



Item #	Schematic Reference	Qty per brd	Value	Package	Manufacturer Part Number (MPN)	MFR	Description	Type	Notes
1	C1 C2	2	10n	C0603	885012206089	Wurth Elektronik	CAP MLCC - SMD/SMT WCAP-CSGP 0.01uF 0603 10% 50V	SMD	
2	C3	1	220n	C0603	CC0603KRX7R7BB224	YAGEO	CAP MLCC - SMD/SMT 16V 0.22uF X7R 0603 10%	SMD	
3	C4 C9 C13	3	100n	C0603	CC0603KRX7R8BB104	YAGEO	CAP MLCC - SMD/SMT 0603 25V 0.1uF X7R 0603 10%	SMD	
4	C5 C6 C7 C10	4	1u	C0805	C0805C105K3RACTU	KEMET	CAP MLCC - SMD/SMT 25V 1uF X7R 0805 10%	SMD	
5	C8	1	4u7	C0805	GRM21BZ7YA475KE15L	Murata	CAP MLCC - SMD/SMT 35V 4.7uF X7R 0805 10%	SMD	Alternative: C0805C475K4RACAUTO
6	CN1	1	S2B-PH-SM4	JST_2PIN-SMT-RA	S2B-PH-SM4-TB(LF)(SN)	JST	SOCKET Male; PH; 2mm; PIN: 2; SMT	SMD	Alternative: B2B-PH-SM4-TB (pins aligned to the outside of the board)
7	D1 D2 D4 D5 D6 D7 D8 D12	8	SS14L	SUB_SMA	SS14L	Taiwan Semiconductor	Schottky Rectifiers 1A 40V Sub SMA-2	SMD	
8	D11 Or D9	1	CZRB5339B-HF	DO-214AA-2 OR DO-15-2	CZRB5339B-HF Or 1N5339B-TP	Comchip Technology Or Micro Commercial Components (MCC)	Zener Diodes 5W 5.6V SMB DO-214AA-2 Or Zener Diodes 5.0W 5.6V 1uA 865mA 13.4A DO-15-2	SMD Or THT	If has problem to buy the D11 item, can you buy the D9 item D11 Alternative: SMBJ5339B-TP
9	D3 D10	2	RFN2LAM4STFTR	SOD-128	RFN2LAM4STFTR	ROHM Semiconductor	Diodes 400V VR 1.5A IO SOD-128; PMDTM	SMD	
10	F1 F2	2	OZCK0075FF2E	PTC-0805	OZCK0075FF2E	Bel	Resettable Fuses - PPTC Hold current 750 mA 0805	SMD	
11	J1 J2	2	RJ11	RJ11-6	95501-2661	Molex	Ethernet Connectors RA 6/6 RJ12 LOW PROFILE THT	THT	Alternative: 54601-906WPLF

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12	JP3 JP4	2	14POS 2.54mm	LOPY4_SHIELD	DS1023-1*14S21	CONNFLY	CONN Female; PIN: 14; straight; 2.54mm; THT; 1x14; 3A	THT	
13	JP5	1	6POS 2.54mm	PINH4-1X6	DS1023-1*6S21	CONNFLY	CONN Female; PIN: 6; straight; 2.54mm; THT; 1x6; 3A	THT	
14	JP7 JP8 JP9 JP10	4	Block 1x2 5mm	W237-102	DG300-5.0-2P12	DEGSON ELECTRONICS	PCB terminal block; angled 90°; 5mm; ways: 2; on PCBs; 2.5mm2; 24A	THT	Alternative: EBBA-02-C-SS-BU
15	LED1	1	Green_LED	LED0805	LG R971-KN-1	Osram Opto Semiconductor	Standard LEDs - SMD 0805 Green, 570nm 26mcd, 20mA	SMD	Cathode has a mark (".") Alternative: LTST-C170KGKT
16	Q1 Q3 Q9	3	SI2333DDS	SOT-23-3	SI2333DDS-T1-GE3	Vishay	Transistor: P-MOSFET; unipolar; -12V; -5.2A; Idm: -20A; 1.1W; SOT-23-3	SMD	Alternative: DMG2305UX
17	Q2 Q5 Q6	3	BSS138	SOT-23-3	BSS138-7-F	Diodes Incorporated	MOSFET 300mW 50V DSS SOT-23-3 N-channel	SMD	
18	R1 R2 R3 R5 R6 R7 R18	7	1k	R0603	CR0603-FX-1001ELF	Bourns	RES Thick Film Resistors - SMD 0603 1K 1% 1/10W	SMD	
19	R10	1	200m	R0805	RL1220S-R20-F	Susumu	RES Current Sense Resistors - SMD 0805 1/3W 0.20ohm 1%	SMD	Alternative: KDV08FR200ET
20	R11 R12	2	10R	R0603	CRCW060310R0FKEAC	Vishay	RES Thick Film Resistors - SMD 0603 1/10Watt 10ohms 1% Commercial Use	SMD	
21	R13 R22 R27 R33	4	47k	R0603	RC0603FR-0747KL	YAGEO	RES Thick Film Resistors - SMD 47 kOhms 100mW 0603 1%	SMD	
22	R14 R15 R26 R39	4	10k	R0603	CR0603-FX-1002ELF	Bourns	RES Thick Film Resistors - SMD 0603 10K 1% 1/10W	SMD	
23	R16 R37 R40	3	0R	R0603	CR0603-J/-000ELF	Bourns	RES Thick Film Resistors - SMD 0 ohm Jumper 0603	SMD	Soldering RES jumper (or Shunt)

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24	R19 R20 R30	3	100k	R0603	RC0603FR-07100KL	YAGEO	RES Thick Film Resistors - SMD 0603 100 kOhms 100mW 0603 1%	SMD	
25	R23 R25 R36	3	200k	R0603	CRCW0603200KFKEAC	Vishay	RES Thick Film Resistors - SMD 0603 1/10Watt 200Kohms 1%	SMD	
26	R29	1	2k74	R0603	RC0603FR-132K74L	YAGEO	RES Thick Film Resistors - SMD 0603 2.74kOhms 1/10W 0603 1%	SMD	
27	R4	1	4k7	R0603	RC0603FR-074K7L	YAGEO	RES Thick Film Resistors - SMD 4.7 kOhms 100mW 0603 1%	SMD	
28	R8	1	22k	R0603	RC0603FR-0722KL	YAGEO	RES Thick Film Resistors - SMD 22 kOhms 100mW 0603 1%	SMD	
29	R9 R24	2	499k	R0603	CR0603-FX-4993ELF	Bourns	RES Thick Film Resistors - SMD 499K ohm 0603 1%	SMD	
30	U1	1	INA219BIDCN	SOT-23-8	INA219BIDCN	Texas Instruments	IC Current & Power Monitors & Regulators 0-Drift,Bi-dir Current/Pwr Monitor SOT-23-8	SMD	
31	U2	1	MCP73831T	SOT23-5	MCP73831T-2ACI/OT	Microchip	IC Battery Management Charge LI-ION 1CEL	SMD	
32	U3	1	SN74AUP2G14DCKR	SC70-6	SN74AUP2G14DCKR	Texas Instruments	IC Inverters Lo-Pwr Dual Schmitt- Trigger Inverter SC70-6	SMD	

