

**PMP22089 REV B Bill of Materials**

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	C1, C6, C7, C9, C10	5	2.2uF	C0805C225K4RACTU	Kemet	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0805	0805
2	C2, C19, C53	3	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
3	C3, C4	2	22uF	EMVA101ADA220MHA0G	Chem-Con	CAP, AL, 22 uF, 100 V, +/- 20%, ohm, SMD	HA0
4	C5, C8, C39, C41, C51	5	0.22uF	C1005X7R1C224K050BC	TDK	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0402	0402
5	C11, C35	2	0.01uF	C1005X7R1C103K050BA	TDK	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	0402
6	C12, C13, C14, C15, C16, C17, C18	7	0.1uF	GRM188R72A104KA35J	MuRata	CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0603	0603
7	C20, C21, C22, C23, C54, C55, C56, C57	8	4.7uF	C2012XSR1H475K125AB	TDK	CAP, CERM, 4.7uF, 50V, +/-10%, XSR, 0805	0805
8	C24, C25, C26, C28	4	1uF	GRM155R61A105KE15D	MuRata	CAP, CERM, 1uF, 10V, +/-10%, XSR, 0402	0402
9	C27, C38, C40	3	10pF	GRM1555C1H100JA01D	MuRata	CAP, CERM, 10 pF, 50 V, +/- 5%, COG/NP0, 0402	0402
10	C29, C30	2	0.33uF	GRM188R71C334KA01D	MuRata	CAP, CERM, 0.33 uF, 16 V, +/- 10%, X7R, 0603	0603
11	C31, C37	2	0.22uF	C0603C224K4RACTU	Kemet	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0603	0603
12	C32, C33, C34, C36	4	150uF	T520B157M006A1E025	Kemet	CAP, TA, 150 uF, 6.3 V, +/- 20%, 0.025 ohm, SMD	3528-21
13	C42, C43, C44, C45, C46, C47, C48, C49	8	47uF	GRM21BR61A476ME15	MuRata	CAP, CERM, 47 uF, 10 V, +/- 20%, XSR, 0805	0805
14	C52	1	4700pF	GRM155R71C472KA01D	MuRata	CAP, CERM, 4700 pF, 16 V, +/- 10%, X7R, 0402	0402
15	D1, D2	2	Green	150060GS75000	Würth Elektronik eiSos	LED, Green, SMD	LED_0603
16	D3, D4	2	45V	SDM10U45-7-F	Diodes Inc.	Diode, Schottky, 45 V, 0.1 A, SOD-523	SOD-523
17	D5	1	12V	1SMA5927B13G	ON Semiconductor	Diode, Zener, 12 V, 1.5 W, SMA	SMA
18	J1	1		1715721	Phoenix Contact	Terminal Block, 5.08 mm, 2x1, TH	2POS Terminal Block
19	J2	1		282834-2	TE Connectivity	Terminal Block, 2x1, 2.54mm, TH	Terminal Block, 2x1, 2.54mm, TH
20	J3	1		TSW-103-07-T-S	Samtec	Header, 2.54 mm, 3x1, Tin, TH	Header, 2.54 mm, 3x1, TH
21	J4	1		142-0701-201	Emerson Network Power	Connector, TH, SMA	SMA
22	L1, L2	2	250nH	744308025	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 250 nH, 27 A, 0.00037 ohm, SMD	10.1x6.8x7mm
23	Q1	1	25V	CSD16321Q5	Texas Instruments	MOSFET, N-CH, 25 V, 100 A, SON 5x6mm	SON 5x6mm
24	Q2, Q3, Q4, Q5	4	30V	EPC2023ENGR	EPC	MOSFET, N-CH, 30 V, 60 A, 6.05x2.3mm	6.05x2.3mm
25	R1, R2, R3	3	0.1	ERJ-2BSFR10X	Panasonic	RES, 0.1, 1%, 0.125 W, 0402	0402
26	R4, R8, R9, R27, R28	5	2.74k	CRCW04022K74FKED	Vishay-Dale	RES, 2.74 k, 1%, 0.063 W, 0402	0402
27	R5, R6	2	47k	CRCW040247K0JNED	Vishay-Dale	RES, 47 k, 5%, 0.063 W, 0402	0402
28	R7, R55, R57	3	150k	CRCW0603150KFKEA	Vishay-Dale	RES, 150 k, 1%, 0.1 W, 0603	0603
29	R10, R11, R13, R25, R26, R58, R59, R67	8	10.0	CRCW040210R0FKED	Vishay-Dale	RES, 10.0, 1%, 0.063 W, 0402	0402
30	R12, R18, R22, R23, R41, R50, R60	7	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, 0402	0402
31	R15, R31, R32, R33, R56	5	39.2k	CRCW040239K2FKED	Vishay-Dale	RES, 39.2 k, 1%, 0.063 W, 0402	0402
32	R16	1	5.11k	CRCW04025K11FKED	Vishay-Dale	RES, 5.11 k, 1%, 0.063 W, 0402	0402
33	R17	1	178k	CRCW0402178KFKED	Vishay-Dale	RES, 178 k, 1%, 0.063 W, 0402	0402
34	R20, R21	2	20.0k	CRCW040220K0FKED	Vishay-Dale	RES, 20.0 k, 1%, 0.063 W, 0402	0402
35	R24	1	470	CRCW0402470RJNED	Vishay-Dale	RES, 470, 5%, 0.063 W, 0402	0402
36	R29, R30	2	3.32k	CRCW04023K32FKED	Vishay-Dale	RES, 3.32 k, 1%, 0.063 W, 0402	0402
37	R34, R35, R36, R37, R38, R39, R42, R43, R44, R45, R46, R47	12	0.04	CRA2512-FZ-R040ELF	Bourns	RES, 0.04, 1%, 3 W, 2512	2512
38	R40	1	1.00k	CRCW04021K00FKED	Vishay-Dale	RES, 1.00 k, 1%, 0.063 W, 0402	0402
39	R48, R49	2	2.2	CRCW06032R20JNEA	Vishay-Dale	RES, 2.2, 5%, 0.1 W, 0603	0603
40	R51, R53	2	24k	CRCW040224K0JNED	Vishay-Dale	RES, 24 k, 5%, 0.063 W, 0402	0402
41	R54	1	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
42	RT1, RT2	2	10k ohm	NCP15X1H103J03RC	MuRata	Thermistor NTC, 10k ohm, 5%, 0402	0402
43	S1	1		204-212ST	CTS Electrocomponents	Switch, DPST, 2 Pos, 0.1 A, 50 VDC, SMD	12.34x9.78mm
44	T1	1		ER18-3.2-10-3F45-S	Ferroxcube	Transformer ER18 3:1 turns ratio	
45	TP1, TP4, TP12	3	Black	5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
46	TP2, TP3, TP14	3	Red	5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
47	U1	1		LP38693MP-5.0/NOPB	Texas Instruments	500mA Low Dropout CMOS Linear Regulators Stable with Ceramic Output Capacitors, 5-pin SOT-223, Pb-Free	MP05A
48	U2	1		LP2992AIDL-3.3/NOPB	Texas Instruments	Micropower 250 mA Low-Noise Ultra Low-Dropout Regulator, 6-pin LLP, Pb-Free	LDE06A
49	U3	1		LMG520M0FR	Texas Instruments	80V, 10A GaN Half-Bridge Power Stage, MOF0009A (QFM-9)	MOF0009A
50	U4	1		TPS53632GRSM	Texas Instruments	Half-Bridge D-CAP+TM Controller for 48V GaN DC/DC Converter, RSM0032B	RSM0032B
51	U5	1		LMC555CMM/NOPB	Texas Instruments	CMOS Timer, 8-pin Mini SOIC, Pb-Free	MUA08A
52	U6, U7, U8	3		UCC27512DRSR	Texas Instruments	Single-Channel High-Speed Low-Side Gate Driver with 4-A Peak Source and 8-A Peak Sink, DRS0006A	DRS0006A
53	C50	0	680pF	GRM1555C1E681JA01D	MuRata	CAP, CERM, 680 pF, 25 V, +/- 5%, COG/NP0, 0402	0402
54	J5, J6	0		575-4	Keystone	Standard Banana Jack, Uninsulated, 5.5mm	Keystone_575-4
55	R14	0	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
56	R19	0	24k	CRCW040224K0JNED	Vishay-Dale	RES, 24 k, 5%, 0.063 W, 0402	0402
57	R52	0	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, 0402	0402
58	R61, R62, R63, R64	0	1.00k	CRCW04021K00FKED	Vishay-Dale	RES, 1.00 k, 1%, 0.063 W, 0402	0402
59	R68	0	10.0	CRCW040210R0FKED	Vishay-Dale	RES, 10.0, 1%, 0.063 W, 0402	0402

## 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