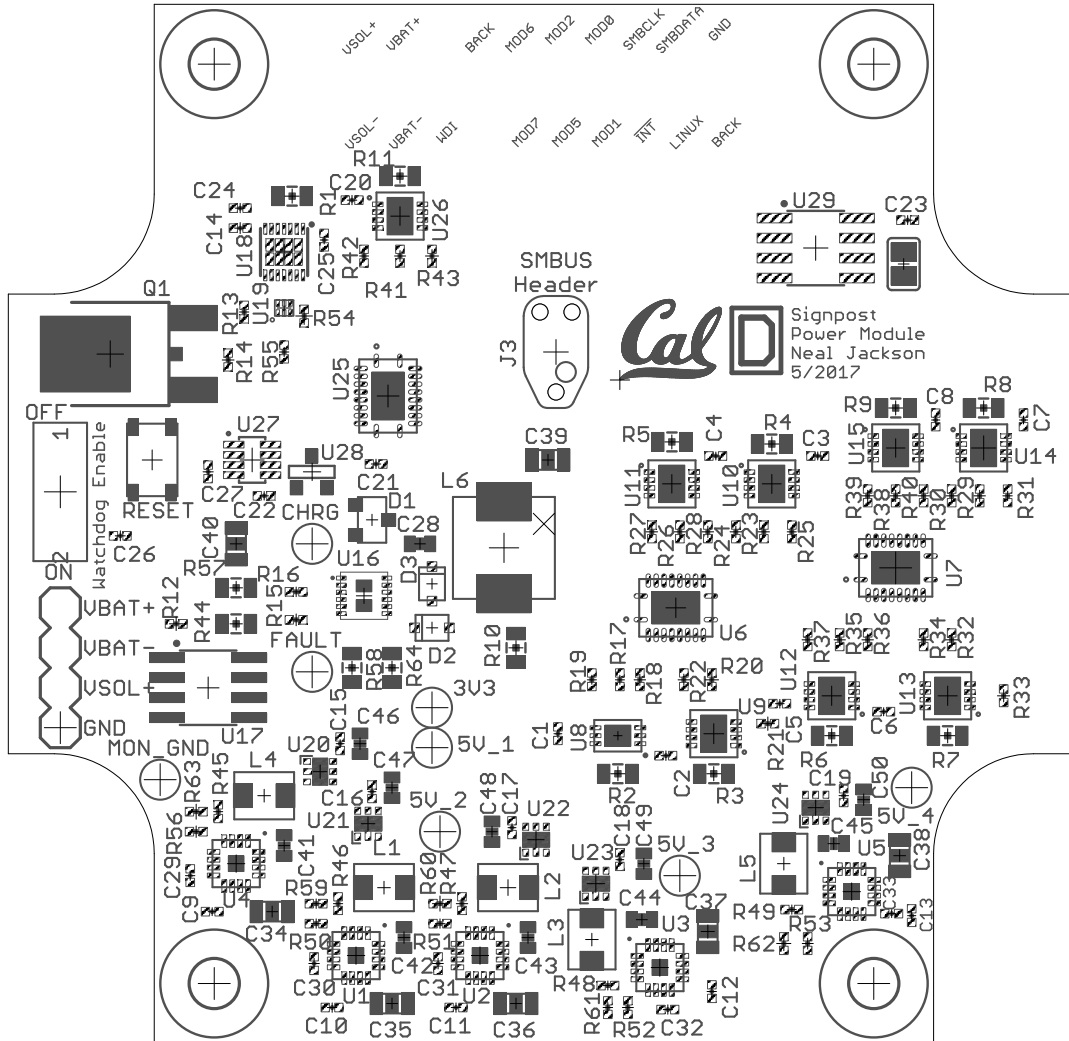




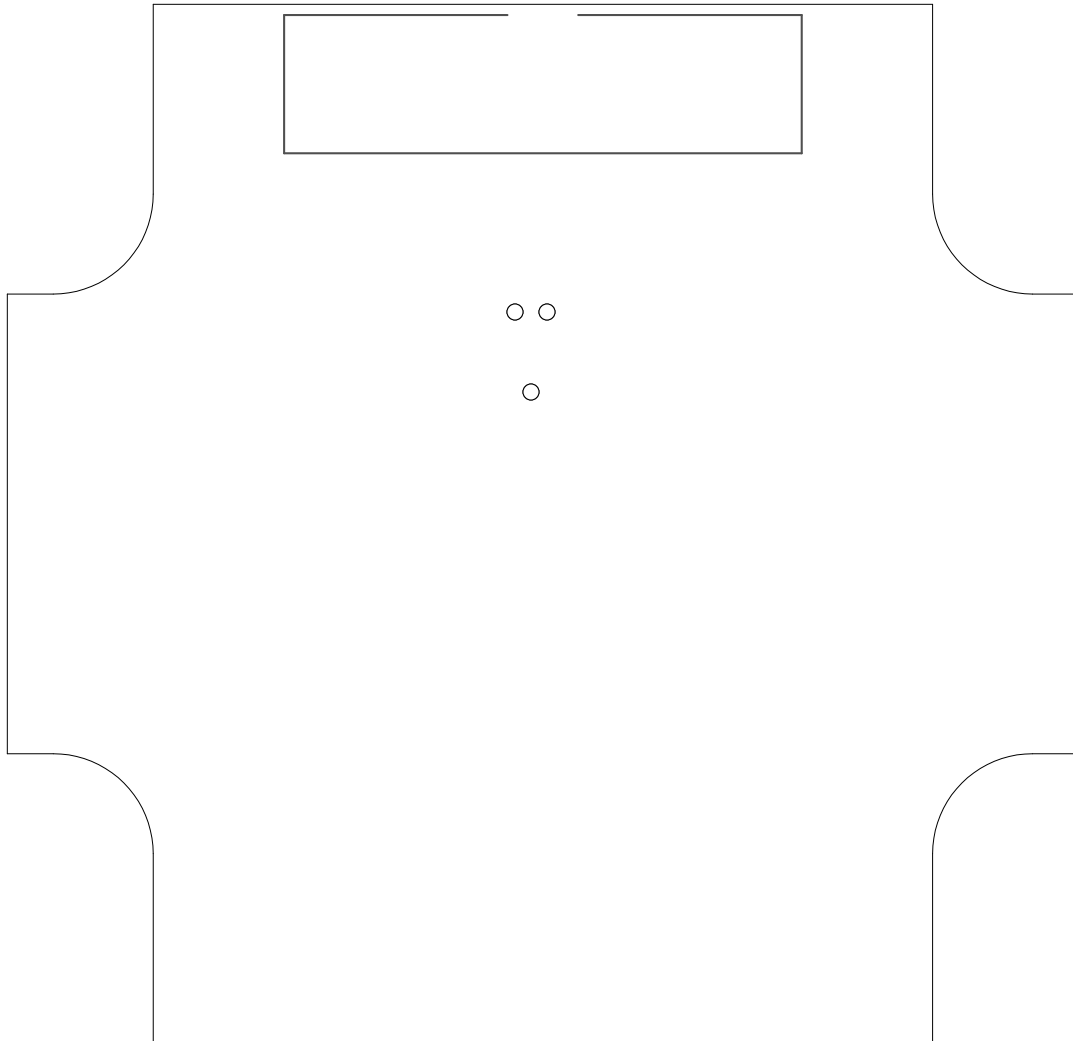


Bottom Copper Layer

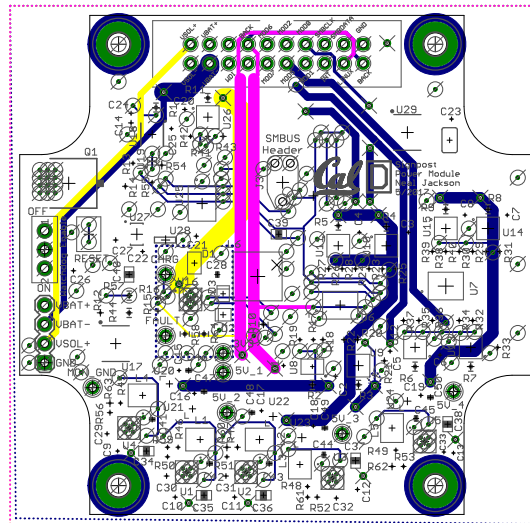




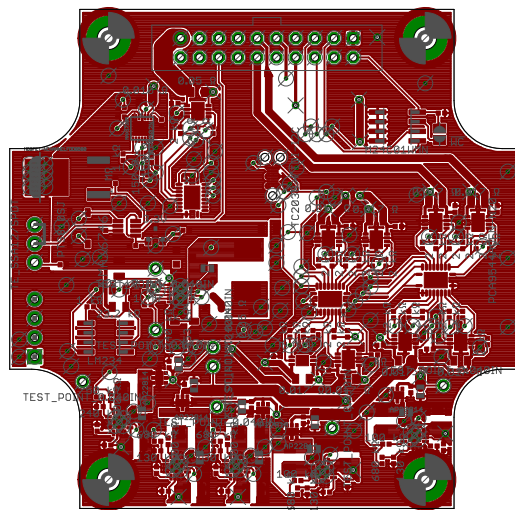
Bottom Paste Layer with Silkscreen

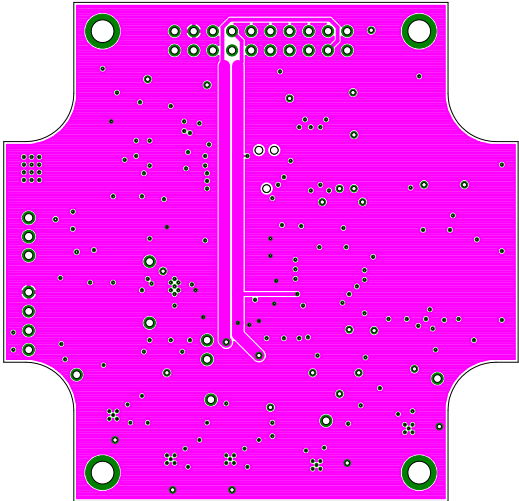


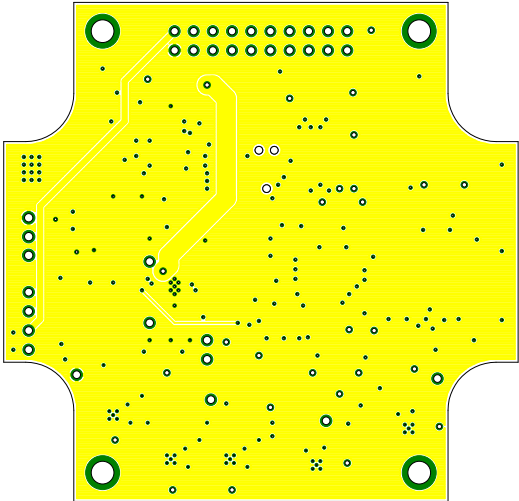
Top and Bottom Layers 1:1 Scale



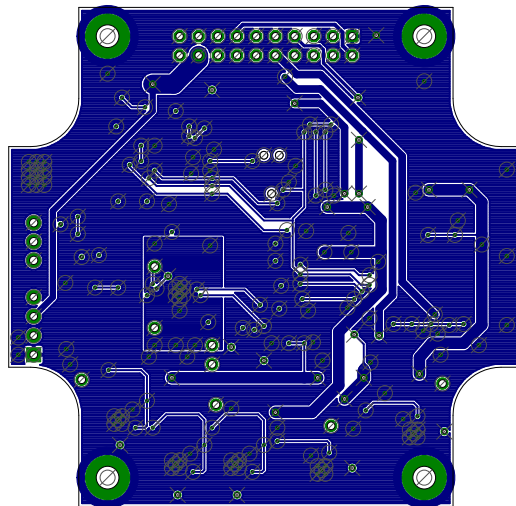
Top Layer 1:1 Scale







Bottom Copper Layer 1:1 Scale



power_supply_module_bom

Qty	Value	Device	Package
1		DIODE_ZENERSOT323	SOD323
1	0.010 Ω	RESISTOR0805_RES	0805_RES
8	0.017 Ω	RESISTOR0805_RES	0805_RES
2	0.05 Ω	RESISTOR0805_RES	0805_RES
23	0.1 uF	CAPACITOR0402_CAP	0402_CAP
3	0.47 uF	CAPACITOR0402_CAP	0402_CAP
1	0.82 uF	CAPACITOR0402_CAP	0402_CAP
2	1 MΩ	RESISTOR0402_RES	0402_RES
1	1 MΩ	RESISTOR0402_RES	0402_RES
1	1 kΩ	RESISTOR0402_RES	0402_RES
1	1 kΩ	RESISTOR0402_RES	0402_RES
1	1 uF	CAPACITOR0603_CAP	0603_CAP
7	10 uF	CAPACITOR0805_CAP	0805_CAP
5	100 kΩ	RESISTOR0402_RES	0402_RES
4	130 kΩ	RESISTOR0402_RES	0402_RES
1	150 Ω	RESISTOR0402_RES	0402_RES
1	150 Ω	RESISTOR0402_RES	0402_RES
27	2 kΩ	RESISTOR0402_RES	0402_RES
5	2.2 uH	INDUCTOR1HL	IHL-1212BZ-11
10	22 uF	CAPACITOR0603_CAP	0603_CAP
1	23.2 kΩ	RESISTOR0805_RES	0805_RES
1	240 kΩ	RESISTOR0402_RES	0402_RES
5	3.3 nF	CAPACITOR0402_CAP	0402_CAP
1	3.3V	TILM34803.3V	SOT-23
1	301 kΩ	RESISTOR0805_RES	0805_RES
1	340 kΩ	RESISTOR0805_RES	0805_RES
1	6.8uH	INDUCTOR1HL2525CZ	IHL-2525CZ
4	680 kΩ	RESISTOR0402_RES	0402_RES
1	750 kΩ	RESISTOR0402_RES	0402_RES
1	953 kΩ	RESISTOR0805_RES	0805_RES
5	AP22814	AP22814	U-DFN2020-6
1	DIODE_SCHOTTKYSOD323	DIODE_SCHOTTKYSOD323	SOD323
1	DIODE_SCHOTTKYSOT-23F	DIODE_SCHOTTKYSOT-23F	SOT-23F
1	ESDR0502N	ESDR0502N	UDFN-6
1	LM234	LM234	SOIC-8
1	LT3652	LT3652	DFN-12/3MM
1	LTC2941	LTC2941	DFN-6-2MMX3MM
8	LTC2943	LTC2943	DFN-8
1	M24C01WMN	M24C01WMN	SOIC-8
1	MAX17205	MAX17205	14-TDFN
1	MAX6746	MAX6746	SOT-23-8
1	MODULE_POWER	MODULE_POWER	MODULE_POWER
1	MOSFET-NCHANNELFDD8580	MOSFET-NCHANNELFDD8580	DPAK
3	PCA9544AQFN-N20	PCA9544AQFN-N20	QFN-N20
1	PTS810SJ	PTS810SJ	PTS810SJ
1	TC2030-FTDI-I2C	TC2030-FTDI-I2C	TC2030-IDC-NL
1	TE_SSA12/SPDT	TE_SSA12/SPDT	TE_SSA12/SPDT
5	TLV62130	TLV62130	TQFN-16/3MM

power_supply_module_bom

Parts

D2

R1

R2, R3, R4, R5, R6, R7, R8, R9

R10, R11

C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23

C24, C25, C26

C27

R15, R16

R14

R12

R13

C28

C34, C35, C36, C37, C38, C39, C40

R45, R46, R47, R48, R49

R50, R51, R52, R53

R54

R55

R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40

L1, L2, L3, L4, L5

C41, C42, C43, C44, C45, C46, C47, C48, C49, C50

R44

R56

C29, C30, C31, C32, C33

U28

R57

R58

L6

R59, R60, R61, R62

R63

R64

U20, U21, U22, U23, U24

D3

D1

U19

U17

U16

U8

U9, U10, U11, U12, U13, U14, U15, U26

U29

U18

U27

J1

Q1

U6, U7, U25

RESET

J3

S1

U1, U2, U3, U4, U5

power_supply_module_bom

Description	DIGIKEY
Resistor	1727-5151-1-ND
Resistor	WSLPB-.01CT-ND
Resistor	WSLPB-.017CT-ND
SMD Capacitor	WSLPB-.05CT-ND
SMD Capacitor	490-5920-1-ND
SMD Capacitor	490-3266-1-ND
Resistor	490-10440-1-ND
Resistor	P1.0KJCT-ND
Resistor	P1.00MLCT-ND
Resistor	P1.0KJCT-ND
Resistor	P150LCT-ND
SMD Capacitor	490-3890-1-ND
SMD Capacitor	490-5523-1-ND
Resistor	P100KJCT-ND
Resistor	P130KLCT-ND
Resistor	P1.0KJCT-ND
Resistor	P150LCT-ND
Resistor	P2.00KLCT-ND
A very specific inductor	541-1322-1-ND
SMD Capacitor	1276-1193-1-ND
Resistor	P23.2KDATR-ND
Resistor	P240KLCT-ND
SMD Capacitor	490-3248-1-ND
Very simple LDO 100ma 3v3	ZMR330FCT-ND
Resistor	P301KDATR-ND
Resistor	P340KDACT-ND
A very specific inductor	541-2582-1-ND
Resistor	P680KLCT-ND
Resistor	P750KJCT-ND
Resistor	P953KDACT-ND
SINGLE CHANNEL POWER DISTRIBUTION LOAD SWITCH	AP22814ASN-7DICT-ND
	CMDSH2-4L CT-ND
	CMPSH1-4 CT-ND
	ESDR0502NMUTBGOSCT-ND
3-terminal temperature sensor	497-1549-1-ND
Solar power tracking 2A battery charger	LT3652EDD#PBF-ND
I2C Battery Gas Gauge	LTC2941IDCB#TRMPBFCT-ND
Multicell Battery Gas Gauge	LTC2943IDD#PBF-ND
1K I2C™ Serial EEPROM	497-8631-1-ND
Stand-Alone ModelGauge m5 Fuel Gauge	
A simple watchdog timer with adjustable timeouts and reset time	
Header for power module for signpost	S9172-ND
Generic NMOS footprint	NTD4965NT4GOSCT-ND
1-4 I2C/SMBUS Multiplexer with interrupt for power supply coulomb counters	296-20960-1-ND
PTS810SJ Push Button Switch	CKN10504CT-ND
UMFT200XD FTDI to I2C pogo pin adapter.	
SWITCH SLIDE SPDT 2POS SSA SER	450-1602-ND
High Efficient 3A switching step-down regulator. 1V-5V out, 4V-17V in.	296-35978-1-ND

power_supply_module_bom

MOUSER

700-MAX17205G+00E