

PMP23452 REV A Bill of Materials

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--|----------|--------|----------------------|--------------|---|------------------|
| IPCB1 | 1 | | PMP23452 | Any | Printed Circuit Board | |
| C1, C2, C5 | 3 | 2.2uF | GCM21BR71E225KA73L | MuRata | CAP, CERM, 2.2 μ F, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805 | 0805 |
| C3 | 1 | 0.47uF | CGA5L2X7R2A474K160AA | TDK | CAP, CERM, 0.47 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206 | 1206 |
| C4 | 1 | 0.47uF | GCM188R71C474KA55D | MuRata | CAP, CERM, 0.47 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| C6, C7, C30, C63, C*999 | 5 | 0.1uF | CGA3E2X7R1E104K080AA | TDK | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| C101, C102, C201, C202 | 4 | 0.1uF | CGA3E2X7R1E104K080AA | TDK | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 (dynamic load testing only) | 0603 |
| Csns5V | 1 | 0.1uF | CGA3E2X7R1E104K080AA | TDK | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 (5V monitoring) | 0603 |
| C8, C9, C11, C12, C13, C14, C15, C19, C21, C22, C23, C24, C25, C29, C92, C93, C94, C95, C96, C97, Cpi1, Cpi2, Cpi3, Cpi4, Cpi5, Cpi6 | 26 | 10uF | CGA6P1X7R1N106M250AC | TDK | CAP, CERM, 10 μ F, 75 V, +/- 20%, X7R, AEC-Q200 Grade 1, 1210 For best EMI performance with same number of size 1210 input caps (26 in all) using existing layout: Remove C8, C9, C19, C93, C94, C95 (bottom side of PCB) Double up: Cpi1, Cpi2, Cpi3, Cpi4 (bottom side) and Cpi5, Cpi6 (top side) | 1210 |
| C10, C20 | 2 | 56uF | EEH3C1K470P | Panasonic | CAP, Polymer Hybrid, 47 uF, 80 V, +/- 20%, 36 mohm, 10x10 SMD | 10x10 |
| C16, C26, Cpi7 | 3 | 0.1uF | CGA4J2X7R2A104K125AA | TDK | CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805 | 0805 |
| C17, C27, Cpi8 | 3 | 0.01uF | CGA3E2X7R2A103K080AA | TDK | CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| C18, C28, Cpi9 | 3 | 1000pF | CGA3E2X7R2A102K080AA | TDK | CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| C31, C32, C33, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C59, C60, C61, C62, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83 | 45 | 47uF | GRM32ER71A476ME15L | MuRata | CAP, CERM, 47 uF, 10 V, +/- 20%, X7R, 1210 | 1210 |
| C57, C58, C33, C34, C35, C36, C56, C84 thru C91 | 0 | DNP | GRM32ER71A476ME15L | MuRata | CAP, CERM, 47 uF, 10 V, +/- 20%, X7R, 1210 | 1210 |

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|------------------------|----------|-----------|----------------------|---------------------------------|--|-----------------------------------|
| Ccomp1, Ccomp2 | 2 | 6800pF | CGA3E2X7R2A682K080AA | TDK | CAP, CERM, 6800 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| Ccs1, Ccs2 | 2 | 2200pF | C0603C222K5RAC | Kemet | CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603 | 0603 |
| Cdith | 1 | 0.01uF | GRM188R72A103KA01D | MuRata | CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603 | 0603 |
| Chf1, Chf2 | 0 | DNP | CGA3E2NP01H470J080AA | TDK | CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 0, 0603 | 0603 |
| Cres, Ccss1, Ccss2 | 3 | 0.22uF | CL10B224KO8VPNC | Samsung | CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| D1, D3 | 2 | 100V | BAT46W-E3-08 | Vishay-Semiconductor | Diode, Schottky, 100 V, 0.15 A, AEC-Q101, SOD-123 | SOD-123 |
| D2, D4, D5 | 3 | | BAT46LS-QYL | Nexperia | Diode Schottky 100V 250mA Surface Mount DFN1006BD-2 | DFN1006BD-2 |
| FID1, FID2, FID3 | 3 | | N/A | N/A | Fiducial mark. There is nothing to buy or mount. | N/A |
| H3, H4, H5, H6 | 4 | | 1902C | Keystone | Standoff, Hex, 0.5"L #4-40 Nylon | Standoff |
| H7, H8, H9, H10 | 4 | | NY PMS 440 0025 PH | B&F Fastener Supply | Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead | Screw |
| J1 | 1 | | 1040 | Keystone | TEST POINT SLOTTED .118", TH | Test point, TH Slot Test point |
| J2 | 1 | | PBC12SABN | Sullins Connector Solutions | Header, 2.54 mm, 12x1, Gold, TH | Header, 2.54 mm, 12x1, TH |
| J11 | 1 | | ED120/2DS | On-Shore Technology | Terminal Block, 5.08 mm, 2x1, Brass, TH | 2x1 5.08 mm Terminal Block |
| J33, J50 | 2 | | ED120/4DS | On-Shore Technology | Terminal Block, 5.08 mm, 4x1, Brass, TH | 4x1 5.08 mm Terminal Block |
| J100, J200 | 2 | | 5-146261-1 | TE Connectivity | Header, 100mil, 2x1, Gold, TH | Header, 2x1, 100mil |
| J101, J102, J201, J202 | 4 | | MMCX-J-P-H-ST-TH1 | Samtec | Connector, MMCX 50 ohm, TH | Connector, MMCX, TH |
| L1 | 1 | 1.3uH | XAL1350-132MED | Coilcraft | XAL1350 Series Shielded Power Inductors 23A as RMS Current, 1 MHz Test Frequency, 30% Tolerance, 1.3uH and AEC Qualified Grade 1 | SMT_INDUCTOR_13 MM0_14MM0 |
| L1 - option | | 1.5uH | VCUD128T-1R5MS8 | Cyntec | Inductor, Shielded, Composite, 1.5 uH, 41 A, 0.00128 ohm, SMD | 12.8 x 13.3 x 7.6mm |
| L2 | 1 | 2.2uH | XAL1350-222MEB | Coilcraft | Inductor, Shielded, Composite, 2.2 uH, 24 A, 0.0042 ohm, SMD | 13x14mm |
| L2 - option | | 2.5uH | VCUD128T-2R5MS8 | Cyntec | Inductor, Shielded, Composite, 2.5 uH, 32 A, 0.00202 ohm, SMD | 12.8 x 13.3 x 7.6mm |
| Lcm | 1 | 700 ohms | ACM1211-701-2PL-TL01 | TDK | Coupled inductor, 8 A, 0.006 ohm, SMD | SMD, 12x11mm |
| Lcm - option | | 1000 ohms | ACM1211-102-2PL-TL01 | TDK | Coupled inductor, 6 A, 0.014 ohm, SMD (48Vin only) | SMD, 12x11mm |
| Lpi | 1 | 10uH | XGL1060-103MEC | Coilcraft | 10 uH Shielded Molded Inductor 12.1 A 18mOhm Max Nonstandard | SMT2_10MM0_11MM 3 |
| Lpi-hf | 1 | 800 ohm | HR2220V801R-10 | Laird-Signal Integrity Products | Ferrite Bead, 800 ohm @ 100 MHz, 8 A, 2220 | 2220 |
| Q1, Q3 | 2 | | NVMFS6H852NLWFT1G | ON Semiconductor | N-Channel 11A (Ta), 42A (Tc) 3.6W (Ta), 54W (Tc) Surface Mount 5-DFN (5x6) (8-SOFL) | DFN5 |
| Q2, Q4 | 2 | | NVMFS6H824NLWFT1G | onsemi | MOSFET N-Channel 80 V 20A (Ta), 110A (Tc) 3.8W (Ta), 116W (Tc) Surface Mount, Wettable Flank 5-DFN (5x6) (8-SOFL) | DFNW5-5x6 |
| Q100, Q200 | 2 | 30V | CSD17579Q3A | Texas Instruments | MOSFET, N-CH, 30 V, 20 A, DNH0008A (VSONP-8) (dynamic load testing only) | DNH0008A |
| R1, R2 | 2 | 2m | WSL10202L000FEA | Vishay | Res Metal Strip 1020 0.002 Ohm 1% 2W ±50ppm/C Sulfur Resistant Wide Terminal SMD Automotive T/R | 1020 |
| R3 | 1 | 1 | RC0603FR-071RL | Yageo | RES, 1.00, 1%, 0.1 W, 0603 | 0603 |
| R4, R5 | 2 | 5.1 | CRCW06035R10JNEA | Vishay-Dale | RES, 5.1, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| R6, R11, R12, R13, | 4 | 100k | CRCW0603100KFKEA | Vishay-Dale | RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| Rdivt1, Rdivt2 | 2 | 100k | CRCW0603100KFKEA | Vishay-Dale | RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (Bode testing only) | 0603 |
| R7, R8 | 2 | 2.2 | CRCW06032R20JNEA | Vishay | RES Thick Film, 2.2Ω, 5%, 0.1W, 200ppm/°C, 0603 | 0603 |
| R9, R10 | 2 | 0 | CRCW06030000Z0EA | Vishay-Dale | RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |

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|------------------------------|----------|-------|--------------------|----------------------|--|--|
| R100, R200 | 2 | | RCWE1020R115FKFA | Vishay | 100 mOhms ±1% 2W Chip Resistor Wide 1020, 1020 Automotive AEC-Q200, Current Sense, Moisture Resistant Thick Film (dynamic load testing only) | 1020 |
| R101, R102, R201, R202 | 4 | 49.9 | CRCW060349R9FKFA | Vishay-Dale | RES, 49.9, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (dynamic load testing only) | 0603 |
| R103, R203 | 2 | 1 | CRCW06031R00JNEA | Vishay-Dale | RES, 1.0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 (dynamic load testing only) | 0603 |
| Rpg1, Rpg2 | 2 | 10.0k | CRCW060310K0FKFA | Vishay-Dale | RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| R104, R204 | 2 | 10.0k | CRCW060310K0FKFA | Vishay-Dale | RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (dynamic load testing only) | 0603 |
| Rbode1, Rbode2 | 2 | 10 | CRCW060310R0JNEAHP | Vishay-Dale | RES, 10, 5%, 0.25 W, AEC-Q200 Grade 0, 0603 (Bode testing only) | 0603 |
| Rcomp1 | 1 | 13.0k | CRCW060313K0FKFA | Vishay-Dale | RES, 13.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| Rcomp2 | 1 | 11.3k | CRCW060311K3FKFA | Vishay-Dale | RES, 11.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| Rcs1, Rcs2 | 2 | 100 | CRCW0603100RFKFA | Vishay-Dale | RES, 100, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| Rd1, Rd2 | 2 | 1 | SR733ATTE1R00F | KOA Speer | 1 Ohms ±1% 1W Chip Resistor 2512 (6432 Metric) Automotive AEC-Q200, Current Sense Thick Film | 2512 |
| Rdiv5-b, Rdiv5-t | 2 | 200k | CRCW0603200KFKFA | Vishay-Dale | RES, 200 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (5V monitoring) | 0603 |
| Rdivb1 | 1 | 22.1k | CRCW060322K1FKFA | Vishay-Dale | RES, 22.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (Bode testing only) | 0603 |
| Rdivb2 | 1 | 13.7k | CRCW060313K7FKFA | Vishay-Dale | RES, 13.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 (Bode testing only) | 0603 |
| Ren1, Ren2 | 2 | 549k | CRCW0603549KFKFA | Vishay-Dale | RES, 549 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| Rfb3-1, Rmode | 2 | 0 | CRCW06030000Z0EA | Vishay-Dale | RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603L |
| Rt | 1 | 97.6k | CRCW060397K6FKFA | Vishay-Dale | RES, 97.6 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| SH-J1 | 1 | | M7582-05 | Harwin | Single Operation 2.54mm Pitch Open Top Jumper Socket | Single Operation 2.54mm Pitch Open Top Jumper Socket |
| TP1, TP2, TP4, TP5, TP8, TP9 | 6 | | 1598-2 | Keystone | Terminal, Turret, TH, Triple | Keystone1598-2 |
| TP3, TP6 | 2 | | 5015 | Keystone Electronics | Test Point, Miniature, SMT | Testpoint_Keystone_Miniature |
| TP11, TP14 | 2 | | 5010 | Keystone Electronics | Test Point, Multipurpose, Red, TH | Red Multipurpose Testpoint |
| TP12, TP15 | 2 | | 5012 | Keystone Electronics | Test Point, Multipurpose, White, TH | White Multipurpose Testpoint |
| TP13, TP16 | 2 | | 5011 | Keystone Electronics | Test Point, Multipurpose, Black, TH | Black Multipurpose Testpoint |
| TPsns5V | 1 | | 5003 | Keystone Electronics | Test Point, Miniature, Orange, TH | Orange Miniature Testpoint |
| U1 | 1 | | LM5143QRHARQ1 | Texas Instruments | Automotive 3.5-V to 65-V Dual Synchronous Buck Controller With Low IQ | VQFN40 |

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