

Filename: PMP9638RevB_Bom.xls
 Variant: 001
 Generated: 4/30/2014 1:03:45 PM
 SVN path: \$URL::
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Universal AC to 12V/2A and 3.3V/0.5A Flyback

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC81	1		Printed Circuit Board		PMP9638	Any	-	-
C1, C2	2	1000uF	CAP ALUM 1000UF 16V 20% RADIAL	CAPPR5-10x16	16YXJ1000MT810X16	Rubycon		
C3	1	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0805	0805	08053C104KAT2A	AVX		
C4	1	47uF	CAP, AL, 47uF, 400V, +/-20%, 0.609529 ohm, TH	16x25	EEUE2G470	Panasonic		
C5	1	820uF	CAP, AL, 820uF, 6.3V, +/-20%, 0.008 ohm, TH	RCAP, 6.3x8mm	6.3ZL820MEFC8x16	Rybycon		
C6	1	22uF	CAP, CERM, 22uF, 16V, +/-20%, X5R, 1206	1206	1206YD226MAT2A	AVX		
C7	1	2200pF	CAP, CERM, 2200pF, 250V, +/-20%, E, Radial Disc D10.5x7mm	Radial Disc D10.5x7mm	CS11-E2GA222MYNS	TDK		
C8	1	100pF	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	0603	C1608C0G1H101J	TDK		
C9	1	4700pF	CAP, CERM, 4700pF, 16V, +/-10%, X7R, 0603	0603	GRM188R71C472KA01D	MuRata		
C11	1	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	06035C104KAT2A	AVX		
C12	1	2.2uF	CAP, CERM, 2.2uF, 50V, +/-10%, X5R, 1206	1206	GRM31CR61H225KA88L	MuRata		
C14, C15	2	10uF	CAP, CERM, 10uF, 16V, +/-20%, X5R, 1206	1206	C3216X5R1C106M	TDK		
D1	1	100V	Diode, Schottky, 100V, 3.5A, DPAK	DPAK	30WQ10FNPBF	Vishay-Semiconductor		
D2	1	120V	Diode, TVS, Uni, 120V, 400W, SMA	SMA	SMAJ120A	Littelfuse		
D3	1	40V	Diode, Schottky, 40V, 1A, SMA	SMA	B140-13-F	Diodes Inc.		
D4	1	1.15V	Diode, Switching-Bridge, 600V, 0.5A, MiniDIP	MiniDIP	RH06-T	Diodes Inc.		
D5	1	1.7V	Diode, Ultrafast, 1000V, 1A, SMA	SMA	US1M-13-F	Diodes Inc.		
D6	1		DIODE SWITCH 200V 200MA SOD323	SOD-323	BAS20HT1G			
D101	1	12V	Diode, Zener, 12V, 550mW, SMB	SMB	1SMB5927BT3G	ON Semiconductor		
F1	1		FUSE FAST 250VAC 2A RADIAL	TR5 fuse 8.5mm DIA	37012000410	Littelfuse		
Line, TP1, TP3	3	Red	Test Point, TH, Miniature, Red	Keystone5000	5000	Keystone		
Natural, TP2, TP4	3	Black	Test Point, TH, Miniature, Black	Keystone5001	5001	Keystone		
Q1	1	650V	MOSFET N-CH 650V 7.3A TO252	DPAK	IPD65R600E6	Infineon		None
R1, R6	2	2.0k	RES, 2.0k ohm, 5%, 0.25W, 1206	1206	CRCW12062K00JNEA	Vishay-Dale		
R2	1	49.9	RES, 49.9 ohm, 1%, 0.25W, 1206	1206	CRCW120649R9FKEA	Vishay-Dale		
R3	1	4.99k	RES, 4.99k ohm, 1%, 0.125W, 0805	0805	CRCW08054K99FKEA	Vishay-Dale		
R4	1	4.7	RES, 4.7 ohm, 5%, 0.25W, 1206	1206	CRCW12064R70JNEA	Vishay-Dale		
R5	1	90.9k	RES, 90.9k ohm, 1%, 0.1W, 0603	0603	CRCW060390K9FKEA	Vishay-Dale		
R7	1	15	RES, 15 ohm, 5%, 0.1W, 0603	0603	CRCW060315R0JNEA	Vishay-Dale		
R8	1	20.0k	RES, 20.0k ohm, 1%, 0.1W, 0603	0603	CRCW060320K0FKEA	Vishay-Dale		
R9	1	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW0603000Z0EA	Vishay-Dale		
R10	1	887	RES, 887 ohm, 1%, 0.1W, 0603	0603	CRCW0603887RFKEA	Vishay-Dale		
R11	1	95.3k	RES, 95.3k ohm, 1%, 0.1W, 0603	0603	CRCW060395K3FKEA	Vishay-Dale		
R12	1	698	RES, 698 ohm, 1%, 0.1W, 0603	0603	CRCW0603698RFKEA	Vishay-Dale		
R13	1	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R14, R15	2	0.75	RES, 0.75 ohm, 1%, 0.5W, 1206	1206	CSR1206FKR750	Stackpole Electronics Inc		
R16	1	19.6k	RES, 19.6k ohm, 1%, 0.25W, 1206	1206	CRCW120619K6FKEA	Vishay-Dale		
R17	1	49.9k	RES, 49.9k ohm, 1%, 0.1W, 0603	0603	CRCW060349K9FKEA	Vishay-Dale		
R18	1	2.49k	RES, 2.49k ohm, 1%, 0.1W, 0603	0603	CRCW06032K49FKEA	Vishay-Dale		
R19, R101	2	1.0k	RES, 1.0k ohm, 5%, 0.1W, 0603	0603	CRCW06031K00JNEA	Vishay-Dale		
T1	1	250uH	Transformer, 80uH, TH	Transformer, 25x16x22.2mm	750314727	Würth Elektronik eiSos		
U1	1		Opto-Isolator, 1 Channel, TH	DIP-4	PC817X4J000F			
U2	1		Constant-Voltage, Constant-Current Flyback Controller Using Opto-Coupler Feedback, D0007A	D0007A	UCC28740D	Texas Instruments		None
U3	1		Adjustable Precision Zener Shunt Regulator, 3-pin SOT-23	MF03A	LM431ACM3	National Semiconductor		
C10	0	1000pF	CAP, CERM, 1000pF, 100V, +/-20%, X7R, 0603	0603	06031C102MAT2A	AVX		

Notes:

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

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