

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package name	Standard dimensions mm (inch)	Not Mounted
1	CN1	1	—	BM02B-PASS-TFT(LF)(SN)	JST	Connector, 250 V, 3 A		Through hole	
2	CN2	1	—	BM03B-PASS-TFT(LF)(SN)	JST	Connector, 250V, 3A		Through hole	
3	CN3	1	—	BM04B-PASS-TFT(LF)(SN)	JST	Connector, 250V, 3A		Through hole	
4	CN4	1	—	WR-60S-VFH05-N1	JAE	Connector, 200V, 0.3A		Through hole	
5	CT1	1	—	F02P025S05L	Tamura	Current Transducer, 25 A		21.84 x 13.4	
6	CT2	1	—	F02P050S05L	Tamura	Current Transducer, 50 A		21.84 x 13.4	
7	C1, C10, C11, C13, C16, C17, C25, C45, C57, C77, C87, C107, C119, C139, C146, C153, C155, C158, C160, C161, C164, C165, C172, C174, C175	25	1 μ F			Ceramic, 10 V, ± 10 %		1.6 x 0.8 (0603)	
8	C2, C3, C4, C5, C6, C7, C147, C148, C149, C150, C151, C152	12	470 μ F	ESMR451VSN471MR40S	United Chemi-Con	Aluminum, 450 V, ± 20 %		$\phi 30.0$	
9	C8	1	1000 pF			Ceramic, 50 V, ± 5 %		1.0 x 0.5 (0402)	
10	C12, C15, C154, C159, C168, C170, C171, C173	8	470 pF			Ceramic, 50 V, ± 5 %		1.6 x 0.8 (0603)	
11	C14, C157	2	330 pF			Ceramic, 50 V, ± 5 %		1.6 x 0.8 (0603)	
12	C18, C20, C23, C24, C38, C40, C43, C44, C50, C52, C55, C56, C70, C72, C75, C76, C84, C86, C88, C89, C104, C106, C108, C109, C116, C118, C120, C121, C136, C138, C140, C141	32	1 μ F			Ceramic, 50 V, ± 10 %		1.6 x 0.8 (0603)	

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13	C21, C22, C41, C42, C53, C54, C73, C74, C82, C83, C102, C103, C114, C115, C134, C135	16	10 μ F			Ceramic, 50 V, ± 20 %		3.2 x 1.6 (1206)	
14	C26, C46, C58, C78	4	3300 pF			Ceramic, 50 V, ± 5 %		1.6 x 0.8 (0603)	
15	C28, C29, C32, C33, C34, C35, C36, C37, C62, C63, C64, C65, C66, C67, C68, C69	16	1 μ F	CKG57NX7T2J105M 500JH	TDK	Metal Terminal Type Ceramic, 630 V, ± 20 %		6.0 x 5.0	
16	C31, C49, C61, C81, C92, C112, C124, C144	8	10 μ F			Ceramic, 25 V, ± 10 %		2.0 x 1.25 (0805)	
17	C91, C111, C123, C143	4	6800 pF			Ceramic, 50 V, ± 5 %		1.6 x 0.8 (0603)	
18	C94, C95, C96, C97, C98, C99, C100, C101, C126, C127, C128, C129, C130, C131, C132, C133	16	2.2 μ F	CKG57NX7T2W225M 500JH	TDK	Ceramic, 450 V, ± 20 %		6.0 x 5.0	
19	C162, C163	2	10 μ F			Ceramic, 50 V, ± 10 %		3.2 x 1.6 (1206)	
20	D2, D3, D10, D16, D22, D28, D35, D41, D47, D53	10	—	CUS05F30	TOSHIBA	Schottky Barrier Diode	USC	2.5 x 1.25	
21	D5, D6, D56, D58	4	—	DSR01S30SL	TOSHIBA	Schottky Barrier Diode	SL2	0.62 x 0.32	
22	D7, D8, D13, D14, D19, D20, D25, D26, D31, D37, D43, D49	12	—	CMF05	TOSHIBA	Rectifier Diode	M-FLAT	2.4 x 4.7	
23	D9, D15, D21, D27, D33, D39, D45, D51	8	—	CMS03	TOSHIBA	Schottky Barrier Diode	M-FLAT	2.4 x 4.7	
24	D11, D17, D23, D29, D34, D40, D46, D52	8	8.2 V	CRY82	TOSHIBA	Zener Diode	S-FLAT	1.6 x 3.5	

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25	D12, D18, D24, D30, D36, D42, D48, D54	8	2.0 V	KDZVTR2.0B	ROHM	Zener Diode	SOD-123FL	3.5 x 1.6	
26	IC1, IC24	2	—	OPA4322AIPWR	Texas Instruments		TSSOP	5.0 x 4.4	
27	IC2, IC20	2	—	TLP7920(LF5,TP5)	TOSHIBA	Photocoupler (Isolation Amplifier)	DIP8	10.0 x 9.66	
28	IC3, IC5, IC7, IC9	4	—	LP2951D	Texas Instruments		SOIC	4.9 x 3.9	
29	IC4, IC6, IC8, IC10, IC12, IC14, IC16, IC18	8	—	TLP5214A	TOSHIBA	Photocoupler (Smart Gate Driver)	SO16L	10.3 x 10.0	
30	IC19	1	—	OPA2322AID	Texas Instruments		SOIC	4.90 x 3.91	
31	IC21, IC22	2	—	TC74VHC541FT	TOSHIBA	Buffer	TSSOP20B	6.5 x 6.4	
32	IC23	1	—	REF2025AIDDCT	Texas Instruments		SOT	2.90 x 1.60	
33	LED1	1	—	VCDG1111C-4BY3C-TR	STANLEY			1.6 x 0.8 (0603)	
34	L1	1	1 μ H	MBKK1608T1R0M	Taiyo Yuden	0.8 A		1.6 x 0.8 (0603)	
35	L2, L3, L4, L5	4	—	AB4X2X4.5W	TOSHIBA	Ferrite Cores		—	
36	PS1, PS10	2	—	R05P05S	RECOM	DC-DC Converter		19.5 x 9.8	
37	PS2, PS3, PS4, PS5, PS6, PS7, PS8, PS9	8	—	G2412S-2WR2	MORNSUN	DC-DC Converter		19.5 x 9.8	
38	PS11	1	—	MGFS102405	COSEL	DC-DC Converter		22.0 x 9.5	
39	Q1, Q2, Q3, Q4	4	—	TW070J120B	TOSHIBA	SiC MOSFET	TO-3P(N)	Through hole	
40	Q5, Q6, Q7, Q8	4	—	TK49N65W5	TOSHIBA	MOSFET	TO-247	Through hole	
41	R1, R2, R4, R7	4	100 k Ω			5 W, ± 5 %, axial type		Through hole	
42	R3, R155, R156, R158, R160	5	20 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
43	R5, R28, R40, R52, R64, R75, R87, R99, R111	9	1 k Ω			125 mW, ± 1 %		1.6 x 0.8 (0603)	
44	R8, R18, R120, R129	4	36 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
45	R9, R16, R122, R123	4	12k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
46	R10, R11, R12, R13, R14	5	330 k Ω			250 mW, ± 1 %		2.0 x 1.25 (0805)	

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47	R15	1	360 Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
48	R17, R130, R161, R163, R164, R166, R167, R169, R170, R172	10	0 Ω			1 A		1.6 x 0.8 (0603)	
49	R19, R132	2	470 Ω			250 mW, ± 5 %		2.0 x 1.25 (0805)	
50	R20, R34, R44, R56, R69, R81, R93, R105	8	75 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
51	R21, R32, R45, R57, R68, R80, R92, R104	8	82 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
52	R22, R33, R46, R58, R70, R82, R94, R106, R134, R135, R136, R137, R138, R139, R140, R141, R153, R154, R157, R159	20	10 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
53	R23, R35, R47, R59, R71, R83, R95, R107, R133	9	470 Ω			125 mW, ± 5 %		1.6 x 0.8 (0603)	
54	R24, R36, R48, R60	4	470 Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
55	R26, R38, R50, R62	4	3.3 Ω			1 W, ± 5 %		6.4 x 3.2 (2512)	
56	R27, R39, R51, R63	4	4.7 Ω			1 W, ± 5 %		6.4 x 3.2 (2512)	
57	R29, R41, R53, R65, R79, R91, R103, R115	8	10 k Ω			100 mW, ± 5 %		1.6 x 0.8 (0603)	
58	R30, R31, R42, R43, R54, R55, R66, R67, R77, R78, R89, R90, R101, R102, R113, R114	16	6.8 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
59	R72, R84, R96, R108	4	9.1 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
60	R74, R86, R98, R110	4	10 Ω			1 W, ± 5 %		6.4 x 3.2 (2512)	

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61	R76, R88, R100, R112	4	47 Ω			1 W, ± 5 %		6.4 x 3.2 (2512)	
62	R124, R125, R126, R127, R128	5	180 k Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
63	R131	1	390 Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
64	R142, R143	2	4.7 k Ω			100 mW, ± 5 %		1.6 x 0.8 (0603)	
65	R144, R145	2	100 Ω			100 mW, ± 1 %		1.6 x 0.8 (0603)	
66	R173, R174, R175, R176, R177, R178, R179, R180	8	0 Ω			2 A		2.0 x 1.25 (0805)	
67	TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8	8	—	OP-057	Osada	Terminal, 85 A		12.0 x 10.0	
68	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, TP57, TP58, TP59	59	—	HK-3-G	MAC8	Test Pin		2.0 x 1.3	

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901	C19, C27, C39, C47, C51, C59, C71, C79, C85, C90, C105, C110, C117, C122, C137, C142, C166, C167	18	—	—	—	—		1.6 x 0.8 (0603)	Not Mounted
902	D59, D60, D61, D62, D63, D64, D65, D66	8	—	—	—	—		Through hole	Not Mounted
903	IC11, IC13, IC15, IC17	4	—	LP2951D	Texas Instruments		SOIC	4.9 x 3.9	Not Mounted
904	R25, R37, R49, R61, R73, R85, R97, R109, R162, R165, R168, R171	12	—	—	—	—		1.6 x 0.8 (0603)	Not Mounted

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