

PMP31236 REV A Bill of Materials

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|---|----------|-------|----------------------|--------------|---|------------------|
| C1, C10, C31, C40, C61, C70, C91, C100, C121, C130, C151, C160 | 12 | 1uF | CGA3E1X7R1V105K080AC | TDK | CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 603 |
| C2, C9, C25, C26, C29, C32, C39, C55, C56, C59, C62, C69, C85, C86, C89, C92, C99, C102, C115, C116, C119, C122, C129, C132, C145, C146, C149, C152, C159, C162, C175, C176, C179 | 33 | 0.1uF | GCM155R71H104KE02D | MuRata | CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 402 |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|---|----------|--------|----------------------|--------------|---|------------------|
| C3, C4, C5, C6, C7, C13, C14, C19, C20, C21, C22, C23, C33, C34, C35, C36, C37, C43, C44, C49, C50, C51, C52, C53, C63, C64, C65, C66, C67, C73, C74, C79, C80, C81, C82, C83, C93, C94, C95, C96, C97, C103, C104, C109, C110, C111, C112, C113, C123, C124, C125, C126, C127, C133, C134, C139, C140, C141, C142, C143, C153, C154, C155, C156, C157, C163, C164, C169, C170, C171, C172, C173 | 72 | 100pF | GRM1555C1H101JA01D | MuRata | CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0402 | 402 |
| C8, C12, C38, C42, C68, C72, C98, C128, C158 | 9 | 0.01uF | CGA2B3X7R1H103K050BB | TDK | CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 402 |
| C11, C41, C71, C101, C131, C161 | 6 | 0.1uF | C0805C104K5RACAUTO | Kemet | CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 0, 0805 | 805 |
| C15, C16, C17, C18, C45, C46, C47, C48, C75, C76, C77, C78, C105, C106, C107, C108, C135, C136, C137, C138, C165, C166, C167, C168 | 24 | 10pF | GCM1555C1H100JA16D | MuRata | CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402 | 402 |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--|----------|---------|----------------------|-----------------------|--|------------------|
| C24, C28, C30, C54, C58, C60, C84, C88, C90, C114, C118, C120, C144, C148, C150, C174, C178, C180 | 18 | 10uF | CGA5L1X7R1V106K160AC | TDK | CAP, CERM, 10 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206_190 | 1206_190 |
| C27, C57, C87, C117, C147, C177 | 6 | 2.2uF | CGA4J3X7R1H225K125AB | TDK | CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805 | 805 |
| C181, C189, C191, C199, C201, C209, C211, C219, C221, C229, C231, C239 | 12 | 1000pF | GRM188R71H102KA01D | MuRata | CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603 | 603 |
| C182, C185, C187, C192, C195, C197, C202, C205, C207, C212, C215, C217, C222, C225, C227, C232, C235, C237 | 18 | 0.1uF | GRM155R71H104ME14D | MuRata | CAP, CERM, 0.1 uF, 50 V, +/- 20%, X7R, 0402 | 402 |
| C183, C188, C193, C198, C203, C208, C213, C218, C223, C228, C233, C238 | 12 | 22uF | TMK325B7226MM-PR | Taiyo Yuden | CAP, CERM, 22 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1210 | 1210 |
| C184, C194, C204, C214, C224, C234 | 6 | 10uF | GRM32ER71H106KA12L | MuRata | CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, 1210 | 1210 |
| C186, C196, C206, C216, C226, C236 | 6 | 6800pF | GRM188R72A682KA01D | MuRata | CAP, CERM, 6800 pF, 100 V, +/- 10%, X7R, 0603 | 603 |
| C190, C200, C210, C220, C230, C240 | 6 | 0.022uF | GRM188R71H223KA01D | MuRata | CAP, CERM, 0.022 uF, 50 V, +/- 10%, X7R, 0603 | 603 |
| C241, C242 | 2 | 0.1uF | GRM155R71E104KE14D | MuRata | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402 | 402 |
| D1, D7, D13, D19, D25, D31 | 6 | | GB02SLT12-214 | GeneSiC Semiconductor | Diode Silicon Carbide Schottky 1200 V 2A (DC) Surface Mount DO-214AA | DO-214AA |
| D2, D6, D8, D12, D14, D18, D20, D24, D26, D30, D32, D36 | 12 | 30V | BAT54WS-7-F | Diodes Inc. | Diode, Schottky, 30 V, 0.2 A, SOD-323 | SOD-323 |

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|---|----------|-------|-------------------------|----------------------|---|-------------------------|
| D3, D4, D9, D10, D15, D16, D21, D22, D27, D28, D33, D34 | 12 | | 1.5SMC530A | Littelfuse Inc | 725V Clamp 2.1A Ipp Tvs Diode Surface Mount DO-214AB (SMCJ) | SMC |
| D5, D11, D17, D23, D29, D35 | 6 | 40V | MBRA340T3G | ON Semiconductor | Diode, Schottky, 40 V, 3 A, SMA | SMA |
| D37, D41, D42, D46, D47, D51, D52, D56, D57, D61, D62, D66 | 12 | 60V | PMEG6010CEH,115 | Nexperia | Diode, Schottky, 60 V, 1 A, SOD-123F | SOD-123F |
| D38, D43, D48, D53, D58, D63 | 6 | 18V | MMSZ5248B-7-F | Diodes Inc. | Diode, Zener, 18 V, 500 mW, SOD-123 | SOD-123 |
| D39, D44, D49, D54, D59, D64 | 6 | 100V | BAS16D-E3-08 | Vishay-Semiconductor | Diode, Switching, 100 V, 0.25 A, AEC-Q101, SOD-123 | SOD-123 |
| D40, D45, D50, D55, D60, D65 | 6 | 8.2V | MMSZ4694-HE3-08 | Vishay-Semiconductor | Diode, Zener, 8.2 V, 500 mW, AEC-Q101, SOD-123 | SOD-123 |
| J1 | 1 | | 254589 | TE Connectivity Erni | | CONN_HDR32 |
| J2 | 1 | | HTSW-103-09-G-S | Samtec | Header, 100mil, 3x1, Gold, TH | Header, 3x1, 2.54mm, TH |
| J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, J13, J14, J15, J16, J17, J18, J19, J20, J21, J22, J23, J24, J25, J26 | 24 | | 0405-0-15-15-34-27-04-0 | Mill-Max | CONN PIN RCPT .032-.046 PRESSFIT | HDR1 |
| R1, R39, R77, R115, R158, R201 | 6 | 10 | CRCW040210R0JNED | Vishay-Dale | RES, 10, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R2, R3, R40, R41, R78, R79, R116, R117, R159, R160, R202, R203, R294, R295 | 14 | 47k | CRCW040247K0JNED | Vishay-Dale | RES, 47 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R4, R42, R80, R118, R161, R204 | 6 | 1.00k | CRCW06031K00FKEA | Vishay-Dale | RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|---|----------|-------|------------------|--------------|--|------------------|
| R5, R7, R8, R11, R14, R15, R18, R22, R26, R28, R31, R34, R35, R43, R45, R46, R49, R52, R53, R56, R60, R64, R66, R69, R72, R73, R81, R83, R84, R87, R90, R91, R94, R98, R102, R104, R107, R110, R111, R119, R121, R122, R125, R128, R129, R130, R134, R140, R142, R145, R147, R148, R162, R164, R165, R168, R171, R172, R173, R177, R183, R185, R188, R190, R191, R205, R207, R208, R211, R214, R215, R216, R220, R226, R228, R231, | 78 | 100 | CRCW0402100RJNED | Vishay-Dale | RES, 100, 5%, 0.063 W, 0402 | 402 |
| R6, R44, R82, R120, R163, R206 | 6 | 33 | CRCW060333R0JNEA | Vishay-Dale | RES, 33, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |
| R9, R10, R47, R48, R85, R86, R123, R124, R166, R167, R209, R210 | 12 | 10 | CRCW080510R0FKEA | Vishay-Dale | RES, 10.0, 1%, 0.125 W, AEC-Q200 Grade 0, 0805 | 805 |
| R12, R13, R50, R51, R88, R89, R126, R127, R169, R170, R212, R213 | 12 | 8.45 | CRCW08058R45FKEA | Vishay-Dale | RES, 8.45, 1%, 0.125 W, AEC-Q200 Grade 0, 0805 | 805 |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--|----------|-------|------------------|--------------|--|------------------|
| R16, R17, R54, R55, R92, R93, R132, R133, R175, R176, R218, R219 | 12 | 20 | CRCW080520R0FKEA | Vishay-Dale | RES, 20.0, 1%, 0.125 W, AEC-Q200 Grade 0, 0805 | 805 |
| R20, R23, R58, R61, R96, R99, R135, R137, R178, R180, R221, R223 | 12 | 18.2 | CRCW080518R2FKEA | Vishay-Dale | RES, 18.2, 1%, 0.125 W, AEC-Q200 Grade 0, 0805 | 805 |
| R21, R59, R97, R136, R179, R222 | 6 | 0 | CRCW06030000Z0EA | Vishay-Dale | RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |
| R25, R63, R101, R138, R181, R224 | 6 | 10k | CRCW060310K0JNEA | Vishay-Dale | RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |
| R29, R32, R67, R70, R105, R108, R143, R146, R186, R189, R229, R232 | 12 | 100 | CRCW0402100RFKED | Vishay-Dale | RES, 100, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R30, R37, R38, R68, R75, R76, R106, R113, R114, R144, R149, R150, R187, R192, R193, R230, R235, R236, R292, R293 | 20 | 10.0k | CRCW040210K0FKED | Vishay-Dale | RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R33, R71, R109 | 3 | 0 | CRCW04020000Z0ED | Vishay-Dale | RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R36, R74, R112 | 3 | 6.04k | CRCW04026K04FKED | Vishay-Dale | RES, 6.04 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R151, R152, R153, R154, R155, R156, R194, R195, R196, R197, R198, R199, R237, R238, R239, R240, R241, R242 | 18 | 191k | CRCW1206191KFKEA | Vishay-Dale | RES, 191 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206 | 1206 |
| R157, R200, R243 | 3 | 3.83k | CRCW04023K83FKED | Vishay-Dale | RES, 3.83 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|---|----------|-------|--------------------|--------------|--|------------------------------|
| R244, R247, R252, R255, R260, R263, R268, R271, R276, R279, R284, R287 | 12 | 10 | CRCW060310R0FKEAHP | Vishay-Dale | RES, 10.0, 1%, 0.25 W, AEC-Q200 Grade 0, 0603 | 603 |
| R245, R253, R261, R269, R277, R285 | 6 | 4.7k | CRCW08054K70JNEA | Vishay-Dale | RES, 4.7 k, 5%, 0.125 W, AEC-Q200 Grade 0, 0805 | 805 |
| R246, R254, R262, R270, R278, R286 | 6 | 66.5k | CRCW040266K5FKED | Vishay-Dale | RES, 66.5 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R248, R256, R264, R272, R280, R288 | 6 | 154k | CRCW0402154KFKED | Vishay-Dale | RES, 154 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R250, R258, R266, R274, R282, R290 | 6 | 15.4k | CRCW040215K4FKED | Vishay-Dale | RES, 15.4 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R251, R259, R267, R275, R283, R291 | 6 | 12.1k | CRCW040212K1FKED | Vishay-Dale | RES, 12.1 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| T1, T2, T3, T4, T5, T6 | 6 | 30uH | YA8916-BL | Coilcraft | Transformer, 30 uH, SMT | 9.3x10.2mm |
| TP1, TP2, TP3, TP4, TP12, TP13, TP14, TP15, TP22, TP23, TP24, TP25, TP32, TP33, TP34, TP35, TP43, TP44, TP45, TP46, TP54, TP55, TP56, TP57 | 24 | | 5002 | Keystone | Test Point, Miniature, White, TH | White Miniature Testpoint |
| TP5, TP6, TP7, TP16, TP17, TP18, TP26, TP27, TP28, TP36, TP37, TP39, TP47, TP48, TP50, TP58, TP59, TP61, TP65, TP67, TP69, TP71, TP73, TP75 | 24 | | 5000 | Keystone | Test Point, Miniature, Red, TH | Red Miniature Testpoint |

| Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--|----------|-------|---------------------|-------------------|--|------------------------------|
| TP8, TP11, TP19, TP29, TP40, TP51, TP62, TP66, TP68, TP70, TP72, TP74, TP76 | 13 | | 5001 | Keystone | Test Point, Miniature, Black, TH | Black Miniature Testpoint |
| U1, U2, U3, U4, U5, U6 | 6 | | PUCC5880QDFCRQ1 | Texas Instruments | Isolated 20-A Adjustable Gate Drive IGBT/SiC MOSFET Gate Driver With Advanced Protection Features For Automotive Applications | SSOP32 |
| U7, U8, U9, U10, U11, U12 | 6 | | LM5180QNGURQ1 | Texas Instruments | 70-V PSR Flyback Converter With 100-V, 1.2-A Power Switch and Ultra- Low IQ, NGU0008C (WSON-8) | NGU0008C |
| U13, U14 | 2 | | SN74HCS00BQAR | Texas Instruments | NAND Gate IC 4 Channel Schmitt Trigger Input 14-WQFN (3x2.5) | WQFN14 |
| Q1, Q2, Q3, Q4, Q5, Q6 | 0 | 40V | SI2318CDS-T1-GE3 | Vishay-Siliconix | MOSFET, N-CH, 40 V, 5.6 A, SOT-23 | SOT-23 |
| Q7 | 0 | 750V | FS660R08A6P2FBBPSA1 | Infineon | IGBT Module Trench Field Stop Three Phase Inverter 750 V 450 A 1053 W Chassis Mount AG-HYBRIDD-1 | PTH_MD_1554MM5_ 100MM5 |
| R19, R57, R95, R131, R174, R217 | 0 | 10.0k | CRCW040210K0FKED | Vishay-Dale | RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |
| R24, R62, R100, R139, R182, R225 | 0 | 0 | CRCW06030000Z0EA | Vishay-Dale | RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |
| R27, R65, R103, R141, R184, R227 | 0 | 10k | CRCW060310K0JNEA | Vishay-Dale | RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 603 |
| R249, R257, R265, R273, R281, R289 | 0 | 0 | CRCW04020000Z0ED | Vishay-Dale | RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 402 |

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