

3kW PSFB with Active Clamp

Designator	Quantity	Description	Manufacturer	PartNumber	Alternate Manufacturer	Alternate PartNumber
PCB100	1	Printed Circuit Board	Any	AMP23126.5		
S/vp, S/vs, 12Vp, 12Vs	4	Test Point, Miniature, Red, TH	Keystone	5000		
C100	1	CAP ALUM 220UF 20% 450V SMDP	Nichicon	GL08W221MELC		
C101, C103	2	CAP, CERM, 0.1 uF, 500 V, +/- 10%, X7R, 1812	Vishay-Vitramon	VJ1812Y104KXCAT5Z		
C102, C104	2	CAP, CERM, 0.022 uF, 630 V, +/- 10%, X7R, 1206	Samsung Electro-Mechanics	CL316222R0HNNNE		
C105	1	CAP, CERM, 2200 pF, 300 V, +/- 20%, E, TH, 2-Leads, Body 26.7mm, Pin Spacing 7.62mm	MuRata	DE6E3KJ222MNA		
C106, C215	2	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0805	Kemet	C0805C106K3RACU		
C107, C216	2	CAP, CERM, 22 uF, 6.3 V, +/- 10%, X5R, 0805	Samsung Electro-Mechanics	CL21A226K0G0NNE		
C108, C219	2	CAP, CERM, 10 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	MuRata	GCN31CR7C106K46L		
C200, C201, C203	3	CAP, CERM, 0.01uF, 6.3V, +/-10%, X7R, 0402	MuRata	GRM155R70J103KA01D		
C202	1	CAP, CERM, 1000 pF, 25 V, +/- 10%, X7R, 0402	Wurth Elektronik	8.85012E+11		
C205	1	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	TDK	CGA2B2X7R1H471K050BA		
C210, C214	2	CAP, CERM, 1000pF, 50V, +/-10%, COG/NP0, 0603	AVX	06035A102KAT2A		
C211	1	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	TDK	C1608X7R1E105Q080AB		
C212	1	CAP, CERM, 4.7 uF, 25 V, +/- 5%, COG/NP0, 0402	MuRata	GRM1555C1E4R7CA01D		
C213	1	CAP, CERM, 10 pF, 50 V, +/- 2.5%, COG/NP0, AEC-Q200 Grade 1, 0402	AVX	04025U100CAT2A		
C217, C218	2	CAP, CERM, 0.1 uF, 6.3V, +/-10%, X7R, 0402	MuRata	GRM155R70J104KA01D		
C300, C301, C302, C303, C304, C315, C316, C317, C318, C319, C325, C326, C327, C328, C329, C330, C331, C332	20	CAP, CERM, 0.1 uF, 25 V, +/- 5%, COG/NP0, 1206	MuRata	GRM31C5C1E104JA01L		
C333, C334	10	CAP, CERM, 47 uF, 25 V, +/- 20%, X5R, 1206, 190	TDK	C3216X5R1E476M160AC		
C335, C336, C337, C338, C339, C340, C341, C342	5	2200 uF 16 V Aluminum - Polymer Capacitors Radial, Can 8mOhm 20000 Hrs @ 105°C	United Chem-Con	APSG160ELL222M20S		
C313, C314	1	Inductor PTH 3.3mH 300mOhm	Pulse Electronics	PA5G06ZNL		
C1100, D101	2	Diode, Schottky, 20 V, 1 A, SMD	Diodes Inc.	1N5711-13-F		
D000, D200, D201, D203	4	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	Nexperia	BAS516.115		
J100	1	12 Position Receptacle Connector 0.050" (1.27mm) Through Hole Gold	Harwin	M50-3000645		
J101, J105	2	12 Position Receptacle, Bottom Entry Connector Surface Mount	Samtec	HLE-106-02-G-DV-BE-A		
J102, J104	2	Standard Banana Jack, Uninsulated, 5.5mm	Keystone	575-4		
J103	1	Header, 2.54mm, 2x2, Gold, TH	Sullins Connector Solutions	PBC020AAN		
J106	1	Header, 100mil, 3x2, Gold, TH	Sullins Connector Solutions	PBC020AAN		
J200	1	C2000 controlCARD-120HSEC connector, SMT	Samtec	MSEC0-180-01-L-DV-A-BL		
J201, J202	2	Header, 1.27mm, 10x2, Gold, TH	Sullins Connector Solutions	GRPB102VVVN-RC		
L100	1	INDUCTOR, POWER, EP33, TH 0.42uH 20% 10kHz 0.06mOhm DCR MAX 300A heat	Pulse	PALE667 421NL		
LEG1_HS, LEG1_LS, LEG2_HS, LEG2_LS	4	Test Point, Miniature, Yellow, TH	Keystone	5004		
PGND, SGND, SGND100, SGND101, SGND102, SGND103	9	Test Point, Miniature, Black, TH	Keystone	5001		
PGND_Vin	2	Terminal Block, 5.08 mm, 2x1, TH	Phoenix Contact	1715721		
R50N	1	Test Point, Miniature, Orange, TH	Keystone	5003		
R100, R101	2	RES, 243 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603243RFFKEA		
R102, R103	2	RES, 5.11 k, 1%, 0.25 W, 1206	Yageo America	RC0603F051K1TL		
R104, R105, R106, R108	4	RES, 0.5%, 0.1 W, 0603	Vishay-Dale	CRCW0603000020EA		
R200, R203	2	RES, 4.99 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW04024K99FKED		
R201, R204, R221, R229	4	RES, 100, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100RFFKEA		
R202, R207	2	RES, 9.31 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW04029K31FKED		
R205	1	RES, 100, 1%, 0.125 W, AEC-Q200 Grade 1, 0402	AT Ceramics	ATC04L1000P1NCFPT		
R206, R212	2	RES, 0.6%, 0.063 W, 0402	Vishay-Dale	CRCW0402000020ZLE		
R208, R209	2	RES, 14.7 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW120614K7RFFKEA		
R210	1	RES, 9.76 k, 1%, 0.1 W, 0603	Yageo America	RC0603F976K7RL		
R211	1	RES, 1.48 k, 1%, 0.063W, 0402	Vishay-Dale	CRCW04021K48FKED		
R213	1	RES, 10.0 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW040210K0FKED		
R220, R228	2	RES, 37.4 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW120637K4RFFKEA		
R222, R2211	2	RES, 1.82 k, 1%, 0.1 W, 0603	Yageo America	RC0603F0182KTL		
R223, R228	2	RES, 4.7k, 1%, 0.1 W, 0603	Yageo America	RC0603F047R7RL		
R224	1	RES, 2.49 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06032K49RFFKEA		
R225	1	RES, 10.0 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW120610K0RFFKEA		
R227	1	RES, 7.50 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06037K50RFFKEA		
R229	1	RES, 1.0 k, 1%, 0.063 W, 0402	Vishay-Dale	CRCW04021K06FKED		
RT200	1	Thermistor, DECO005A (X150N-2)	Texas Instruments	TMP6131DECR	Texas Instruments	TMP6131DECT
T100, T101, T102, T103	4	Terminal 90A Lug	Paradut	CE70-14-CY		
TP100, TP101, TP103, TP104, TP105, TP106, TP107, TP108, TP109, TP110, TP111, TP112, TP113, TP114	14	Pin Receptacle, .032-.048" .075" Dia, Gold, TH	MIL-Max	0312-0-15-15-34-27-10-0		
UG02	1	INA493 High-Voltage, High Bandwidth, Unidirectional, 110-V Common-Mode, Current-Sense Amplifier, DBV0005A (SOT-23-5)	Texas Instruments	INA493B3IDBVR	Texas Instruments	INA493B3DBVT
UD03	1	Capacitor-Free, 150-mA, Low-Dropout Regulator with Foldback Current Limit for Portable Devices, DBV0005A	Texas Instruments	FLV7133PQDBVRQ1	Texas Instruments	
L101, L200	0	2.2uH Shielded Molded Inductor 2.4A 67mOhm Max 2-SMD	Wurth Electronics	7443830022		
R107, R230	0	RES, 881 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	Vishay-Dale	CRCW0402881KFKED		
R109, R232	0	RES, 130 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	Vishay-Dale	CRCW0402130KFKED		
R234, R235	0	RES, 14.7 k, 1%, 0.25 W, 1206	Vishay-Dale	CRCW120614K7RFFKEA		
Q100, L001	0	TP171V 1A Automotive Step-Down Converters in 2x25QFN, DSG0008A (WSON-8)	Texas Instruments	TPS217602DSG0R21	Texas Instruments	TPS217602DSG0G1

Notes:
Substitutions made according to Alternate PartNumber must meet datasheet parameters, not just the Description specified.