

**PMP20196 REV A Bill of Materials**

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCBA1	1		PMP9253 PCB	Any	PMP9253 PCB	N/A
C1a	1	470pF	CGA3E3C0G2E471J	TDK	CAP, CERM, 470pF, 250V, C0G, 5%, 0603	0603
C1b	1	220pF	CGA3E3C0G2E471J	TDK	CAP, CERM, 220pF, 250V, C0G, 5%, 0603	0603
C2, C3	2	330uF	10SVP330M	Sanyo	CAP, OS-CON, 330uF, 10V, +/-20%, 0.017 ohm, 8x10 SMD	8x10
C4	1	10uF	GRM21BR71A106KE51L	MuRata	CAP, CERM, 10uF, 10V, +/-10%, X7R, 0805	0805
C6, C7	2	0.47uF	GRM43DR72E474KW01L	MuRata	CAP, CERM, 0.47 uF, 250 V, +/- 10%, X7R, 1812	1812
C8	1	1uF	C3216X7R2A105M	TDK	CAP, CERM, 1uF, 100V, +/-20%, C Series, 1206	1206
C9	1	0.01uF	C1608C0G1E103J	TDK	CAP, CERM, 0.01uF, 25V, +/-5%, C0G/NP0, 0603	0603
C10	1	100pF	06035A101JAT2A	AVX	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	0603
C11	1	10uF	GRM31CR71E106KA12L	MuRata	CAP, CERM, 10uF, 25V, +/-10%, X7R, 1206	1206
C12, C18	2	1uF	C1608X7R1C105K	TDK	CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	0603
C13	1	1uF	C1608X7R1E105K080AB	TDK	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	0603
C14	1	100pF	06033C101KAT2A	AVX	CAP, CERM, 100pF, 25V, +/-10%, X7R, 0603	0603
C16	1	1000pF	C2012C0G2E102J	TDK	CAP, CERM, 1000pF, 250V, +/-5%, C0G/NP0, 0805	0805
C17	1	0.47uF	GRM188R61A474KA61D	MuRata	CAP, CERM, 0.47uF, 10V, +/-10%, X5R, 0603	0603
Cx1, Cx2	2	150uF	EEU-EE2D151	Panasonic	CAP, Al Electrolytic, 150uF, 200V, +/-20%, 1.86Arms, TH	
Cx3	1	22uF	CGA6P1X7R1C226M250AC	TDK	CAP, CERM, 22 uF, 16 V, +/- 20%, X7R, AEC-Q200 Grade 1, 1210	1210
D1, D8, D8x	3	1.25V	1N4148W-7-F	Diodes Inc.	Diode, Ultrafast, 100V, 0.15A, SOD-123	SOD-123
D2	1	100V	STPS8H100G-TR	ST Microelectronics	Diode, Schottky, 100V, 8A, D2PAK	D2PAK
D4	1	60V	SMBJ60A-13-F	Diodes Inc.	Diode, TVS, Uni, 60 V, 600 W, SMB	SMB
D5	1	200V	MBRS3200T3G	ON Semiconductor	Diode, Schottky, 200 V, 3 A, SMB	SMB
D7	1	12V	DFLZ12-7	Diodes Inc.	Diode, Zener, 12V, 1W, PowerDI123	PowerDI123
Dx1	1	56V	1SMA5943BT3G	ON Semi	Diode, Zener, 56V, 1.5W, SMA	SMA
Dx2	1	5.1V	DZ2J051M0L	Panasonic	Diode, Zener, 5.1V, 200mW, +/-5%, SOD-323F	SOD-323F
H1, H2, H3, H4	4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
LBL1	1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650"H x 0.200"W
Q1	1	250V	BSC600N25NS3 G	Infineon Technologies	MOSFET, N-CH, 250 V, 25 A, PG-TDSON-8	PG-TDSON-8
Qx1	1	300 V	FZT857	Zetex	Transistor, NPN, 300 V, 3.5 A, SOT-223	SOT-223
R1a, R1b, R1c, R1d, R1e, R1f	6	47.5	CRCW120647R5FKEA	Vishay-Dale	RES, 47.5, 1%, 0.25 W, 1206	1206
R2	1	3.32	CRCW12063R32FKEA	Vishay-Dale	RES, 3.32 ohm, 1%, 0.25W, 1206	1206
R3	1	75.0k	CRCW120675K0FKEA	Vishay-Dale	RES, 75.0 k, 1%, 0.25 W, 1206	1206
R4	1	12.4k	CRCW060312K4FKEA	Vishay-Dale	RES, 12.4 k, 1%, 0.1 W, 0603	0603
R5	1	10	CRCW080510R0JNEA	Vishay-Dale	RES, 10 ohm, 5%, 0.125W, 0805	0805
R6	1	1.18k	CRCW06031K18FKEA	Vishay-Dale	RES, 1.18 k, 1%, 0.1 W, 0603	0603
R7	1	0.08	CRA2512-FZ-R080ELF	Bourns	RES, 0.08, 1%, 3 W, 2512	2512
R8, R10	2	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00k ohm, 1%, 0.1W, 0603	0603
R9	1	49.9k	CRCW060349K9FKEA	Vishay-Dale	RES, 49.9k ohm, 1%, 0.1W, 0603	0603
R11	1	4.75k	CRCW06034K75FKEA	Vishay-Dale	RES, 4.75k ohm, 1%, 0.1W, 0603	0603
R12, R17	2	3.01k	CRCW06033K01FKEA	Vishay-Dale	RES, 3.01k ohm, 1%, 0.1W, 0603	0603
R13	1	1.82k	CRCW06031K82FKEA	Vishay-Dale	RES, 1.82k ohm, 1%, 0.1W, 0603	0603
R14	1	2.15k	CRCW06032K15FKEA	Vishay-Dale	RES, 2.15 k, 1%, 0.1 W, 0603	0603
R16	1	49.9	CRCW120649R9FKEA	Vishay-Dale	RES, 49.9 ohm, 1%, 0.25W, 1206	1206
Rx1	1	20.5k	CRCW251220K5FKEG	Vishay-Dale	RES, 20.5 k, 1%, 1 W, 2512	2512
T1	1		PA3855.005NL	Pulse Electronics	3:2.25:1:1 Transformer; 21uH Primary Inductance	eg: 0603, used in PnP report

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP1, TP2, TP3, TP4	4	Double	1503-2	Keystone	Terminal, Turret, TH, Double	Keystone1503-2
TP5, TP6	2	Yellow	5014	Keystone	Test Point, Multipurpose, Yellow, TH	Yellow Multipurpose Testpoint
U1	1		LM5022MM/NOPB	Texas Instruments	60V Low Side Controller for Boost and SEPIC, 10-pin MSOP, Pb-Free	MUB10A
U2	1		PS2501L-1-F3-L-A	California Eastern Laboratories	Optocoupler, 5 kV, 200-400% CTR, SMT	PS2501L
U3	1		LMV431ACM5/NOPB	Texas Instruments	Low-Voltage (1.24V) Adjustable Precision Shunt Regulators, 5-pin SOT-23, Pb-Free	MF05A
C5	0	0.47uF	GRM43DR72E474KW01L	MuRata	CAP, CERM, 0.47 $\mu$ F, 250 V, +/- 10%, X7R, 1812	1812
C15	0	1uF	C1608X7R1C105K	TDK	CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	0603
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R15	0	0	CRCW08050000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.125W, 0805	0805

## IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ("TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products (<http://www.ti.com/sc/docs/stdterms.htm>), [evaluation modules](#), and [samples](http://www.ti.com/sc/docs/sampterm.htm) (<http://www.ti.com/sc/docs/sampterm.htm>).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2017, Texas Instruments Incorporated