

PMP22396 REV B Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		PMP22396	Any	Printed Circuit Board	
C1, C2, C3, C4	4	2.2uF	GCM31CR71H225KA55L	MuRata	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C5, C16, C18, C19, C25, C28, C33, C35, C40, C44, C53, C56, C61, C63, C68, C72, C109, C122, C155, C168	20	0.1uF	GRM188R72A104KA35D	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0603	0603
C6, C7	2	10uF	TMK316AB7106KLHT	Taiyo Yuden	CAP, CERM, 10 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C8	1	0.022uF	CGA3E2X7R2A223K080AA	TDK	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C9	1	220pF	GRM1885C2A221JA01D	MuRata	CAP, CERM, 220 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C10, C37, C65	3	1uF	CGA3E1X7R1V105K080AE	TDK	CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C12, C27, C55	3	1uF	C2012X7S2A105K125AB	TDK	CAP, CERM, 1 uF, 100 V, +/- 10%, X7S, 0805	0805
C13, C34, C62	3	2.2uF	C2012X7R1C225K125AB	TDK	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0805	0805
C17, C30, C31, C36, C42, C43, C45, C46, C48, C58, C59, C64, C70, C71, C73, C74, C76	17	100pF	C0603C101J5GACTU	Kemet	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C20, C22, C24, C26, C39, C47, C50, C52, C54, C67, C75, C123, C169	13	1000pF	C1608C0G2A102J080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C21, C32, C38, C60, C66, C78, C79, C80, C81, C82, C83, C85, C86, C87, C88, C89, C90, C124, C125, C126, C127, C128, C129, C131, C132, C133, C134, C135, C136	29	0.22uF	CGA3E3X7R1H224K080AB	TDK	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C23, C49, C51, C77	4	0.01uF	06031C103KAT2A	AVX	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
C29, C41, C57, C69	4	0.47uF	GRM188R71C474KA88D	MuRata	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, 0603	0603
C84, C94, C130, C140	4	100pF	08051A101KAT2A	AVX	CAP, CERM, 100 pF, 100 V, +/- 10%, C0G/NP0, 0805	0805

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C91, C92, C137, C138	4		PCR1V331MCL1GS	Nichicon	330µF 35V Aluminum - Polymer Capacitors Radial, Can - SMD 16mOhm 4000 Hrs @ 125°C	SMD
C93, C93A, C95, C95A, C108, C113, C139, C139A, C141, C141A, C154, C159	12	10uF	CGA5L1X7R1E106K160AE	TDK	CAP, CERM, 10 µF, 25 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C97, C98, C99, C110, C111, C112, C143, C144, C145, C156, C157, C158	12	100uF	PCR1J101MCL1GS	Nichicon	CAP, Aluminum Polymer, 100 uF, 63 V, +/- 20%, 0.024 ohm, SMD, 2-Leads, Dia 10.5mm, Pin Spacing 8mm SMD	SMD, 2-Leads, Dia 10.5mm, Pin Spacing 8mm
C100, C101, C102, C103, C104, C105, C106, C107, C114, C115, C116, C117, C118, C119, C120, C121, C146, C147, C148, C149, C150, C151, C152, C153, C160, C161, C162, C163, C164, C165, C166, C167	32	10uF	C3225X7R1H106M250AC	TDK	CAP, CERM, 10 uF, 50 V, +/- 20%, X7R, 1210	1210
D1, D2, D21	3	60V	FSV560	ON Semiconductor	Diode, Schottky, 60 V, 5 A, TO-277	TO-277
D5, D6, D10, D11, D14, D15, D16, D18, D19, D20, D22, D23, D24, D25	14	100V	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
D7	1	10V	MMSZ5240BS-7-F	Diodes Inc.	Diode, Zener, 10 V, 200 mW, SOD-323	SOD-323
D8, D9, D12, D13	4	60V	PMEG6010CEH,115	Nexperia	Diode, Schottky, 60 V, 1 A, SOD-123F	SOD-123F
D17	1	28V	SMBJ28A-13-F	Diodes Inc.	Diode, TVS, Uni, 28 V, 45.4 Vc, SMB	SMB
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, J14	10		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	100uH	MSD1278-104ML	Coilcraft	Coupled inductor, 100 uH, 3.4 A, 0.3 ohm, TH	12.3x12.3mm
L2, L3, L6, L7	4		7443763521033	Würth Electronics	3.3µH Shielded Wirewound Inductor 75A 0.4mOhm Max Nonstandard	PTH_INDUCTOR_36 MM0 21MM5
L4, L8	2	220nH	IHLP6767GZERR22M01	Vishay-Dale	Inductor, Shielded, Powdered Iron, 220 nH, 80 A, 0.00063 ohm, SMD	17.15x17.15mm
L5, L9	2	1uH	SRP1265A-1R0M	Bourns	Inductor, Shielded, 1 uH, 30 A, 0.0017 ohm, AEC-Q200 Grade 0, SMD	13.5x6.2x12.5mm

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
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, Q2, Q3	3	60V	2N7002E-T1-E3	Vishay-Siliconix	MOSFET, N-CH, 60 V, 0.24 A, SOT-23	SOT-23
Q4, Q5, Q6, Q7, Q8, Q9, Q22, Q23, Q24, Q25, Q26, Q27, Q49, Q50, Q51, Q52, Q53, Q54, Q67, Q68, Q69, Q70, Q71, Q72	24	60V	NVMFS5C670NLWFAFT1G	ON Semiconductor	MOSFET, N-CH, 60 V, 17 A, AEC-Q101, SO-8FL	SO-8FL
Q10, Q11, Q12, Q13, Q14, Q15, Q28, Q29, Q32, Q33, Q34, Q35, Q55, Q56, Q57, Q58, Q59, Q60, Q73, Q74, Q77, Q78, Q79, Q80	24	20 V	FMMT618TA	Diodes Inc.	Transistor, NPN, 20 V, 2.5 A, AEC-Q101, SOT-23	SOT-23
Q16, Q17, Q18, Q19, Q20, Q21, Q36, Q37, Q38, Q39, Q40, Q41, Q61, Q62, Q63, Q64, Q65, Q66, Q81, Q82, Q83, Q84, Q85, Q86	24	20 V	FMMT718TA	Diodes Inc.	Transistor, PNP, 20 V, 1.5 A, SOT-23	SOT-23
Q30, Q31, Q42, Q43, Q44, Q45, Q46, Q47, Q75, Q76, Q87, Q88, Q89, Q90, Q91, Q92	16		NVMFS5C406NLT1G	ON Semiconductor	N-Channel 40V 53A (Ta), 362A (Tc) 3.9W (Ta), 179W (Tc) Surface Mount 5-DFN (5x6) (8-SOFL)	SO-8FL
Q48, Q93	2	80 V	MMBTA06-7-F	Diodes Inc.	Transistor, NPN, 80 V, 0.5 A, SOT-23	SOT-23
R1	1	4.99	CRCW08054R99FKEA	Vishay-Dale	RES, 4.99, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R2, R10, R11, R14, R24, R39, R43, R64, R68	9	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R3	1	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R4, R17	2	24.9k	CRCW060324K9FKEA	Vishay-Dale	RES, 24.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R5	1	7.15k	CRCW06037K15FKEA	Vishay-Dale	RES, 7.15 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R6	1	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R9, R12, R19, R25, R34, R60	6	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R13	1	5.23k	CRCW06035K23FKEA	Vishay-Dale	RES, 5.23 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R15	1	100	CRCW0603100RJNEA	Vishay-Dale	RES, 100, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R16	1	45.3k	CRCW060345K3FKEA	Vishay-Dale	RES, 45.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R18	1	3.32k	CRCW06033K32FKEA	Vishay-Dale	RES, 3.32 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R20	1	2.43k	CRCW06032K43FKEA	Vishay-Dale	RES, 2.43 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R21	1	1.96k	CRCW06031K96FKEA	Vishay-Dale	RES, 1.96 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R22	1	6.81k	CRCW06036K81FKEA	Vishay-Dale	RES, 6.81 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R23, R38, R40, R63, R65	5	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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R26	1	20.0	CRCW060320R0FKEA	Vishay-Dale	RES, 20.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R27	1	6.19k	CRCW06036K19FKEA	Vishay-Dale	RES, 6.19 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R28, R31, R35, R36, R44, R54, R57, R61, R62, R69, R84, R86, R90, R92, R94, R96, R106, R108, R112, R114, R116, R118, R128, R148, R150, R154, R156, R158, R160, R170, R172, R176, R178, R180, R182, R192	36	49.9k	CRCW060349K9FKEA	Vishay-Dale	RES, 49.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R29, R52, R55, R77	4	9.09k	CRCW06039K09FKEA	Vishay-Dale	RES, 9.09 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R30, R53, R56, R78	4	1.50k	CRCW06031K50FKEA	Vishay-Dale	RES, 1.50 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R32, R49, R58, R74	4	3.01k	CRCW12063K01FKEA	Vishay-Dale	RES, 3.01 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R33, R59	2	10	CRCW080510R0JNEA	Vishay-Dale	RES, 10, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R37	1	0	RMCF0603ZT0R00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R42, R47, R67, R72	4	2.0	CRCW08052R00JNEA	Vishay-Dale	RES, 2.0, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R45, R70	2	40.2k	CRCW060340K2FKEA	Vishay-Dale	RES, 40.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R46, R71	2	24.9	CRCW080524R9FKEA	Vishay-Dale	RES, 24.9, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R48, R51, R73, R76	4	54.9k	CRCW060354K9FKEA	Vishay-Dale	RES, 54.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R50, R75	2	51.1k	CRCW060351K1FKEA	Vishay-Dale	RES, 51.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R79, R101, R143, R165	4		WSL2726L7000FEA	Vishay Semiconductor	700 μ Ohms \pm 1% 3W Chip Resistor Nonstandard Anti-Sulfur, Automotive AEC-Q200, Current Sense, Moisture Resistant, Pulse Withstanding Metal Element	2726
R80, R104, R144, R168	4	10.0	CRCW251210R0FKEG	Vishay-Dale	RES, 10.0, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512
R81, R82, R83, R85, R89, R91, R93, R95, R102, R103, R105, R107, R111, R113, R115, R117, R145, R146, R147, R149, R153, R155, R157, R159, R166, R167, R169, R171, R175, R177, R179, R181	32	2.0	CRCW06032R00JNEA	Vishay-Dale	RES, 2.0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R87, R88, R97, R98, R99, R100, R109, R110, R119, R120, R121, R122, R124, R125, R126, R127, R131, R132, R135, R136, R151, R152, R161, R162, R163, R164, R173, R174, R183, R184, R185, R186, R188, R189, R190, R191, R195, R196, R199, R200	40	10	CRCW060310R0JNEA	Vishay-Dale	RES, 10, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R123, R187	2	0.2	CSRN2512FKR200	Stackpole Electronics Inc	RES, 0.2, 1%, 2 W, 2512	2512
R129, R193	2	6.34k	CRCW06036K34FKEA	Vishay-Dale	RES, 6.34 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R130, R134, R194, R198	4	100k	CRCW0603100KJNEAC	Vishay-Dale	RES, 100 k, 5%, 0.1 W, 0603	0603
R133, R141, R197, R205	4	2.0k	CRCW06032K00JNEA	Vishay-Dale	RES, 2.0 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R137, R201	2	12.1k	CRCW060312K1FKEA	Vishay-Dale	RES, 12.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R138, R139, R202, R203	4	2.0	CRM2512-JW-2R0ELF	Bourns	RES, 0.5, 5%, 2 W, 2512	2512
R140, R204	2	2.94k	CRCW06032K94FKEA	Vishay-Dale	RES, 2.94 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R142, R206	2	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 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
TP3, TP4, TP5, TP6, TP11, TP12, TP13, TP14	8		5015	Keystone	Test Point, Miniature, SMT	Testpoint_Keystone_Miniature
TP7, TP8, TP15	3		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP9, TP10, TP16	3		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
U1	1		LM5001IDRQ1	Texas Instruments	Automotive Grade 3.1-75V Wide Vin, 1A Current Mode Non-Synchronous Switch Mode Regulator, D0008A (SOIC-8)	D0008A
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		TLV7031DBVR	Texas Instruments	Nanopower, small size comparator with push-pull output, DBV0005A (SOT-23-5)	DBV0005A
U4	1		LM8261M5/NOPB	Texas Instruments	RRIO, High Output Current & Unlimited Cap Load Op Amp, DBV0005A (SOT-23-5)	DBV0005A
U5	1		ATL431LIBQDBZR	Texas Instruments	High Bandwidth Low-Iq Programmable Shunt Regulator, DBZ0003A (SOT-23-3)	DBZ0003A
U6, U8, U9, U10, U12, U13, U14, U15	8		LM26LVCISD-125/NOPB	Texas Instruments	1.6V-Capable Temperature Sensor Switch with Factory Programmed Trip Points, NGF0006A (WSON-6)	NGF0006A
U7, U11	2		LM5170QPHPRQ1	Texas Instruments	Multiphase Bidirectional Current Controller, PHP0048C (HTQFP-48)	PHP0048D

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U16, U17	2		LM5060Q1MMX/NOPB	Texas Instruments	High-Side Protection Controller with Low Quiescent Current, DGS0010A (VSSOP-10)	DGS0010A
C11	0	10pF	GCM1885C2A100JA16D	MuRata	CAP, CERM, 10 pF, 100 V,+/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C14, C15, C96, C142	0	1000pF	C1608C0G2A102J080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
D3, D4	0	100V	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
R7	0	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R8	0	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R41, R66	0	0	RMCF0603ZTOR00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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