

Variant: 001
Generated: 6/4/2025 3:05 PM
TID #: N/A



PMP23591 REV B Bill of Materials

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	IPC81	1		PMP23591	Any	Printed Circuit Board	
2	AGND_CTRL1, GND1, PGND1	3		5011	Keystone Electronics, Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
3	BODE	1		5012	Keystone Electronics	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
4	C1	1	100uF	EEV-FK1K101Q	Panasonic	CAP, AL, 100 uF, 80 V, +/- 20%, 0.32 ohm, AEC-Q200 Grade 2, SMD	SMT Radial H13
5	C2, C57	2	1000pF	CGA3E2X7R2A102K080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
6	C3, C58	2	0.01uF	GRM188R72A103KA01D	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
7	C4	1	0.1uF	C0805C104K1RACTU	Kemet	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0805	0805
8	C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C18, C19, C20, C21, C45, C46, C47, C48	18	4.7uF	GCJ32DC72A475KE01L	Murata	4.7uF ±10% 100V Ceramic Capacitor X7S 1210 (3225 Metric)	1210
9	C22, C53	2	4.7uF	GCM21BC71E475KE36L	MuRata	CAP, CERM, 4.7 uF, 25 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0805	0805
10	C23, C28, C54, C56	4	0.1uF	GCM155R71C104JA55D	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 5%, X7R, AEC-Q200 Grade 1, 0402	0402
11	C24, C25, C38, C42, C44, C49, C50, C55, C59, C75, C77, C78	12	0.1uF	CGA3E2X7R1E104K080AA	TDK	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
12	C26, C27, C51, C52	4	0.22uF	CL21B224KCF5NWE	Samsung Electro-Mechanics	CAP, CERM, 0.22 uF, 100 V, +/- 10%, X7R, 0805	0805
13	C29, C30, C31, C32, C33, C60, C61, C62, C63, C64, C72, C73, C74, C76, C79, C80, C81, C82, C83, C84	20	22uF	CGA6P3X7R1E226M250AB	TDK	Cap Ceramic 22uF 25V X7R 20% Pad SMD 1210 +125°C Automotive T/R	1210
14	C34	1	220uF	TCME227M016R0025E	AVX	Cap Tant Polymer 220uF 16VDC E CASE 20% (7.3 X 4.3 X 4.1mm) SMD	2917
15	C37, C68	2	1uF	UMK107AB7105KA-T	Taiyo Yuden	7343-43 0.025 Ohm 125C T/R	
16	C39	1	0.1uF	GRM188R72A104KA35D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
17	C40	1	4.7uF	GRM188Z71C475KE21D	MuRata	CAP, CERM, 4.7 uF, 16 V, +/- 10%, X7R, 0603	0603
18	C41	1	1uF	GCM188R71C105KA64J	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
19	C43, C69	2	100pF	GCM1885C2A101JA16D	MuRata	CAP, CERM, 100 pF, 100 V, +/- 5%, COG/NP0, AEC-Q200 Grade 1, 0603	0603
20	C70	1	10pF	CGA3E2C0G1H100D080AA	TDK	CAP, CERM, 10 pF, 50 V, +/- 5%, COG/NP0, AEC-Q200 Grade 1, 0603	0603
21	C71	1	0.01uF	GCM188R71H103KA37D	MuRata	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
22	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
23	H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5" L, #4-40 Nylon	Standoff
24	J1, J2	2		EM292902-UL	Eaton	Terminal Block, 10.16mm, 2x1, Tin, RA, TH	Terminal Block, 10.16mm, 2x1, TH
25	J3	1		TSW-114-07-G-S	Samtec	Header, 100mil, 14x1, Gold, TH	14x1 Header
26	J4	1		5-146261-1	TE Connectivity	Header, 100mil, 2x1, Gold, TH	Header, 2x1, 100mil
27	J5, J6	2		MMCX-J-P-H-ST-TH1	Samtec	Connector, MMCX 50 ohm, TH	Connector, MMCX, TH
28	L1	1	1uH	VCHA105D-1R0MS6	Cyntec	Inductor, 1 uH, 30 A, 0.00276 ohm, AEC-Q200 Grade 0, SMD	10.85x10mm
29	L2	1	16uH	7448421016	Würth Elektronik	Coupled inductor, 16 uH, 0.0027 ohm, TH	18.5x14.5mm
30	L4, L6	2	2.5uH	VCDU128T-2R5MS8	CYNTREC	Power Choke Coil 2.5uH 20% 100kHz 2.53mOhm 32A AECQ200	SMT_IND_13MM3_12 MM3
31	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 x 0.200 inch
32	Q1, Q2	2	30V	RCD1757Q05B	Texas Instruments	MOSFET, N-CH, 30 V, 51 A, DNK0008A (VSON-CLIP-8)	DNK0008A
33	R1	1		CL12251R00FKEG	Vishay Dale	1 Ohms ±1% 2W Chip Resistor Wide 2512 (6432 Metric), 1225 Automotive AEC-Q200 Thick Film	2512
34	R2, R3, R21, R26	4	2.2	CRCW0402R2R20JNED	Vishay-Dale	RES, 2.2, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
35	R4, R27, R62, R63	4	2.49k	RC1210FR-072K49L	Yageo	RES, 2.49 k, 1%, 0.5 W, 1210	1210
36	R9, R33	2	47kΩ	NCL18WB4736SRB	Murata	NTC Thermistor for Temperature Sensor, Automotive, 0603, 47kΩ, 5%, 0.046mA, 5V	0603
37	R10, R20	2	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
38	R12, R35	2	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
39	R13, R36	2	0	RCS06030000Z0EA	Vishay-Dale	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	0603
40	R16, R19, R25, R28, R48, R60, R51, R54, R64, R65	10	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
41	R17, R44	2	49.9	ERJ-3EKF49R9V	Panasonic	RES, 49.9, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
42	R18, R45	2	140k	ERA-3ABE1403V	Panasonic	RES, 140 k, 0.1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
43	R22	1	41.2k	CRCW060341K2FKEA	Vishay-Dale	RES, 41.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
44	R23	1	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
45	R24	1	52.3k	CRCW060352K3FKEA	Vishay-Dale	RES, 52.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
46	R37, R55, R56	3	49.9	CRCW060349R9FKEA	Vishay-Dale	RES, 49.9, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
47	R40	1	191k	CRCW0603191KFKEA	Vishay-Dale	RES, 191 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
48	R41, R42, R43	3	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
49	R47, R59	2	4.99k	CRCW060349R9FKEA	Vishay-Dale	RES, 4.99 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
50	R49	1	38.3k	CRCW060338K3FKEA	Vishay-Dale	RES, 38.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
51	RS2, RS3	2	1	CRCW06031R00JNEA	Vishay-Dale	RES, 1.0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
52	RS7, RS8	2	0.2	WK73S3ATTER200F	KOA Speer	200 mOhms ±1% 1.5W Chip Resistor Wide 2512 (6432 Metric), 1225 Automotive AEC-Q200, Moisture Resistant Thick Film	1225
53	RT1, RT2	2	10kΩ	TMP6131QDYARQ1	Texas Instruments	Automotive ±1% tolerance 10kΩ linear thermistor available in an 0402 package option 2-SOT-5X3 -40 to 150	SOT-523
54	UI1, UI3	2		LMG2100R026VBNR	Texas Instruments	100-V, 53-A GaN Half-Bridge Power Stage	VQFN-FCRLF16
55	U2	1		LM5137PQQRHARQ1	Texas Instruments	Automotive, 4-V to 80-V, Functional Safety-Compliant, Dual Synchronous Buck Controller With Low IQ	VQFN36
56	VIN1, VOUT_BODE, VOUT_PWR1	3		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
57	C15, C16, C17	0	4.7uF	GCJ32DC72A475KE01L	Murata	4.7uF ±10% 100V Ceramic Capacitor X7S 1210 (3225 Metric)	1210
58	C35, C36, C65, C66, C67	0	150uF	TCQE157M016R0025E	KYOCERA AVX	Cap Tant Polymer 150uF 16VDC E CASE 20% (7.3 X 4.3 X 4.1mm) J	2917
59	FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
60	R5, R6, R7, R8, R11, R14, R29, R30, R31, R32, R34, R38	0	0	CRCW06030000Z0EAHP	Vishay	RES Thick Film, 0Ω, , 0.33W, , 0603	0603
61	R15, R39	0	4.7k	CRCW06034K70JNEA	Vishay-Dale	RES, 4.7 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
62	R46	0	48.7k	CRCW060348K7FKEA	Vishay-Dale	RES, 48.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
63	R60	0	191k	CRCW0603191KFKEA	Vishay-Dale	RES, 191 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
64	R61	0	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), 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, regulatory 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](#) or other applicable terms available either on [ti.com](https://www.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.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2025, Texas Instruments Incorporated