

Item No.	Designator	Quantity	Value	Part Number	Manufacturer	Description	Package Name	Standard Dimensions mm(inch)	Not Mounted
1	IC1	1		CAP200DG	Power Integrations	Discharge IC, 1kV	SO8		
2	IC2, IC5, IC6	3		UCC27714D	TI	Half-Bridge Gate Driver, 600V, 4A	SOIC-14		
3	IC3	1		ACS716KLATR-6BB-NL-T	Allegro	Current Sensor, 100mV/A	SOIC-16		
4	IC4	1		UCC21530DWK	TI	Dual Channel Isolated Gate Driver, 18V, 6A	SOIC-14		
5	IC9, IC10, IC16, IC17	4		OPA328DBV	TI	CMOS Op-Amp, 40MHz	SOT23		
6	IC11	1		DCL541A01	TOSHIBA	4-ch Digital Isolator, 150Mbps	SOIC16-W		
7	IC12, IC13, IC14	3		UCC27517DBV	TI	Gate Driver, 18V, 4A	SOT23		
8	IC15	1		TPS2419D	TI	Power Rail Controller, 150A	SO8		
9	IC18	1		TLP7820	TOSHIBA	Photocoupler, 230kHz	SO8L (LF4)		
10	IC19	1		TC75S58FU	TOSHIBA	Comparator	SOT-353 (USV)		
11	IC20	1		ATL431AIDBZR	TI	Shunt Regulator, 2.5 to 36V	SOT-23-3		
12	IC23, IC24	2		TPS629210QDRLRQ1	TI	Buck Switching Regulator, 1A	SOT-583		
13	IC300	1		LM317MDCY	TI	Linear Voltage Regulator, 0.5A	SOT-223-4		
14	IC301	1		NJM78L18UA	Nisshinbo Micro Devices	Linear Voltage Regulator, 0.1A	SOT-89		
15	IC302	1		UCC28910D	TI	High-Voltage Flyback Switcher	SOIC-7		
16	Q1, Q2, Q6	3		TK024N60Z1	TOSHIBA	N-ch Power MOSFET, 600V, 80A	TO-247		
17	Q3, Q4	2		TW107Z65C	TOSHIBA	N-ch SiC Power MOSFET, 600V, 80A	TO-247-4L(X)		
18	Q5	1		RN1316	TOSHIBA	Bias Resistor Built-in Transistor, 50V, 0.1A	SOT-323 (USM)		
19	Q7	1		SSM3K7002KFU	TOSHIBA	N-ch MOSFET, 60V, 0.4A	SOT-323 (USM)		
20	Q10, Q11, Q12, Q13	4		TK165V60Z1	TOSHIBA	N-ch Power MOSFET, 600V, 16A	DFN 8x8		
21	Q14, Q15, Q16, Q17	4		TPH1R306PL	TOSHIBA	N-ch Power MOSFET, 60V, 260A	SOP Advance		
22	Q18, Q19	2		TPH1R204PL	TOSHIBA	N-ch Power MOSFET, 40V, 246A	SOP Advance		
23	Q20, Q21, Q22	3		TPHR6503PL	TOSHIBA	N-ch Power MOSFET, 30V, 393A	SOP Advance		
24	D2, D3	2		CRG04A	TOSHIBA	Diode, 600V, 1A	S-FLAT		
25	D4	1		TBS22J	MCC	Bridge Rectifier, 600V, 2.2A	4-TBS		
26	D5, D8, D11, D12, D19, D20, D23, D24, D303	9		CMF01A	TOSHIBA	Super Fast Recovery Diode, 600V, 2A	M-FLAT		
27	D6, D7, D9, D10, D15, D16, D21, D22, D301, D302	10		CRS01	TOSHIBA	Schottky barrier diode, 30V, 1A	S-FLAT		
28	D25, D26, D27, D300	4		CRS01	TOSHIBA	Schottky barrier diode, 30V, 1A	S-FLAT		Not Mounted
29	D304, D305, D306, D307	4		CRH01	TOSHIBA	High Efficiency Diode, 200V, 1A	S-FLAT		

30	R1, R2, R3, R4	4	100kΩ			250mW, ±5%		2.0 x 1.25 (0805)	
31	R5, R6, R10, R11	4	470kΩ			250mW, ±1%		2.0 x 1.25 (0805)	
32	R7, R8, R12, R13	4	30kΩ			250mW, ±1%		2.0 x 1.25 (0805)	
33	R9, R14	2	7.5kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
34	R15, R310	2	330kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
35	R16, R22, R24, R32, R33, R61, R62, R75, R76, R95, R96, R97, R133, R199, R201, R202, R317	17	0Ω			1A		1.6 x 0.8 (0603)	
36	R17, R26, R49, R50	4	4.7Ω			100mW, ±5%		1.6 x 0.8 (0603)	
37	R18	1	3kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
38	R19	1	30kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
39	R20, R27, R28, R39, R40, R63, R64, R77, R78, R92, R93, R94, R123	13	10kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
40	R21, R29, R51, R52	4	2.2Ω			333mW, ±10%		3.2 x 1.6 (1206)	
41	R23, R25, R30, R31, R57, R58, R68, R69, R70, R71, R73, R74, R308	13	10Ω			100mW, ±1%		1.6 x 0.8 (0603)	
42	R34, R35, R41, R44, R119, R120, R121, R122	8	1MΩ			125mW, ±1%		2.0 x 1.25 (0805)	
43	R36	1	470kΩ			125mW, ±1%		2.0 x 1.25 (0805)	
44	R37, R117	2	300kΩ			125mW, ±1%		2.0 x 1.25 (0805)	
45	R38, R118	2	30kΩ			125mW, ±1%		2.0 x 1.25 (0805)	
46	R42, R43, R67, R72, R83, R84	6						Through Hole	Not Mounted
47	R45, R46	2	5.1kΩ			100mW, ±5%		1.6 x 0.8 (0603)	
48	R47, R110, R131, R134, R135	5	100kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
49	R48	1	5.6Ω			7W, ±5%		Through Hole	
50	R65, R66	2	68mΩ			1W, ±1%		3.2 x 1.6 (1206)	
51	R79, R80, R81, R82	4	1kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
52	R85, R86, R87, R88	4	5.6kΩ			100mW, ±1%		1.6 x 0.8 (0603)	
53	R89, R90, R125, R206	4	100Ω			100mW, ±1%		1.6 x 0.8 (0603)	
54	R91	1	470Ω			100mW, ±5%		1.6 x 0.8 (0603)	
55	R98, R99, R100, R195, R200, R203, R204, R301, R316	9						1.6 x 0.8 (0603)	Not Mounted

56	R101, R102, R103, R104, R105, R106, R113, R114, R115	9	2.2Ω			100mW, ±5%		1.6 × 0.8 (0603)	
57	R107, R108, R109, R210, R211, R212, R213, R214, R215, R216, R217, R218	12	27Ω			333mW, ±10%		3.2 × 1.6 (1206)	
58	R111	1	22kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
59	R112, R309	2	4.7kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
60	R116	1	470kΩ			125mW, ±1%		2.0 × 1.25 (0805)	
61	R124	1	20kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
62	R126, R127, R128, R129	4	3.3kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
63	R130	1	220Ω			100mW, ±5%		1.6 × 0.8 (0603)	
64	R132	1	560kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
65	R136	1	15kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
66	R137	1	1.8kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
67	R138	1	270kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
68	R139	1	62kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
69	R140	1	82kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
70	R187	1	22Ω			100mW, ±5%		1.6 × 0.8 (0603)	
71	R193, R194, R196	3	80.6kΩ			1/10W, ±1%		1.6 × 0.8 (0603)	
72	R197, R198	2	47Ω			100mW, ±5%		1.6 × 0.8 (0603)	
73	R300	1	4.7Ω			250mW, ±5%		3.2 × 1.6 (1206)	
74	R302	1	2.7kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
75	R303	1	560Ω			100mW, ±1%		1.6 × 0.8 (0603)	
76	R304, R305	2	82kΩ			250mW, ±5%		3.2 × 1.6 (1206)	
77	R306, R314, R315	3	1Ω			100mW, ±5%		1.6 × 0.8 (0603)	
78	R307	1	0.1Ω			200mW, ±5%		1.6 × 0.8 (0603)	
79	R311	1	47kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
80	R312	1	18kΩ			100mW, ±1%		1.6 × 0.8 (0603)	
81	R313	1	150Ω			250mW, ±5%		3.2 × 1.6 (1206)	
82	C1, C2	2	0.22μF	LE224-MX		Film, 275V, ±10%		Through Hole	
83	C3	1	1μF	LE105-M		Film, 275V, ±10%		Through Hole	
84	C4, C6	2	1000pF	DE2E3SA102MJ3BY02F		Ceramic, 400V, ±20%		Through Hole	

85	C5, C7, C55, C89, C129	5				Ceramic		1.6 x 0.8 (0603)	Not Mounted
86	C8	1	1μF			Ceramic, 25V, ±10%		1.6 x 0.8 (0603)	
87	C9, C14, C20, C37, C38, C49, C50, C57, C58, C63, C64, C65, C83, C85, C87, C92, C94, C95, C112, C115, C306	21	0.1μF			Ceramic, 100V, ±20%		1.6 x 0.8 (0603)	
88	C10, C17, C18, C300, C304	5	10μF			Ceramic, 50V, ±10%		3.2 x 1.6 (1206)	
89	C11, C35, C36, C56, C59, C111, C114	7	4.7μF			Ceramic, 50V, ±10%		3.2 x 1.6 (1206)	
90	C12	1	10nF			Ceramic, 50V, ±10%		1.6 x 0.8 (0603)	
91	C13	1	3300pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
92	C15, C16, C86, C97, C125, C126, C128, C302, C311	9	1000pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
93	C19, C21, C22, C60, C61, C62	6	2.2μF			Ceramic, 50V, ±10%		2.0 x 1.25 (0805)	
94	C23, C53, C54, C91	4	100pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
95	C24, C25, C41, C42, C45, C46	6				Ceramic		3.2 x 1.6 (1206)	Not Mounted
96	C26, C28, C29, C30	4	330μF	EKHS451VSN331MR30S	Chemi-Con	Electrolytic, 450V, ±20%		Through Hole	
97	C27, C84, C123, C124	4	0.1μF			Ceramic, 1kV, ±10%		4.5 x 3.2 (1812)	
98	C39, C40	2	0.47μF			Ceramic, 50V, ±10%		2.0 x 1.25 (0805)	
99	C43, C44	2	3900pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
100	C47, C48, C51, C52	4	4pF			Ceramic, 50V, ±0.25pF		1.6 x 0.8 (0603)	
101	C66	1	1200pF			Ceramic, 1000V, ±5%		2.0 x 1.25 (0805)	
102	C67	1	1200pF			Ceramic, 100V, ±5%		2.0 x 1.25 (0805)	
103	C68	1	1000pF			Ceramic, 100V, ±5%		2.0 x 1.25 (0805)	
104	C69, C70, C71, C72, C73, C74, C75, C76	8	820μF	EKZN350ELL821MK20S	Chemi-Con	Electrolytic, 35V, ±20%		Through Hole	
105	C77, C79, C80	3	0.47μF			Ceramic, 35V, ±20%		1.6 x 0.8 (0603)	
106	C78	1	2200pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
107	C81	1	10μF			Ceramic, 50V, ±10%		3.2 x 2.5 (1210)	
108	C82, C96, C307	3	1μF			Ceramic, 100V, ±10%		2.0 x 1.25 (0805)	
109	C88, C90	2	330pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
110	C93	1	2200pF			Ceramic, 250V, ±20%		Through Hole	
111	C116, C118	2	10μF			Ceramic, 10V, ±10%		2.0 x 1.25 (0805)	
112	C119, C120	2	470n			Ceramic, 50V, ±10%		2.0 x 1.25 (0805)	

113	C121, C122, C301, C313	4	0.22μF			Ceramic, 630V, ±10%		5.7 x 5.0 (2220)	
114	C127	1	220pF			Ceramic, 50V, ±5%		1.6 x 0.8 (0603)	
115	C303	1	0.01μF			Ceramic, 630V, ±10%		3.2 x 1.6 (1206)	
116	C305	1				Ceramic		2.0 x 1.25 (0805)	Not Mounted
117	C309	1	22μF	EMVY250ARA220MF55 G	Chemi-Con	Electrolytic, 25V, ±20%		Through Hole	
118	C308, C310, C312	3	220μF	EKY-350ELL221MJC5S	Chemi-Con	Electrolytic, 35V, ±20%		Through Hole	
119	C314, C315	2	4700pF			Ceramic, 400V, ±20%		Through Hole	
120	C317	1				Film		Through Hole	Not Mounted
121	L1, L2	2	7mH	SCF27-15-700H	TOKIN	15A		Through Hole	
122	L3	1	240μH	TMH-Y2518	Tamura	25A		Through Hole	
123	L4	1	0.68μH	IHDM1107BBEVR68M30	Vishay	125A, ±20%		Through Hole	
124	L5, L7	2	2.2μH	XGL3530-222ME	Coilcraft	3A, ±20%		3.5 x 3.2	
125	T1, T2	2		TR0119-178-0	PAT	Transformer		Through Hole	
126	T3	1		TAM-EE16-140-15-2	Pulse Electronics	Transformer		Through Hole	
127	MJ1	1		PC178-05-0A		Control Board			
128	TH1	1	47kΩ	ERTJ1VP473FM	Panasonic	NTC Thermistor, 100mW, 4100K, ±1%		1.6 x 0.8 (0603)	
129	V1	1		TND14V561KB00AAA0	Chemi-Con	Varistor, AC350V ±10%		Through Hole	
130	F1	1		3512P	Octopart	Fuse Holder, 15A			
131	CN1, CN2, CN3	3		T4051CS	TRUSCO	Terminal, 20A, 1 position			
132	CN4, CN6	2		T4126ES	TRUSCO	Terminal, 130A, 1 position			
133	CN5, CN8, CN9	3		B2B-EH-A	JST	Connector, 2 positions			
134	HS1, HS2, HS3, HS4	4		HTE30_20_30	Mizutani	Heat Sink			
135	HS5	1		IAS23L180	Mizutani	Heat Sink			
136	HS6	1		15FP23-L60	LSI	Heat Sink			
137	HS7	1		26.2SQ26.2H10	LSI	Heat Sink			

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第 5 条 準拠法

本規約の準拠法は日本法とします。

第 6 条 管轄裁判所

本リファレンスデザインに関する全ての紛争については、別段の定めがない限り東京地方裁判所を第一審の専属管轄裁判所とします。