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250W Single stage AC-DC LLC-SRC

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC1	1		Printed Circuit Board		PMP9739	Any	-	-
C1	1	560uF	CAP, AL, 560uF, 200V, +/-20%, 0.355 ohm, TH	CAPR, 22x30mm, TH	EET-HC2D561BA	Panasonic		
C4, C7	2	470pF	CAP, CERM, 470pF, 300V, +/-10%, VY2, 5x7.5 mm	5x7.5 mm	VY2471K29Y5SS63V7	Vishay-Bccomponents		
C5	1	0.33uF	CAP, Film, 0.33uF, 275V, +/-20%, TH	RCAP, 17.5x17.5x9.5mm	ECQ-U2A334ML	Panasonic		
C6	1	2200pF	CAP, CERM, CAP CER 2200PF 300VAC 20% RADIAL	CAPRD500W60D900 H1200	VY2222M35Y5US63V7	Vishay-Bccomponents		
C8, C19	2	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0603	0603	GRM188R61E105KA12 D	MuRata		
C9, C10, C11, C14, C15, C16, C34	7	3.3uF	CAP, CERM, 3.3uF, 50V, +/-20%, X7R, 1210	1210	C3225X7R1H335M	TDK		
C12, C13	2	680uF	CAP ALUM 680UF 35V 20% RADIAL	12.5x20	EEU-FR1V681B	Panasonic		
C17	1	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0805	0805	08055C104KAT2A	AVX		
C18	1	0.1uF	Film Capacitors 0.1uF 630 Volts 10%	B32922 10.5mm	QXP2J104KRPT	EPCOS Inc		
C21	1	10pF	CAP, CERM, 10pF, 50V, +/-5%, COG/NP0, 0603	0603	06035A100JAT2A	AVX		
C22	1	0.01uF	CAP, CERM, 0.01uF, 50V, +/-10%, X7R, 0603	0603	C0603C103K5RACTU	Kemet		
C23, C28	2	1uF	CAP, CERM, 1uF, 16V, +/-10%, X5R, 0603	0603	C0603C105K4PACTU	Kemet		
C24	1	4700pF	CAP, CERM, 4700pF, 100V, +/-10%, X7R, 0603	0603	06031C472KAT2A	AVX		
C25	1	100pF	CAP, CERM, 100pF, 1000V, +/-5%, U2J, 1206	1206	GRM31A7U3A101JW31 D	MuRata		
C26	1	0.22uF	CAP, CERM, 0.22uF, 25V, +/-5%, X7R, 0805	0805	08053C224JAT2A	AVX		
C27	1	0.01uF	CAP, CERM, 0.01uF, 100V, +/-10%, X7R, 0603	0603	06031C103KAT2A	AVX		
C29	1	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0603	0603	06033D104KAT2A	AVX		
C30	1	1000uF	CAP, AL, 1000uF, 16V, +/-20%, TH	CAPPR5-10x16	16ZLJ1000MCE10X16	Rubycon		
C31	1	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0805	0805	GRM216R61E105KA12 D	MuRata		
C32	1	1000pF	CAP, CERM, 1000pF, 50V, +/-10%, COG/NP0, 0603	0603	06035A102KAT2A	AVX		
C33	1	6800pF	CAP, CERM, 6800pF, 50V, +/-5%, X7R, 0603	0603	C0603C682J5RACTU	Kemet		
C101	1	3300pF	CAP, CERM, 3300pF, 100V, +/-10%, X7R, 0603	0603	06031C332KAT2A	AVX		
D1	1	420V	Diode, Switching-Bridge, 420V, 8A, TH	GBU	GBU8J-BP	Micro Commercial Componen		
D2, D5, D11	3	0.63V	Diode, P-N, 70V, 0.2A, SOT-323	SOT-323	BAV99WT1G	Fairchild Semiconductor		
D3, D7	2	30V	Diode, Schottky, 30V, 0.2A, SOD-323	SOD-323	BAT54HT1G	ON Semiconductor		
D4, D6	2		DIODE SCHOTTKY 100V 20A TO220AB	TO-220AB	STPS20SM100ST			
D8	1	0.45V	Diode, Schottky, 60V, 3A, SOD-123	SOD-123	MBR0560-TP	Micro Commercial Componen		
D9	1	0.35V	Diode, Schottky, 30V, 0.2A, SOD-323	SOD-323	BAT54HT1G	ON Semiconductor		
D10	1	1.4V	Diode, Ultrafast, 100V, 0.25A, SOD-323	SOD-323	BAS316, 115	NXP Semiconductor		
D12	1	100V	Diode, Schottky, 100V, 2A, SMB	SMB	B2100-13-F	Diodes Inc.		
D13	1	12V	Diode, Zener, 12V, 200mW, SOD-323	SOD-323	MMSZ5242BS-7-F	Diodes Inc.		
D14	1	13V	Diode, Zener, 13V, 500mW, SOD-123	SOD-123	MMSZ5243B-7-F	Diodes Inc.		
D15	1	200V	Diode, Switching, 200V, 0.2A, SOD-123	SOD-123	BAV21W-7-F	Diodes Inc.		
F1	1		Fuse, 6.3A, 250V, TH	TR5 fuse 8.5mm DIA	37216300001	Littelfuse		
HS1, HS3, HS5	3		Heat Sink, TO-220 Vertical	25.4x42.54x25.4mm	590302B03600G	Aavid		
HS2, HS4	2		Heat Sink, TO-220, TH	TO-220 Heat Sink	530614B00000G	Aavid		
J1	1		HEADER, .312 VERT 3POS	19.7x10.7 x8.5 mm	1-1318301-3	TE Connectivity		
J2	1	2x1	Conn Term Block, 2POS, 5.08mm, TH	PhoenixContact_171 5721	1715721	Phoenix Contact		
L3	1	1uH	Inductor, Shielded Drum Core, Ferrite, 1uH, 13A, 0.00386 ohm, SMD	WE-PD-XXL	7447709001	Würth Elektronik eiSos		
L4	1	40uH	Inductor, Shielded E Core, 40uH, 12A, 0.011 ohm, TH	37.34x24.13x35.56 mm	750314838	Würth Elektronik eiSos		
Q1, Q4	2		MOSFET N-CH 250V 33A TO-220	TO-220AB	FDP33N25	Fairchild		None
Q2, Q5	2	0.3V	Transistor, NPN, 40V, 0.15A, SOT-23	SOT-23	MMBT2222A	Fairchild Semiconductor		
Q3, Q6	2	1.6V	Transistor, PNP, 60V, 0.8A, SOT-23	SOT-23	MMBT2907A	Fairchild Semiconductor		
Q7	1		TRANSISTOR NPN 600V 2A DPAK	DPAK	KSC5502DTM			
Q8	1		TRANS NPN 50V 3A SOT223	SOT-223	PBSS4350Z,135			
R1, R2, R3	3	0	RES, 0 ohm, 5%, 0.25W, 1206	1206	CRCW12060000Z0EA	Vishay-Dale		
R4, R7	2	10	RES, 10 ohm, 5%, 0.1W, 0603	0603	CRCW060310R0JNEA	Vishay-Dale		
R5	1	2.2	RES, 2.2 ohm, 5%, 1W, 2512	2512	CRCW2512R20JNEG	Vishay-Dale		
R6, R8	2	20.0k	RES, 20.0k ohm, 1%, 0.125W, 0805	0805	CRCW080520K0FKEA	Vishay-Dale		
R9	1	24.9k	RES, 24.9k ohm, 1%, 0.25W, 1206	1206	CRCW120624K9FKEA	Vishay-Dale		
R10	1	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R11	1	511	RES, 511 ohm, 1%, 0.1W, 0603	0603	CRCW0603511RFKEA	Vishay-Dale		
R12, R17, R31, R33	4	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R13	1	21.5k	RES, 21.5k ohm, 1%, 0.1W, 0603	0603	CRCW060321K5FKEA	Vishay-Dale		
R14	1	1.0Meg	RES, 1.0Meg ohm, 5%, 0.1W, 0603	0603	CRCW06031M00JNEA	Vishay-Dale		
R15	1	15	RES, 15 ohm, 5%, 0.1W, 0603	0603	CRCW060315R0JNEA	Vishay-Dale		
R16	1	2.0k	RES, 2.0k ohm, 5%, 0.1W, 0603	0603	CRCW06032K00JNEA	Vishay-Dale		
R18	1	1.00k	RES, 1.00k ohm, 1%, 0.1W, 0603	0603	CRCW06031K00FKEA	Vishay-Dale		
R19, R26	2	499k	RES, 499k ohm, 1%, 0.25W, 1206	1206	CRCW1206499KFKEA	Vishay-Dale		
R20	1	49.9	RES, 49.9 ohm, 1%, 0.1W, 0603	0603	CRCW060349R9FKEA	Vishay-Dale		
R21	1	20.0k	RES, 20.0k ohm, 1%, 0.1W, 0603	0603	CRCW060320K0FKEA	Vishay-Dale		
R22	1	3.83k	RES, 3.83k ohm, 1%, 0.1W, 0603	0603	CRCW06033K83FKEA	Vishay-Dale		
R23, R27	2	22k	RES 22K OHM 2W 1% 2512	2512	RHC2512FT22K0			
R24, R32	2	2.49k	RES, 2.49k ohm, 1%, 0.1W, 0603	0603	CRCW06032K49FKEA	Vishay-Dale		
R25	1	51.1k	RES, 51.1k ohm, 1%, 0.1W, 0603	0603	CRCW060351K1FKEA	Vishay-Dale		
R28, R29	2	200k	RES, 200k ohm, 1%, 0.25W, 1206	1206	ERJ-8ENF2003V	Panasonic		
R30	1	698	RES, 698 ohm, 1%, 0.25W, 1206	1206	CRCW1206698RFKEA	Vishay-Dale		
R34	1	63.4k	RES, 63.4k ohm, 1%, 0.1W, 0603	0603	CRCW060363K4FKEA	Vishay-Dale		
R101	1	2.2k	RES, 2.2k ohm, 5%, 0.1W, 0603	0603	CRCW06032K20JNEA	Vishay-Dale		
R102, R103	2	5.11k	RES, 5.11k ohm, 1%, 0.25W, 1206	1206	CRCW12065K11FKEA	Vishay-Dale		
RT1, RT2	2	2.2 ohm	CURRENT LIMITR INRSH 2.2 OHM 20%	15x7mm	B57237S229M	EPCOS Inc		
T1	1	900 uH	Drive Gate Transformer, 900uH	11.5x12x12.5mm	56PR3362	Vitec Corporation		
T2	1	70 uH	Transformer, 70uH, TH	Transformer, 41.9x31.75x49.0 mm	750314844	Würth Elektronik eiSos		
TP1, TP3	2	Red	Test Point, TH, Miniature, Red	Keystone5000	5000	Keystone		
TP2, TP4, TP5	3	Black	Test Point, TH, Miniature, Black	Keystone5001	5001	Keystone		
U1	1		High-Performance Resonant Mode Controller with Voltage Control, 50 % Duty Cycle, -40 to +125 degC, 8-pin SOIC (D), Green (RoHS & no Sb/Bn)	D0008A	UCC25600D	Texas Instruments	Equivalent	None
U2	1		Opto-Isolator, 1 Channel, TH	DIP-4	PC817X4NSZ0F			
U3	1		Adjustable Precision Zener Shunt Regulator, 3-pin SOT-23	MF03A	LM431ACM3	National Semiconductor		
U4	1		SINGLE DIFFERENTIAL COMPARATOR, DBV0005A	DBV0005A	TL331DBV	Texas Instruments		None
C2, C3	0	1uF	CAP, Film, 1uF, 250V, +/-10%, TH		ECQ-E2105KF	Panasonic		
C20	0	680pF	CAP, CERM, 680pF, 50V, +/-10%, X7R, 0603	0603	C0603C681K5RACTU	Kemet		

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
L1	0	47uH	Inductor, Shielded Drum Core, Ferrite, 47uH, 6.8A, 0.0335 ohm, SMD	18.3x8.9x18.2mm	74435574700	Wurth Elektronik eiSos		
L2	0	1mH	CHOKE TOROID 1.0MH 6A VERTICAL	13x22x17.5mm	744823601	Wurth Elektronik eiSos		

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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