

## PMP21867 REV B Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPC B1	1		PMP21867	Any	Printed Circuit Board	
C1, C11	2	0.01uF	GRM188R72A103KA01D	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C2, C20, C48	3	1uF	C2012X7S2A105K125AB	TDK	CAP, CERM, 1 uF, 100 V, +/- 10%, X7S, 0805	0805
C3	1	0.015uF	C0603C153K1RACTU	Kemet	CAP, CERM, 0.015 uF, 100 V, +/- 10%, X7R, 0603	0603
C4	1	1uF	GRM188R71C105KA12D	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603
C5, C27, C55	3	2.2uF	C2012X7R1C225K125AB	TDK	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0805	0805
C6, C17, C40, C45, C68	5	1000pF	GRM188R72A102KA01D	MuRata	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	0603
C7	1	10uF	CL21B106KOQNNNE	Samsung Electro-Mechanics	CAP, CERM, 10 uF, 16 V, +/- 10%, X7R, 0805	0805
C8	1	1uF	GRM32CR72A105KA35L	MuRata	CAP, CERM, 1 uF, 100 V, +/- 10%, X7R, 1210	1210
C9	1	47.5	CRCW060347R5FKEA	Vishay-Dale	RES, 47.5, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
C10, C23, C24, C29, C35, C36, C38, C39, C41, C51, C52, C57, C63, C64, C66, C67, C69	17	100pF	C0603C101J5GACTU	Kemet	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C12, C18, C21, C26, C28, C33, C37, C46, C49, C54, C56, C61, C65	13	0.1uF	GRM188R72A104KA35D	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0603	0603
C13, C15, C19, C43, C47, C201, C202	7	1000pF	C1608C0G2A102J080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C14, C25, C31, C53, C59	5	0.22uF	C1608X7R1H224K080AB	TDK	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, 0603	0603
C16, C32, C42, C44, C60, C70	6	0.01uF	06031C103KAT2A	AVX	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C22, C34, C50, C62	4	0.47uF	GRM188R71C474KA88D	MuRata	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, 0603	0603
C30, C58	2	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C71, C95, C107, C131	4	330uF	25SVPF330M	Panasonic	CAP, Aluminum Polymer, 330 uF, 25 V, +/- 20%, 0.014 ohm, F12, SMD, 2-Leads, Body 10.5x10.5mm, Height 12.7mm SMD	F12, SMD, 2-Leads, Body 10.5x10.5mm, Height 12.7mm
C72, C73, C74, C75, C76, C96, C97, C98, C99, C100, C108, C109, C110, C111, C112, C132, C133, C134, C135, C136	20	22uF	GRM32ER71E226KE15L	MuRata	CAP, CERM, 22 uF, 25 V, +/- 10%, X7R, 1210	1210

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C77, C78, C79, C80, C81, C87, C88, C89, C90, C91, C92, C93, C94, C101, C102, C103, C104, C105, C113, C114, C115, C116, C117, C123, C124, C125, C126, C127, C128, C129, C130, C137, C138, C139, C140, C141	36	4.7uF	C5750X7R2A475M230KA	TDK	CAP, CERM, 4.7 uF, 100 V, +/- 20%, X7R, 2220	2220
C82, C106, C118, C142	4	100pF	08051A101KAT2A	AVX	CAP, CERM, 100 pF, 100 V, +/- 10%, C0G/NP0, 0805	0805
C83, C84, C85, C86, C119, C120, C121, C122	8	39uF	PCR1K390MCL1GS	Nichicon	CAP, Aluminum Polymer, 39 uF, 80 V, +/- 20%, 0.035 ohm, D8xL12mm SMD	D8xL12mm
C143	1	100uF	EMVH101GDA101MLH0S	Chemi-Con	CAP, AL, 100 uF, 100 V, +/- 20%, 0.24 ohm, SMD	LH0
C203	1	10pF	GRM1885C1H100JA01D	MuRata	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
D1, D2, D5, D6	4	100V	DFLS1100-7	Diodes Inc.	Diode, Schottky, 100 V, 1 A, PowerDI123	PowerDI123
D3, D4, D7, D8, D201, D202	6	75V	1N4148X-TP	Micro Commercial Component	Diode, Switching, 75 V, 0.3 A, SOD-523	SOD-523
FID1, FID2, FID3	3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
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		2205	Keystone	Standoff, Hex, 1"L #4-40 Aluminum	1 inch Aluminum Hex Standoff
J1, J2, J3, J4, J5, J6, J7, J8, J9	9		HTSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	Header, 100mil, 2x1, TH
J10, J11, J12, J13	4		108-0740-001	Cinch Connectivity	Standard Banana Jack, Uninsulated, 15A	Banana Jack
L1	1	680uH	MSS1038-684KLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 680 uH, 0.5 A, 1.93 ohm, SMD	MSS1038
L2, L3, L4, L5	4		7443640680	Würth Elektronik	WURTH ELEKTRONIK Surface Mount Power Inductor, WE-HCF Series, 6.8 H, 15%, Shielded, 2400 ohm, 30 A	SMD_IND_28MM0_19MM4
L6, L7, L8, L9, L10	5	330nH	VLBU1007090T-R33L	TDK	Inductor, Shielded, Ferrite, 330 nH, 39 A, 0.000198 ohm, SMD	7x10mm
LBL1	1		THT-13-457-10	Brady	Thermal Transfer Printable Labels, 1.250" W x 0.250" H - 10,000 per roll	PCB Label 1.25 x 0.250 inch
Q1, Q3, Q4	3	80 V	MMBTA56LT1G	ON Semiconductor	Transistor, PNP, 80 V, 0.5 A, SOT-23	SOT-23
Q2, Q5, Q6	3	60V	2N7002E-T1-E3	Vishay-Siliconix	MOSFET, N-CH, 60 V, 0.24 A, SOT-23	SOT-23
Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22	16		IPB042N10N3GATMA1	Infineon	N-Channel 100V 100A (Tc) 214W (Tc) Surface Mount D <sup>2</sup> PAK (TO-263AB)	D2PAK
R1, R2, R7, R15	4	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R3, R13, R23, R26, R27, R44, R47, R48, R202	9	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R4	1	560k	CRCW0603560KFKEA	Vishay-Dale	RES, 560 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R5	1	30k	CRCW060330K0JNEA	Vishay-Dale	RES, 30 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R6	1	143k	CRCW0603143KFKEA	Vishay-Dale	RES, 143 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R8	1	4.53k	CRCW06034K53FKEA	Vishay-Dale	RES, 4.53 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R9, R14, R20, R30, R32, R51, R53	7	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R10	1	23.2k	RC0603FR-0723K2L	Yageo	RES, 23.2 k, 1%, 0.1 W, 0603	0603
R11, R19, R21, R31, R34, R52, R55	7	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R16	1	4.02k	CRCW06034K02FKEA	Vishay-Dale	RES, 4.02 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R17	1	24.0k	RC0603FR-0724KL	Yageo	RES, 24.0 k, 1%, 0.1 W, 0603	0603
R18	1	4.99k	CRCW06034K99FKEA	Vishay-Dale	RES, 4.99 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R22	1	20.0	CRCW060320R0FKEA	Vishay-Dale	RES, 20.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R24, R42, R45, R63	4	9.09k	CRCW06039K09FKEA	Vishay-Dale	RES, 9.09 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R25, R43, R46, R64	4	1.50k	CRCW06031K50FKEA	Vishay-Dale	RES, 1.50 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R28, R29, R35, R49, R50, R56	6	49.9k	CRCW060349K9FKEA	Vishay-Dale	RES, 49.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R33, R38, R54, R59	4	2.0	CRCW08052R00JNEA	Vishay-Dale	RES, 2.0, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R36, R39, R57, R60	4	40.2k	CRCW060340K2FKEA	Vishay-Dale	RES, 40.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R37, R58	2	24.9	CRCW080524R9FKEA	Vishay-Dale	RES, 24.9, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R40, R61	2	42.2k	CRCW060342K2FKEA	Vishay-Dale	RES, 42.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R41, R62	2	18.7k	CRCW060318K7FKEA	Vishay-Dale	RES, 18.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R65, R77, R89, R101	4	0.001	WSL27261L000FEB	Vishay-Dale	RES, 0.001, 1%, 3 W, 6.6x3x6.9mm	6.6x3x6.9mm
R66, R68, R69, R75, R78, R82, R83, R87, R90, R92, R93, R99, R102, R106, R107, R111	16	49.9k	CRCW080549K9FKEA	Vishay-Dale	RES, 49.9 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R67, R79, R91, R103	4	10.0	CRCW121810R0FKEK	Vishay-Dale	RES, 10.0, 1%, 1 W, AEC-Q200 Grade 0, 1218	1218
R70, R71, R80, R81, R94, R95, R104, R105	8	1.0	CRCW06031R00JNEA	Vishay-Dale	RES, 1.0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R72, R73, R74, R76, R84, R85, R86, R88, R96, R97, R98, R100, R108, R109, R110, R112	16	1.00	CRCW08051R00FKEA	Vishay-Dale	RES, 1.00, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R113, R114, R115, R116, R117, R118, R119, R120	8	0.4	CSRN2010FKR400	Stackpole Electronics Inc	RES, 0.4, 1%, 1 W, 2010	2010
R201	1	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
T1, T2, T3, T4	4		CXS70-14-C	Panduit	Terminal 70A Lug	LUG, 32.3x14.5x11.7
TP1, TP2	2		1598-2	Keystone	Terminal, Turret, TH, Triple	Keystone1598-2

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP3, TP4, TP9, TP10, TP11, TP12, TP13, TP14	8		5015	Keystone	Test Point, Miniature, SMT	Testpoint_Keystone_ Miniature
TP5, TP7	2		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
TP6	1		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP8	1		5012	Keystone	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
U1	1		LM5018MRX/NOPB	Texas Instruments	7.5-100V Wide Vin, 300mA Constant On-Time Synchronous Buck Regulator, DDA0008B (SOIC-8)	DDA0008B
U2	1		TPS70950DBVR	Texas Instruments	150-mA, 30-V, Ultra-Low IQ, Wide Input Low-Dropout Regulator with Reverse Current Protection, DBV0005A (SOT-23-5)	DBV0005A
U3	1		LM8261M5/NOPB	Texas Instruments	RRIO, High Output Current & Unlimited Cap Load Op Amp, DBV0005A (SOT-23-5)	DBV0005A
U4	1		LM4040AIM3-2.0/NOPB	Texas Instruments	Precision Micropower Shunt Voltage Reference, DBZ0003A (SOT-23-3)	DBZ0003A
U5, U10	2		LM5170QPHPRQ1	Texas Instruments	Multiphase Bidirectional Current Controller, PHP0048C (HTQFP-48)	PHP0048D
U6, U7, U8, U9, U11, U12, U13, U?	8		LM26LVCISD-145/NOPB	Texas Instruments	1.6V-Capable Temperature Sensor Switch with Factory Programmed Trip Points, NGF0006A (WSON-6)	NGF0006A
R12	0	23.2k	RC0603FR-0723K2L	Yageo	RES, 23.2 k, 1%, 0.1 W, 0603	0603

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale ([www.ti.com/legal/termsofsale.html](http://www.ti.com/legal/termsofsale.html)) or other applicable terms available either on [ti.com](http://ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2019, Texas Instruments Incorporated