

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package name	Standard dimensions mm (inch)	Not Mounted
1	CN1	1	2pin	B02B-PASK	JST	PA Connector		-	Not Mounted
2	CN2, CN3, CN4, CN5, CN6, CN7	6	2Dir Type	6-1460820-1	TE Connectivity	MMCX Connector, 170V		5.0 x 5.0	
3	CN8	1	2pin	BM02B-PASS-1-TFT(LF)(SN)	JST	Connector, 250V, 3A		-	
4	CN9	1	60pin	WR-60S-VFH05-N1	JAE	Terminal, 200V, 0.3A		-	
5	CT1, CT2, CT3	3	±23A	TMCS1100A2QDR	Texas Instruments	Current Sensor	SOIC8	4.9 x 3.9	
6	C1, C8, C12, C19, C48, C50, C51, C64, C65, C72, C73, C80, C81, C84, C85, C88, C89, C93, C94, C98, C101, C103, C106, C107, C112, C115, C117, C118, C121, C122, C123, C124, C125, C126, C127, C128, C129, C140, C141, C142, C143, C144, C146, C147, C149, C150	46	1µF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	
7	C2, C3, C4, C5, C10, C11	6	0.22µF			Film, 480Vac, 20%		26.0 x 8.5	
8	C6, C7, C9	3	3.3µF			Film, 480Vac, ±20%		30.0 x 42.0	
9	C13, C14, C15, C16, C17, C18	6	2200pF			Ceramic, 440Vac/X1, 400Vac/Y1		9.0mm	
10	C20	1	220µF			Aluminum, 35V, ±20%		12.5 x 12.5	
11	C21, C22, C23, C62, C63, C70, C71, C78, C79	9	10µF			Ceramic, 50V, ±10%		3.2 x 2.5 (1210)	
12	C24, C37, C38, C95, C99, C111, C116	7	10µF			Ceramic, 10V, ±10%		1.6 x 0.8 (0603)	
13	C25, C35, C39, C52, C96, C97, C113, C114	8	0.1µF			Ceramic, 50V, ±10%		1.0 x 0.5 (0402)	

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14	C26, C28, C30, C36, C40, C44	6	1 $\mu$ F			Ceramic, 630V, 20%		5.7 x 5.0 (2220)	
15	C27, C29, C31, C34, C41, C45	6	-			-		-	Not Mounted
16	C32, C33, C42, C43	4	470 $\mu$ F			Aluminum, 450V, 20%		25x25	
17	C46, C47, C54, C55, C56, C57	6	27pF			Ceramic, 50V, 1%		1.0 x 0.5 (0402)	
18	C53, C104, C109	3	1000pF			Ceramic, 50V, $\pm$ 5%		1.6 x 0.8 (0603)	
19	C58, C60, C66, C68, C74, C76	6	1 $\mu$ F			Ceramic, 50V, $\pm$ 10%		2.0 x 1.2 (0805)	
20	C59, C61, C67, C69, C75, C77	6						1.6 x 0.8 (0603)	Not Mounted
21	C86, C91, C102, C105, C108, C110	6	1200pF			Ceramic, 50V, $\pm$ 5%		1.6 x 0.8 (0603)	
22	C119, C120	2	330pF			Ceramic, 3kV, 10%		4.5 x 3.2 (1812)	
23	C151, C152, C153, C154	4	2200pF			Ceramic, 50V, 1%		1.6 x 0.8 (0603)	
24	D1, D2, D3, D17, D18, D19, D20	7	100V	<a href="#">BAS316</a>	<a href="#">TOSHIBA</a>	Diode	SOD-323	2.5 x 1.25	
25	D4, D5, D6, D7, D8, D9	6	1200V	<a href="#">TRS15N120HB</a>	<a href="#">TOSHIBA</a>	SiC Schottky Barrier Diode Array	TO-247	Through Hole	
26	D10	1	40V 100mA 100mW	<a href="#">1SS423</a>	<a href="#">TOSHIBA</a>	Schottky Barrier Diode Array	SSM	1.6 x 1.6	
27	D11, D12, D13, D14, D15, D16	6	30V	<a href="#">CUS10F30</a>	<a href="#">TOSHIBA</a>	Diode	USC	2.5 x 1.25	
28	F1, F2, F3	3	12A	0505012.MXEP	Littelfuse	Fuse 450Vac		32.0 x 6.3	
29	IC1	1	-	REF2025AIDDCT	Texas Instruments	Voltage References	SOT	2.9 x 1.6	
30	IC2, IC10, IC16, IC17, IC18, IC19, IC20, IC21, IC22, IC23, IC24, IC28, IC29, IC30	14	-	<a href="#">TC75S103F</a>	<a href="#">TOSHIBA</a>	Operational Amplifier	SOT-25	2.9 x 1.6	
31	IC4, IC5, IC6	3	-	LP2951D	Texas Instruments	Voltage Regulators	SOIC8	4.9 x 3.9	
32	IC8, IC9, IC12, IC13	4	-	<a href="#">TLP7920F</a>	<a href="#">TOSHIBA</a>	Photocoupler	DIP8	12.0 x 9.66	
33	IC14	1	-	<a href="#">74VHCT541AFT</a>	<a href="#">TOSHIBA</a>	Buffer	TSSOP2 0B	6.5 x 6.4	
34	IC15	1	-	<a href="#">74VHCT540AFT</a>	<a href="#">TOSHIBA</a>	Buffer	TSSOP2 0B	6.5 x 6.4	

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35	IC31, IC32, IC33, IC34, IC35, IC36	6	-	OPA607IDCKR	Texas Instruments	Operational Amplifier	SC70	2.0 x 2.1	
36	LED1, LED2	2	Green	VCDG1111C-4BY3C-TR	STANLEY	LED		1.6 x 0.8 (0603)	
37	L1, L2	2	3phase, 4mH@100kHz, 10A	CFA37H-40210R0	Tamura	3phase Common Mode Choke		50.0 x 50.0	
38	L3	1	1uH	MBKK1608T1R0M	Taiyo Yuden	1.15A		1.6 x 0.8 (0603)	
39	L4, L5, L6, L7, L8, L9	6	750uH 10A	HKBS-24D160-7510	Toho Zinc	Inductor	-	60.0 x 34.0	
40	L10, L11, L12, L13	4	100uH	ACT1210-101-2P-TL00	TDK	150mA		3.2 x 2.5	
41	L14, L15, L16, L17	4	-	NC_LQW15CA22 NK00D	-	-		1.0 x 0.5 (0402)	Not Mounted
42	PC1, PC2, PC3, PC4, PC5, PC6	6	5kV 8mm	<a href="#">TLP5774H</a>	<a href="#">TOSHIBA</a>	Photocouplers	SO6L	3.84 x 11.05	
43	PC7	1	3.75kV, 5mm	<a href="#">TLP183</a>	<a href="#">TOSHIBA</a>	Photocoupler	11-4M1S	7.0 x 3.7	
44	PS1	1	-	LD20-26B24	Mornsun	AC/DC Converter		70 x 48	
45	PS2	1	-	EC5SAW-24S05N	CINCON	DC/DC Converter	SIP8	22.0 x 9.5	
46	PS3, PS4, PS5	3	-	R24P212S	RECOM	DC/DC Converter	SIP7	19.5x9.8	
47	PS6, PS7	2	5V, 200mA	MEF1S0505SP3C	Murata	DC/DC Converter		19.65 x 6.15	
48	Q1, Q2, Q3, Q4, Q5, Q6	6	650V 30A	<a href="#">TK065N65Z</a>	<a href="#">TOSHIBA</a>	Power MOS FET	TO-247	Through Hole	
49	Q7	1	60V 2.5A	<a href="#">SSM3K318R</a>	<a href="#">TOSHIBA</a>	MOSFET	SOT-23F	2.4 x 2.9	
50	RLY1, RLY2, RLY3	3	16A AC250V	G2RL-1A4-E-CF DC24	OMRON	Power Relay	-	29.0 x 12.7	
51	R1, R6, R9	3	74Ω			12W, ±5%		34.0 x 12.0	
52	R2, R3, R4, R5, R7, R8	6	470kΩ			1W, ±5%		9.5 x 3.5	
53	R10, R12, R84, R99, R114, R129	6	0Ω			1.0A		1.6 x 0.8 (0603)	
54	R11, R37, R42, R50, R55, R63, R68, R132, R133, R134, R135, R136, R137, R138, R140	15	10kΩ			±1%, 100mW		1.6 x 0.8 (0603)	

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55	R13, R22, R35, R40, R48, R53, R61, R66, R142	9	1.0kΩ			125mW, ±1%		1.6 x 0.8 (0603)	
56	R14, R15, R16, R17	4	39kΩ			3W, ±1%		6.35 x 3.2 (6432)	
57	R18, R23, R25, R26, R30, R32, R111, R113, R126, R128	10	22kΩ			100mW, ±0.1%		1.6 x 0.8 (0603)	
58	R19, R21, R27, R28, R29, R31	6	29.4kΩ			100mW, ±0.1%		1.6 x 0.8 (0603)	
59	R20	1	2.2kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
60	R24	1	100kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
61	R33, R38, R46, R51, R59, R64	6	620Ω			125mW, ±1%		1.6 x 0.8 (0603)	
62	R34, R36, R39, R41, R47, R49, R52, R54, R60, R62, R65, R67	12	10Ω			250mW, ±1%		2.5 x 1.25 (0805)	
63	R43, R44, R56, R57, R69, R70	6	68kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
64	R45, R58, R71	3	18kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
65	R72, R73, R75, R76, R77, R78, R87, R88, R89, R90, R91, R92, R102, R105, R106, R107, R108, R109, R117, R118, R119, R120, R121, R122	24	180kΩ			100mW, ±0.1%		1.6 x 0.8 (0603)	
66	R79, R86, R93, R101, R103, R116, R123, R131	8	NC_R1005			-	-	-	Not Mounted
67	R80, R82, R95, R97	4	360Ω			100mW, ±0.1%		1.6 x 0.8 (0603)	

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68	R81, R83, R96, R98	4	27kΩ			100mW,±0.1%		1.6 x 0.8 (0603)	
69	R104, R115, R124, R130	4	71.5kΩ			100mW,±0.1%		1.6 x 0.8 (0603)	
70	R110, R112, R125, R127	4	430Ω			100mW,±0.1%		1.6 x 0.8 (0603)	
71	R139	1	10kΩ			250mW, ±5%		2.0 x 1.2 (0805)	
72	R141	1	390Ω			100mW, ±1%		1.6 x 0.8 (0603)	
73	R143	1	3.9kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
74	R144, R145	2	NC_R16 08			-	-	-	Not Mounted
75	R146, R147, R148, R149	4	36kΩ			100mW, 0.1%		1.6 x 0.8 (0603)	
76	TB1, TB2, TB3, TB4, TB5, TB6	6	-	OT-264	Osada	Terminal, 50A, M4	-	10.0 x 8.0	
77	TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22, TP23, TP24, TP25, TP26, TP27, TP28, TP29, TP30, TP31, TP32, TP33, TP34, TP35, TP36, TP37, TP38, TP39, TP40, TP41, TP42, TP43, TP44, TP45, TP46, TP47, TP48, TP49, TP50, TP51, TP52, TP53, TP54, TP55, TP56, TP62, TP63, TP64	59	-	HK-3-G	MAC8	Test Pin		2.0 x 1.3	
78	ZD1	1	48.4V	SMBJ30A	Littelfuse	TVS Diode	DO-214AA	4.75 x 3.94	
79	ZNR1, ZNR2, ZNR3	3	750V	TND14V-751KB00AAA0	Nippon Chemicon	Varistor		16.0 x 7.8	

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