

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package name	Standard dimensions mm (inch)	Not Mounted
1	CN1, CN2, CN6	3	–	BM04B-PASS-TFT(LF)(SN)	JST	Terminal, 250 V, 3 A	–	–	
2	CN3	1	–	BM08B-PASS-TFT(LF)(SN)	JST	Terminal, 250 V, 3 A	–	–	
3	CN4, CN8	2	–	BM02B-PASS-TFT(LF)(SN)	JST	Terminal, 250 V, 3 A	–	–	
4	CN5	1	–	BM03B-PASS-TFT(LF)(SN)	JST	Terminal, 250 V, 3 A	–	–	
5	CN7	1	–	WR-60S-VFH05-N1	JAE	Terminal, 200 V, 0.3 A	–	–	
6	C1, C2, C3, C4, C9, C10, C14, C16, C17, C18, C24, C52, C64, C92, C104, C132, C159, C162, C164, C165, C168, C169, C174, C175, C176	25	1 $\mu$ F			Ceramic, 10 V, $\pm$ 10 %	1608	1.6 x 0.8 (0603)	
7	C5, C12, C161	3	330 pF			Ceramic, 50 V, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
8	C6, C7, C8, C11, C13, C15	6	100 pF			Ceramic, 50 V, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
9	C19, C20, C47, C48, C59, C60, C87, C88, C99, C100, C127, C128	12	10 $\mu$ F			Ceramic, 50 V, $\pm$ 20 %	3216	3.2 x 1.6 (1206)	
10	C21, C23, C25, C26, C49, C51, C53, C54, C61, C63, C65, C66, C89, C91, C93, C94, C101, C103, C105, C106, C129, C131, C133, C134	24	1 $\mu$ F			Ceramic, 50 V, $\pm$ 10 %	1608	1.6 x 0.8 (0603)	
11	C28, C56, C68, C96, C108, C136	6	3300 pF			Ceramic, 50 V, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
12	C29, C57, C69, C97, C109, C137	6	10 $\mu$ F			Ceramic, 25 V, $\pm$ 10 %	2012	2.0 x 1.25 (0805)	
13	C30, C58, C70, C98, C110, C138	6	1 $\mu$ F			Ceramic, 25 V, $\pm$ 10 %	2012	2.0 x 1.25 (0805)	

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14	C31, C32, C33, C34, C39, C40, C41, C42, C71, C72, C73, C74, C79, C80, C81, C82, C111, C112, C113, C114, C119, C120, C121, C122	24	1 $\mu$ F	CKG57NX7T2J105M 500JH	TDK	Metal Terminal Type Ceramic, 650 V, $\pm$ 20 %	-	6.0 x 5.0	
15	C147, C148, C149, C150, C151, C152	6	470 $\mu$ F	ESMR451VSN471MR40S	United Chemi-Con	Aluminum, 450 V, $\pm$ 20 %	-	30.0 x 30.0	
16	C158, C163	2	470 pF			Ceramic, 50 V, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
17	C160	1	1000 pF			Ceramic, 50 V, $\pm$ 10 %	1005	1.0 x 0.5 (0402)	
18	C166, C167, C177	3	10 $\mu$ F			Ceramic, 50 V, $\pm$ 10 %	3216	3.2 x 1.6 (1206)	
19	D1, D3, D4, D5, D6, D8, D12, D17, D22, D27, D32, D37, D44, D45, D46, D47	16	30 V	CUS05F30	TOSHIBA	Schottky Barrier Diode	SOD-323	2.5 x 1.25	
20	D9, D14, D19, D24, D29, D34, D48, D49, D50, D51, D52, D53	12	1000 V	CMF05	TOSHIBA	Rectifier Diode	M-FLAT	2.4 x 4.7	
21	D10, D15, D20, D25, D30, D35	6	30 V	CMS03	TOSHIBA	Schottky Barrier Diode	M-FLAT	2.4 x 4.7	
22	D11, D16, D21, D26, D31, D36	6	8.2 V	CRY82	TOSHIBA	Zener Diode	S-FLAT	1.6 x 3.5	
23	D13, D18, D23, D28, D33, D38	6	2.0 V-	KDZVTR2.0B	Rohm	Zener Diode	SOD-123FL	3.5 x 1.6	
24	IC1, IC3, IC20	3	-	TLP7920(LF5,TP5)	TOSHIBA	Optically Isolation Amplifiers	-	12.0 x 9.66	
25	IC2	1	-	OPA4322AIPWR	Texas Instruments	Operational amplifier	TSSOP	5.00 x 4.40	
26	IC4	1	-	REF2025AIDDCT	Texas Instruments	Voltage Reference	SOT	2.90 x 1.60	
27	IC5, IC7, IC9, IC11, IC13, IC15	6	-	LP2951D	Texas Instruments	Voltage Regulators	SOIC	4.90 x 3.90	
28	IC6, IC8, IC10, IC12, IC14, IC16	6	-	TLP5214A	TOSHIBA	Gate-Driver(Single)	SO16L	10.3 x 10.0	
29	IC19	1	-	OPA2322AID	Texas Instruments	Operational amplifier	SOIC	4.90 x 3.91	

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30	IC21, IC22	2	-	TC74VHC541FT	TOSHIBA	Buffer	TSSOP20B	6.5 x 6.4	
31	LED1	1	-	VCDG1111C-4BY3C-TR	STANLEY	LED	1608	1.6 x 0.8 (0603)	
32	L1	1	1 $\mu$ H	MBKK1608T1R0M	Taiyo Yuden	0.8A	1608	1.6 x 0.8 (0603)	
33	PC1	1	-	TLP3558A(TP1,F	Toshiba	Photocoupler	DIP4	4.58 x 7.62	
34	PS1, PS9	2	-	H0505S-1WR2	MORNSUN	DC-DC Converter	-	19.50 x 9.80	
35	PS2, PS3, PS4, PS5, PS6, PS7	6	-	G2412S-2WR2	MORNSUN	DC-DC Converter	-	19.50 x 9.80	
36	PS10	1	-	MGFS102405	COSEL	DC-DC Converter	SOP8	17 x 8.5	
37	Q1, Q2, Q3, Q4, Q5, Q6	6	-	TW070J120B	TOSHIBA	SIC MOSFET	TO-3P(N)	-	
38	R1, R2, R3, R4, R5, R14, R16, R17, R18, R19, R124, R125, R126, R127, R128	15	330 k $\Omega$			125 mW, $\pm$ 1 %	2012	2.0 x 1.2 (0805)	
39	R6, R23	2	430 $\Omega$			100m W, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
40	R7, R11, R20, R25	4	27 k $\Omega$			100m W, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
41	R8, R12, R15, R21	4	39 k $\Omega$			100m W, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
42	R9, R24, R131	3	0 $\Omega$			1 A	1608	1.6 x 0.8 (0603)	
43	R10, R22	2	10 k $\Omega$			100 mW, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
44	R27, R132	2	47 k $\Omega$			100 mW, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
45	R28, R40, R52, R64, R76, R88	6	82 k $\Omega$			100 mW, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
46	R29, R41, R53, R65, R77, R89	6	75 k $\Omega$			100 mW, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
47	R30, R42, R54, R66, R78, R90	6	10 k $\Omega$			100 mW, $\pm$ 1 %	1608	1.6 x 0.8 (0603)	
48	R31, R43, R55, R67, R79, R91, R149	7	470 $\Omega$			100 mW, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	
49	R32, R39, R44, R51, R56, R63, R68, R75, R80, R87, R92, R99	12	10 k $\Omega$			100 mW, $\pm$ 5 %	1608	1.6 x 0.8 (0603)	

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50	R34, R36, R46, R48, R58, R60, R70, R72, R82, R84, R94, R96	12	3.3 $\Omega$			1 W, $\pm 5\%$	6432	6.4 x 3.2 (2512)	
51	R35, R47, R59, R71, R83, R95, R121	7	1.0 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
52	R37, R38, R49, R50, R61, R62, R73, R74, R85, R86, R97, R98	12	6.8 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
53	R110, R113, R114, R118	4	100 k $\Omega$			5 W, $\pm 5\%$	Axial	8.5 x 26	
54	R119	1	20 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
55	R120, R129	2	36 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
56	R122, R123	2	12 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
57	R130	1	360 $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
58	R133	1	470 $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
59	R134, R135, R136, R137, R138, R139, R140	7	10 k $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8 (0603)	
60	R141, R143, R144	3	4.7 k $\Omega$			100 mW, $\pm 5\%$	1608	1.6 x 0.8 (0603)	
61	R142, R146, R147	3	100 $\Omega$			100 mW, $\pm 1\%$	1608	1.6 x 0.8(0603)	
62	R150	1	1 k $\Omega$			125 mW, $\pm 5\%$	1608	1.6 x 0.8 (0603)	
63	TB1, TB2, TB3, TB6, TB7	5	-	OT-264	Osada	Terminal, 50 A	-	10 x 8	

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package name	Standard dimensions mm (inch)	Not Mounted
64	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, TP41, TP42, TP43, TP44, TP45, TP46, TP47, TP48, TP49, TP50, TP51, TP52, TP53, TP54	48	-	HK-3-G	MAC8	Test Pin	-	2.0 x 1.3	
901	C22, C27, C50, C55, C62, C67, C90, C95, C102, C107, C130, C135, C170, C171, C172	15	-	-	-	-	1608	1.6 x 0.8 (0603)	Not Mounted
902	D2 ,D7	2	-	CUS05F30	TOSHIBA	Schottky Barrier Diode	USC	2.5 x 1.25	Not Mounted
903	R13, R26, R33, R45, R57, R69, R81, R93	8	-	-	-	-	1608	1.6 x 0.8 (0603)	Not Mounted

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