

Line #	Footprint	Qty	Label	Description	Manufacture	Mfr part number	Digikey part number	
1	R.0805	7	R51, R53, R54, R63, R64, R82, R85	RES SMD 100 OHM 1% 1/8W 0805	Yageo	RC0805FR-07100RL	311-100CRCT-ND	
2	R.0805	12	R99, R105, R106, R108, R109, R110, R111, R112, R113, R114, R115, R116	RES SMD 470 OHM 1% 1/8W 0805	Yageo	RC0805FR-07470RL	311-470CRCT-ND	
3	R.0805	23	R1, R3, R5, R7, R9, R11, R12, R14, R16, R18, R20, R22, R23, R25, R27, R29, R31, R33, R56, R57, R60, R61, R96	RES SMD 1K OHM 1% 1/8W 0805	Yageo	RC0805FR-071KL	311-1.00KCRCT-ND	
4	R.0805	2	R88, R89	RES SMD 3.3K OHM 1% 1/8W 0805	Yageo	RC0805FR-073K3L	311-3.30KCRCT-ND	
5	R.0805	16	R49, R52, R62, R67, R69, R70, R71, R83, R84, R90, R92, R94, R98, R104, R107, R117	RES SMD 10K OHM 1% 1/8W 0805	Yageo	RC0805FR-0710KL	311-10.0KCRCT-ND	
6	R.0805	1	R100	RES SMD 24.9K OHM 1% 1/8W 0805	Yageo	RC0805FR-0724K9L	311-24.9KCRCT-ND	
7	R.0805	1	R101	RES SMD 41.2K OHM 1% 1/8W 0805	Yageo	RC0805FR-0741K2L	311-41.2KCRCT-ND	
8	R.0805	0	R86, R87. (Do Not Install-DNI)	RES SMD 20K OHM 1% 1/8W 0805				
9	R.0805	1	R102	RES SMD 84.5K OHM 1% 1/8W 0805	Yageo	RC0805FR-0784K5L	311-84.5KCRCT-ND	
10	R.0805	25	R2, R4, R6, R8, R10, R13, R15, R17, R19, R21, R24, R26, R28, R30, R32, R74, R75, R78, R79, R91, R93, R95, R97, R118, R119	RES SMD 100K OHM 1% 1/8W 0805	Yageo	RC0805FR-07100KL	311-100KCRCT-ND	
11	R.0805	1	R103	RES SMD 249K OHM 1% 1/8W 0805	Yageo	RC0805FR-07249KL	311-249KCRCT-ND	
12	R.0805	7	R55, R65, R66, R68, R76, R77, R80	RES SMD 1M OHM 1% 1/8W 0805	Yageo	RC0805FR-071ML	311-1.00MCRCT-ND	
13	R.0805	2	T2, T3	THERM NTC 100KOHM 4250K 0805	Murata Elect	NCP21WF104J03RA	490-2451-1-ND	
14	THRU	1	T1	THERM NTC 100KOHM 4250K BEAD	Murata Elect	NXRT15WF104FA1B040	490-7169-ND	
15	R.1206	2	R50, R58	RES SMD 1K OHM 1% 1/4W 1206	Yageo	RC1206FR-071KL	311-1.00KFRCT-ND	
16	R.1206	1	R59	RES SMD 100 OHM 1% 1/4W 1206	Yageo	RC1206FR-07100RL	311-100FRCT-ND	
17	R.1206	1	R120	PTC RESET FUSE 60V 50MA 1206	Bel Fuse Inc.	OZCJ0005FF2E	507-1793-1-ND	
18	R.2010	15	R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48	RES 47 OHM 5% 3/4W 2010	Stackpole Ele	RMCF2010JT47R0	RMCF2010JT47R0CT-ND	
19	R.2512	2	R72, R73	RES 0.025 OHM 1% 2W 2512	Yageo	PE2512FKE7W0R025L	YAG2169CT-ND	
20	R.2512	1	R81	RES 470 OHM 1% 1W 2512	Stackpole Ele	RMCF2512FT470R	RMCF2512FT470RCT-ND	
21	C.0805	3	C19, C20, C23	CAP CER 1UF 16V X7R 0805	Samsung Ele	CL21B105KOFNFNE	1276-2930-1-ND	
22	C.0805	3	C25, C26, C36, C39	CAP CER 4.7UF 16V X5R 0805	Wurth Electr	885012107013	732-7623-1-ND	
23	C.0805	2	C35	CAP CER 10000PF 16V X7R 0805	Yageo	AC0805KRX7R7BB103	311-3161-1-ND	
24	C.0805	2	C30	CAP CER 1000PF 50V X7R 0805	Samsung Ele	CL21B102KBCNNNC	1276-2425-1-ND	
25	C.0805	26	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C27, C28, C31, C32, C33, C34, C37, C38	CAP CER 0.1UF 50V X7R 0805	Samsung Ele	CL21B104MBCNNNC	1276-2450-1-ND	
26	C.0805	4	C21, C22, C24, C42	CAP CER 1UF 50V X7R 0805	Samsung Ele	CL21B105KBFNFNE	1276-2928-1-ND	
			Note: C42 footprint is missing on PCB. Solder C42 from point (A) to gnd as in schematic.					
27	C.1206	1	C29	CAP CER 1UF 100V X7R 1206	Samsung Ele	CL31B105KCHSNE	1276-2747-1-ND	
28	C.1206	2	C40, C41	CAP CER 1206 10NF 250V X7R 10%	KEMET	C1206C103KARECAUTO	399-17174-1-ND	
29	SOD123	5	D1, D2, D3, D4, D6	DIODE GEN PURP 100V 150MA SOD123	Micro Comm	1N4148W-TP	1N4148WTPMSCT-ND	
30	SOD123	1	D7	DIODE ZENER 16V 500MW SOD123	Micro Comm	BZT52C16-TP	BZT52C16-TPMSCT-ND	
31	SOD123	2	D5, D8	DIODE SCHOTTKY 30V 200MA SOD123	Taiwan Semi	BAT42W RHG	BAT42WRHGCT-ND	
32	D.SMC	1	D9	TVS DIODE 75V 121V DO214AB	Taiwan Semi	SMCJ75A V7G	SMCJ75AV7GCT-ND	
33	D.0805	6	LED1, LED2, LED3, LED4, LED5, LED6	LED RED CLEAR 0805 SMD	Wurth Electr	150080RS75000	732-4984-1-ND	
34	SOT23-3	15	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15	MOSFET N-CH 50V 220MA SOT-23	ON Semicon	BSS138	BSS138CT-ND	
35	SOT23-3	1	Q16	MOSFET N-CH 100V 0.17A SOT-23	ON Semicon	BSS123L	BSS123LCT-ND	
36	SOT23-3	1	Q17	MOSFET P-CH 50V 130MA SOT23-3	Diodes Incon	BSS84-7-F	BSS84-FDICT-ND	
37	SOT23-3	1	Q18	TRANS NPN 50V 0.2A SOT23	ON Semicon	MMBT6428LT1G	MMBT6428LT1GOSCT-ND	

38	SOT89	1	Q23	MOSFET N-CH 100V 1A SOT-89	Diodes Inco	ZXMN10A07ZTA	ZXMN10A07ZCT-ND
39	DPAK	4	Q19, Q20, Q21, Q22	MOSFET N-CH 150V 24A DPAK	Infineon Tech	IRFR24N15DTRPBF	IRFR24N15DTRPBFCT-ND
40	TSSOP44	1	U1	IC BATT MFMT LI-ION AFE 44TSSOP	Texas Instru	BQ7694006DBT	296-37790-5-ND
41	SSOP28	1	U2	IC MCU 8BIT 64KB FLASH 28SSOP	Microchip Te	PIC18F26K22-I/SS	PIC18F26K22-I/SS-ND
42	Thru-hole	4	BT1, BT2, BT3, BT4	SWITCH TACTILE SPST-NO 0.05A 24V	TE Connectiv	3-1825910-5	450-1644-ND
43	Thru-hole	4	P1, P2, P3, P12	CONN HEADER R/A 6POS 2.5MM	JST Sales Ar	S6B-XH-A(LF)(SN)	455-2236-ND
44		4	CONN HOUSING	CONN HOUSING 2.5MM XH 6POS	JST Sales Ar	XHP-6	455-2218-ND
45		21	CRIMP PIN	CONN TERM CRIMP XH 22-28AWG	JST Sales Ar	SXH-001T-P0.6	455-1135-1-ND
46		1	FUSE	User selected fuse or jumper wire			
47		2	TERMINAL BLOCK	Battery IN/OUT, wires or terminal block			

Note: These are recommended parts. Alternate parts and values maybe used depending on your design requirements.

Check polarity of battery packs P1, P2 and P3 relative to PCB connector before installation. Connector orientation/installation determines connector polarity. Install lowest cell pack first, P1 first, P2 and P3 last. JST connectors used in BOM have pinouts reversed from schematic.

For BQ7693x (6-10 cell) chip, add jumper from P3 pin1 to pin6 for power to REGSRC. Check schematic for parts not required for this chip.

