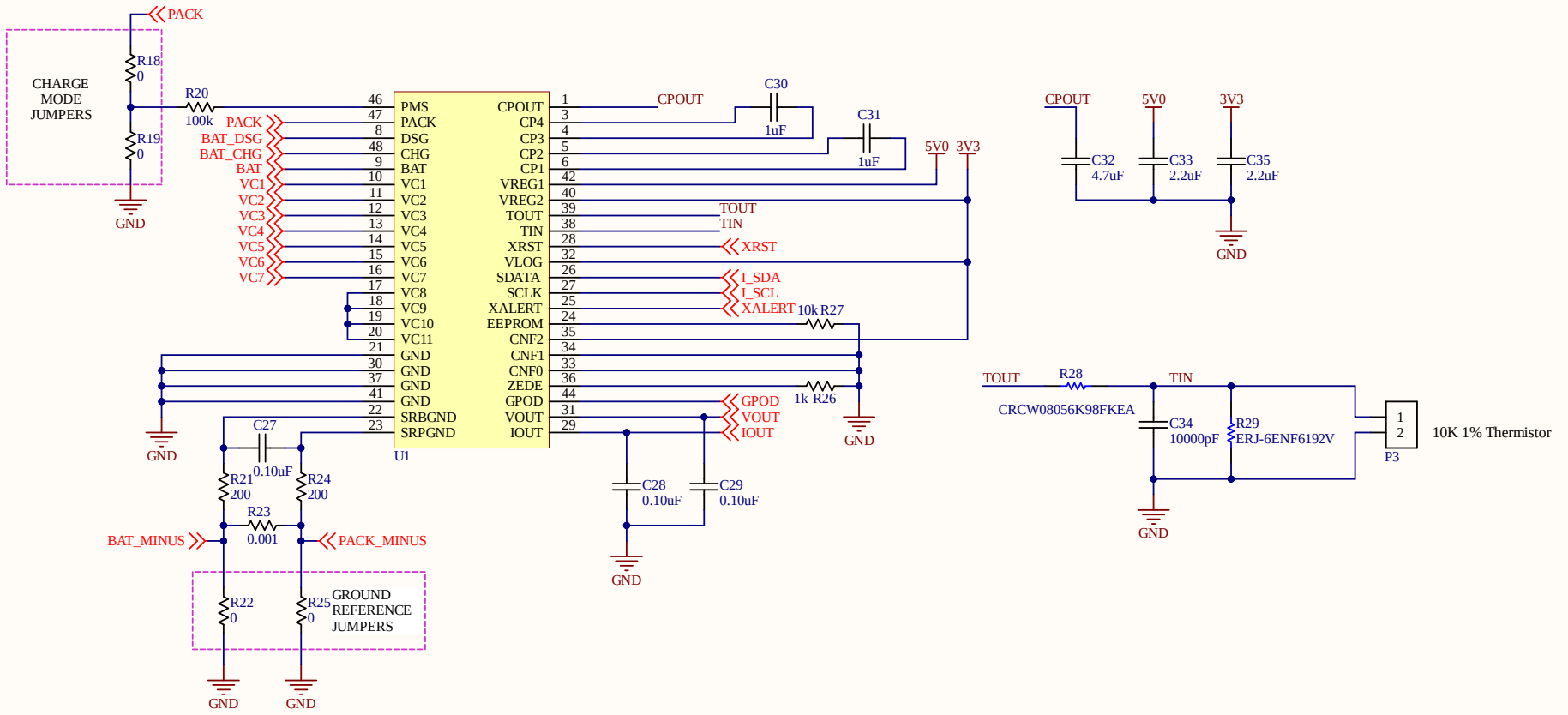

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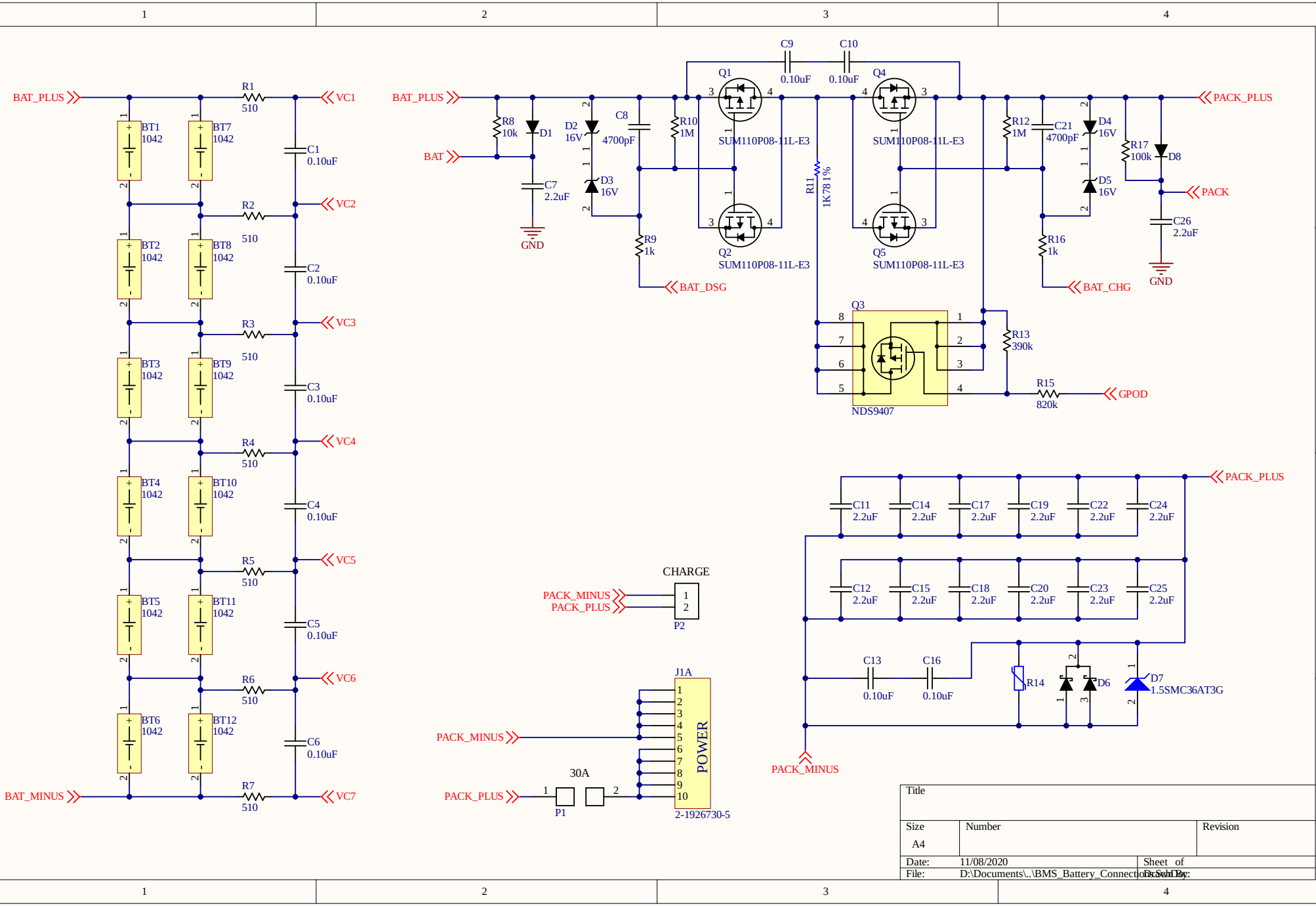
BAT_PLUS
BAT_MINUS
R1
510
R2
510
R3
510
R4
510
R5
510
R6
510
R7
510
VC1
VC2
VC3
VC4
VC5
VC6
VC7
BT1 1042
BT2 1042
BT3 1042
BT4 1042
BT5 1042
BT6 1042
BT7 1042
BT8 1042
BT9 1042
BT10 1042
BT11 1042
BT12 1042
C1 0.10uF
C2 0.10uF
C3 0.10uF
C4 0.10uF
C5 0.10uF
C6 0.10uF
BAT_PLUS
BAT
R8 10k
D1
C7 2.2uF
GND
D2 16V
D3 16V
C8 4700pF
R9 1k
BAT_DSG
R10 1M
C9 0.10uF
C10 0.10uF
Q1 SUM110P08-11L-E3
Q2 SUM110P08-11L-E3
Q4 SUM110P08-11L-E3
Q5 SUM110P08-11L-E3
R11 1K78 1%
Q3 NDS9407
R13 390k
R15 820k
GPOD
R12 1M
C21 4700pF
R16 1k
BAT_CHG
D4 16V
D5 16V
R17 100k
D8
PACK_PLUS
PACK
C26 2.2uF
GND
C11 2.2uF
C14 2.2uF
C17 2.2uF
C19 2.2uF
C22 2.2uF
C24 2.2uF
C12 2.2uF
C15 2.2uF
C18 2.2uF
C20 2.2uF
C23 2.2uF
C25 2.2uF
C13 0.10uF
C16 0.10uF
R14
D6
D7 1.5SMC36AT3G
PACK_MINUS
CHARGE
PACK_MINUS
PACK_PLUS
P2
J1A
POWER
PACK_MINUS
30A
PACK_PLUS
P1
2-1926730-5
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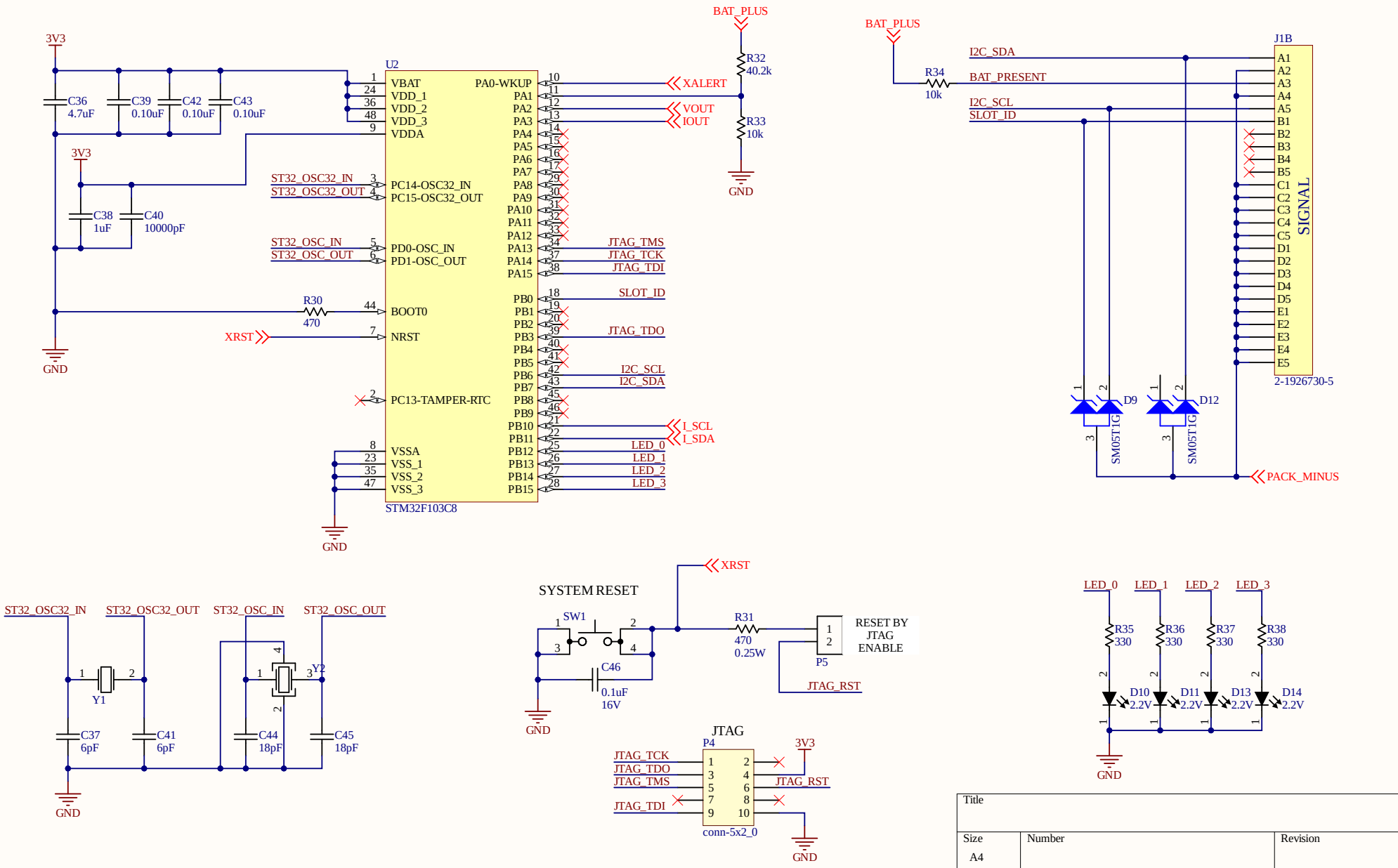

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File:	D:\Documents\..\BMS_Controler.SchDoc	Drawn By:	

Comment	Description	Designator	Footprint	LibRef	Quantity
1042	Battery Holder, 18650, SMD	BT1, BT2, BT3, BT4, BT5, BT6, BT7, BT8, BT9, BT10, BT11, BT12	KEYSTONE_1042	CONN-00077	12
0.10uF	CAP, 0.10uF, 10%, 50V, X7R, 0805	C1, C2, C3, C4, C5, C6, C9, C10, C13, C16, C27, C28, C29, C39, C42, C43	chip_0805	CAP-00072	16
2.2uF	CAP, 2.2uF, ±20%, 100V, X7R, 0603	C7, C11, C12, C14, C15, C17, C18, C19, C20, C22, C23, C24, C25, C26, C33, C35	chip_1210	CAP-00536	16
4700pF	CAP, 4700pF, 10%, 100V, X7R, 0805	C8, C21	chip_0805	CAP-00032	2
1uF	CAP, 1uF, 10%, 50V, X7R, 0805	C30, C31, C38	chip_0805	CAP-00109	3
4.7uF	CAP, 4.7uF, 10%, 25V, X7R, 0805	C32, C36	chip_0805	CAP-00128	2
10000pF	CAP, 10000pF, 10%, 25V, X7R, 0805	C34, C40	chip_0805	CAP-00045	2
6pF	CAP, 6pF, ±10%, 50V, C0G, 0603	C37, C41	chip_0603	CAP-00538	2
18pF	CAP, 18pF, ±1%, 50V, C0G, 0603	C44, C45	chip_0603	CAP-00417	2
cap_single_np	CAP, 0.1uF, ±10%, 16V, X7R, 0603	C46	chip_0603	CAP-00542	1
diode_0	Dio, Silicon, 200mA, 1V, 100V, SOD-123	D1, D8	sod123_0	DIO-00060	2
16V	Dio, Zener, 16V 300mW, SOD-523	D2, D3, D4, D5	sod523_0	DIO-00082	4
V40PWM10C-M3/I	Dio, Schottky Array, Dual, Common Cathode, 100V 20A, SLIM DPAK	D6	DPAK_SLIM	DIO-00081	1
1.5SMC36AT3G	1500 W Peak Power Zener Transient Voltage Suppressor, Unidirectional, 2-Pin SMC, Pb-Free, Tape and Reel	D7	ONSC-SMC-2-403-03_V	CMP-1061-00497-1	1
SM05T1G	Transient Voltage Suppressor Diode Array, Dual Common Anode Diodes for ESD Protection, 3-Pin SOT-23, Pb-Free, Tape and Reel	D9, D12	ONSC-SOT-23-3-318-08_V	CMP-1061-00666-1	2
2.2V	LED, Green, 0603, 20mA	D10, D11, D13, D14	chip_0603_LED	DIO-00040	4
2-1926730-5	Backplane Header, Blades and Pins, Edge Mount Right Angle, 10 Power 25 Signal	J1	TE_CONN_2-1926730-5	CONN-00093	1
conn-fuse-holder_0	Fuse Holder, 30A, 500V, LP-Mini 897, ATOF 257	P1	FUSE_HOLDER_KEYSTONE_3557-2	CONN-00015	1
conn-2x1_0	Terminal Block, 2 Pos, 10A, 5.08mm Pitch, SMD, Right-Angle, 16-24 AWG	P2	PHOENIX_SPT_SMD_5.08MM_2x1	CONN-00065	1
conn-2x1_0	Header, 2x1, 0.1"	P3, P5	HDDR_2x1_0	CONN-00055	2
conn-5x2_0	Header, 10-pin IDC, 2.54mm Pitch	P4	CNC_TECH_3020-10-0100-XX	CONN-00054	1
SUM110P08-11L-E3	XSTR, MOSFET P-Channel, 80V 110A, D2PAK	Q1, Q2, Q4, Q5	D2PAK-3_1	XSTR-00050	4
NDS9407	XSTR PFET, 3A, 60V, 2.5W, SOIC-8	Q3	SO-8	XSTR-00036	1
510	RES SMD 510 OHM 1% 1/8W 0805	R1, R2, R3, R4, R5, R6, R7	chip_0805	RES-00240	7
10k	RES SMD 10K OHM 1% 1/8W 0805	R8, R27, R33, R34	chip_0805	RES-00307	4
1k	RES SMD 1K OHM 1% 1/8W 0805	R9, R16, R26	chip_0805	RES-00361	3
1M	RES SMD 1M OHM 1% 1/8W 0805	R10, R12	chip_0805	RES-00363	2
1K78 1%	1K78 1W 1% 2512 (6432 Metric) SMD	R11	RESC2512(6432)_L	CMP-1018-00536-1	1
390k	RES SMD 390K OHM 1% 1/8W 0805	R13	chip_0805	RES-00455	1
MOV_0	Varistor, Ceramic, 47V 300A 2J, 1210	R14	chip_1210	MISC-00057	1
820k	RES SMD 820K OHM 1% 1/8W 0805	R15	chip_0805	RES-00567	1
100k	RES SMD 100K OHM 1% 1/8W 0805	R17, R20	chip_0805	RES-00302	2
0	RES SMD 0 OHM 1/8W 0805 Thick Film	R18, R19, R22, R25	chip_0805	RES-00720	4
200	RES SMD 200 OHM 1% 1/8W 0805	R21, R24	chip_0805	RES-00197	2
0.001	RES, 0.001, 1%, 1W, 2512	R23	chip_2512	RES-00002	1
CRCW08056K98FKEA		R28	RESC2013X50X30ML20T20	CMP-2001-04091-1	1
ERJ-6ENF6192V		R29	RESC2013X70X40ML20T20	CMP-2001-00256-1	1
res_single	RES SMD 470 OHM 1% 1/4W 0603	R30, R31	chip_0603	RES-00236	2
40.2k	RES SMD 40.2K OHM 1% 1/8W 0805	R32	chip_0805	RES-00474	1
330	RES SMD 330 OHM 1% 1/8W 0805	R35, R36, R37, R38	chip_0805	RES-00222	4
SW_1P1T_0	Switch, SPST, Tactile, 32V 50mA	SW1	KMR6	MISC-00024	1
BQ77PL900	Batt Manager, Li-Ion, 5-10 cells, bq77PL900	U1	SSOP-48_0	PWREG-00024	1
STM32F103C8	STM32 M3, LQFP-48	U2	LQFP48_0	UCTRL-00008	1
osc_xtal_2p_0	XTAL, 32.768kHz, 6pF, 20ppm	Y1	ABS25_OSC	OSC-00003	1
osc_xtal_4p_1-3	XTAL, 8MHz, 10pF, 10ppm	Y2	ECX-53B	OSC-00006	1