

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package name	Standard dimensions mm (inch)	Not Mounted
1	U1, U2	2		UCC27517DBV	TI	Gate Driver	SOT-23-5		
2	U3	1		UCC28711	TI	Constant-Voltage/Current Controller	7-SOIC		
3	U4	1		LM317MDCY	TI	Voltage Reference	SOT-223-4		
4	U5, U6, U7	3		L6498D	ST Micro	Gate Driver	8-SOIC		
5	U8, U9, U10, U11, U12, U13	6		UCC24612	TI	Synchronous Rectifier	SOT-23-5		
6	U14	1		LM5050MK-2	TI	FET Controller	SOT-23-6		
7	Q1, Q2	2		<a href="#">TK080N60Z1</a>	<a href="#">TOSHIBA</a>	N-ch MOSFET, 600V, 80mΩ	TO-247		
8	Q3	1		<a href="#">TK12A80W</a>	<a href="#">TOSHIBA</a>	N-ch MOSFET, 800V, 11.5A	TO-220SIS		
9	Q4, Q5, Q6, Q7, Q8, Q9	6		<a href="#">TK125A60Z1</a>	<a href="#">TOSHIBA</a>	N-ch MOSFET, 600V, 11.5A	TO-220SIS		
10	Q10, Q11, Q12, Q13, Q14, Q15	6		<a href="#">TPH9R00CQH</a>	<a href="#">TOSHIBA</a>	N-ch MOSFET, 150V, 64A	SOP Advance		
11	Q16	1		<a href="#">TPH2R408QM</a>	<a href="#">TOSHIBA</a>	N-ch MOSFET, 80V, 120A	SOP Advance		
12	ZD1, ZD2, ZD3, ZD4	4		<a href="#">CUZ20V</a>	<a href="#">TOSHIBA</a>	Zener Diode, 20V, 200mW	SOD-323 (USC)		
13	D1, D7, D22, D23, D24, D25, D26, D27, D32, D33, D34, D35, D36, D37, D38, D39	16		<a href="#">CRS04</a>	<a href="#">TOSHIBA</a>	Schottky Barrier Diode, 40V, 1A	S-FLAT		
14	D2, D5, D12	3		<a href="#">CRG04A</a>	<a href="#">TOSHIBA</a>	Rectification Diode, 600V, 1A	S-FLAT		
15	D3, D8	2		<a href="#">TRS8E65F</a>	<a href="#">TOSHIBA</a>	SiC Diode, 650V, 8A	TO-220-2L		
16	D4, D9	2		<a href="#">CES388</a>	<a href="#">TOSHIBA</a>	Schottky Barrier Diode, 40V, 0.1A	SOD-523 (ESC)		
17	D6, D10	2		<a href="#">CUHS10F60</a>	<a href="#">TOSHIBA</a>	Schottky Barrier Diode, 60V, 1A	SOD-323HE (US2H)		
18	D11	1		<a href="#">CMG03A</a>	<a href="#">TOSHIBA</a>	Rectification Diode, 600V, 2A	M-FLAT		
19	D13	1		<a href="#">1SS403E</a>	<a href="#">TOSHIBA</a>	Switching Diode, 200V, 100mA	SOD-523 (ESC)		
20	D14, D19, D20, D21, D28, D29, D30	7		<a href="#">CRF03A</a>	<a href="#">TOSHIBA</a>	Diode, 600V, 0.7A	S-FLAT		
21	D15	1		<a href="#">CMH07</a>	<a href="#">TOSHIBA</a>	Rectification Diode, 200V, 2A	M-FLAT		
22	D16	1		RB078BM10SFNS	ROHM	Schottky Barrier Diode, 100V, 5A			
23	D31	1		SS16T3G	Onsemi	Schottky Barrier Diode, 60V, 1A			
24	CS1, CS2	2		PA1005.100NL	Pulse	Current Sensor, 500V, 20A			

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25	R1, R23	2	150kΩ			±1%, 1/4W		3.2 x 1.6 (1206)	
26	R2, R24	2	220kΩ			±1%, 1/4W		3.2 x 1.6 (1206)	
27	R3, R25, R50	3	470kΩ			±1%, 1/4W		3.2 x 1.6 (1206)	
28	R4, R5, R6	3	470kΩ			±5%, 1/4W		3.2 x 1.6 (1206)	
29	R7, R12	2	47Ω			±5%, 1/4W		3.2 x 1.6 (1206)	
30	R8, R13, R38, R51, R52, R53, R54, R55, R56, R57, R58, R59, R84, R85, R86	15	10Ω			±5%, 1/4W		3.2 x 1.6 (1206)	
31	R9, R14, R40, R66, R67, R68, R69, R70, R71	9	10kΩ			±5%, 1/10W		1.6 x 0.8 (0603)	
32	R10, R78, R79, R80, R81, R82, R83	7	2.2Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
33	R11, R15	2	18Ω			±5%, 1/4W		3.2 x 1.6 (1206)	
34	R16	1	22Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
35	R17	1	100kΩ			±5%, 1/10W		1.6 x 0.8 (0603)	
36	R18, R22	2	5.1Ω			Fuse Resistor, ±5%, 2.1W		14.0 x 9.0	
37	R19	1	56Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
38	R20	1	27KΩ			±1%, 1/5W		1.6 x 0.8 (0603)	
39	R21	1	110kΩ			±1%, 1/10W		1.6 x 0.8 (0603)	
40	R26, R27, R28, R29, R30	5	180kΩ			± 5 %, 1/4W		2.0 x 1.25 (0805)	
41	R31	1	100Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
42	R32, R33	2	22KΩ	MOS1C223J	KOA	Metal Oxide Resistor, ±5%, 1W			
43	R34, R35, R36	3	220kΩ			±5%, 1/4W		3.2 x 1.6 (1206)	
44	R37, R45	2	2.7kΩ			±5%, 1/10W		1.6 x 0.8 (0603)	
45	R39	1	10Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
46	R41, R42	2	1Ω			±1%, 1/3W		3.2 x 1.6 (1206)	
47	R43	1	27Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
48	R44	1	33Ω			±5%, 1/4W		3.2 x 1.6 (1206)	
49	R46	1	270Ω			±1%, 1/10W		1.6 x 0.8 (0603)	
50	R47	1	22kΩ			±5%, 1/10W		1.6 x 0.8 (0603)	
51	R48, R49	2	820kΩ			±1%, 1/4W		3.2 x 1.6 (1206)	
52	R60, R61, R62, R63, R64, R65	6	22Ω			±5%, 1/4W		3.2 x 1.6 (1206)	

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53	R88, R89, R93, R94	4	27kΩ			±1%, 1/10W		1.6 x 0.8 (0603)	
54	R90	1	330Ω			±5%, 1/8W		1.6 x 0.8 (0603)	
55	R91	1	0Ω			1A		1.6 x 0.8 (0603)	
56	R95	1	10kΩ			±1%, 1/10W		1.6 x 0.8 (0603)	
57	R96, R97	2	1.8kΩ			±5%, 1/10W		1.6 x 0.8 (0603)	
58	R100, R101, R102, R103	4	0Ω			±5%, 1/4W		3.2 x 1.6 (1206)	
59	L1, L3	2	3mH	ADR22H-10A030S	UENO	Choke Coil, 10A			
60	L2, L4	2	335μH	BCH20W-10335Y	UENO	Choke Coil, 10A			
61	C1, C9, C22, C29, C30, C31, C77	7	0.1μF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	
62	C2, C3, C7, C8, C49	5	1000pF			Ceramic, 400VAC, ±20%		9.0 x 7.0	
63	C4, C5, C6	3	1μF	ECQUAAF105M	Panasonic	Film, 275VAC, ±20%			
64	C10	1	1μF	ECWFA2J105J	Panasonic	Film, 630V, ±5%			
65	C11	1	10μF			Ceramic, 50V, ±10%		2.0 x 1.25 (0805)	
66	C12, C24	2	1000pF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	
67	C13, C15	2	22000pF			Ceramic, 630V, ±10%		3.2 x 1.6 (1206)	
68	C14, C16, C17	3	330μF	ELHS451VSN331M R35S	CHEMI-CON	Electrolytic, 450V, ±20%			
69	C18	1	470pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
70	C19	1	6.8μF	EKXJ451ELL6R8MJ 16S	CHEMI-CON	Electrolytic, 450V, ±20%			
71	C20	1	2200pF			Ceramic, 250V, ±20%		9.0 x 4.0	
72	C21	1	330μF	EKY-350ELL331MJ16S	CHEMI-CON	Electrolytic, 35V, ±20%			
73	C23	1	1200μF	EKZN250ELL122MJ 25S	CHEMI-CON	Electrolytic, 25V, ±20%			
74	C25	1	10μF			Ceramic, 50V, ±10%		3.2 x 1.6 (1206)	
75	C26, C27, C28	3	0.47μF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	
76	C32, C36, C40	3	0.022μF			Ceramic, 1000V, ±5		3.2 x 2.5 (1210)	Not Mounted
77	C33, C34, C35, C37, C38, C39, C41, C42, C43	9	18nF			Ceramic, 630V, ±5%		3.2 x 2.5 (1210)	
78	C46, C47, C48	3	330pF			Ceramic, 1kV, ±5%		3.2 x 1.6 (1206)	
79	C56, C57, C58, C59, C60, C61	6	2.2μF			Ceramic, 25V, ±10%		1.6 x 0.8 (0603)	
80	C62, C63, C64, C65, C66, C67	6	1μF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	

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81	C68, C69, C70	3	1200 $\mu$ F	EKZN630ELL122ML N3S	CHEMI-CON	Electrolytic, 63V, $\pm$ 20%			
82	C72, C73	2	0.01 $\mu$ F			Ceramic, 630V, $\pm$ 10%		3.2 x 1.6 (1206)	
83	C71	1	180 $\mu$ F	EKYB630ELL181MJ 16S	CHEMI-CON	Electrolytic, 63V, $\pm$ 20%			
84	RL1	1		ALQ312	Panasonic	Relay, 12V, 10A			
85	T1	1		WT2020B	TAMURA	Power Transformer			
86	T2, T3, T4	3		TR0118-168-0	PAT	Transformer, 500V			
87	TH1	1		EC2F103A2-40113	Semitec	Thermistor, 10k $\Omega$ $\pm$ 1%			
88	V1	1		ERZV10D681	Panasonic	Varistor, 680V, 3.5kA			
89	CN5, CN10	2		B4B-EH-A	JST	Connector, 250V, 3A			
90	CN12	1		B2B-PH-K-S	JST	Connector, 100V, 2A			
91	F1	1		010000020Z	LITTLE	Fuse Holder, 250V, 20A			
92	HS1	1		15FP23-L180	LSI COOLER	Heat Sink			
93	HS2	1		15FP23-L130	LSI COOLER	Heat Sink			
94	HS4	1		30SQ30H20	LSI COOLER	Heat Sink			
95	HS5	1		26.2SQ26.2H10	LSI COOLER	Heat Sink			
96	TB1	1		OTB-771N-BL-3P	Osada	Terminal Block, 3 Position			
97	TB2	1		OTB-781N-B-4P	Osada	Terminal Block, 4 Position			

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