

Filename: BOM-PMP9531RevC(001).xls
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85Vac to 265Vac to 28V/12.5A with TM-PFC

| Designator | Quantity | Value | Description | PackageReference | PartNumber | Manufacturer | Alternate PartNumber | Alternate Manufacturer |
|-----------------------|----------|---------------|---|-----------------------------|--------------------|----------------------------|----------------------|------------------------|
| IPC81 | 1 | | Printed Circuit Board | | PMP9531 | Any | | |
| C1, C2, C8, C9 | 4 | 100pF | CAP, CERM, 100pF, 250V, +/-10%, KY, Radial D7x5mm | Radial D7x5mm | DE2B3KY101KA2BM01 | MuRata | | |
| C3 | 1 | 330uF | CAP ALUM 330UF 450V 20% SNAP | RCAP_30x30mm | LGW2W331MELB45 | Nichicon | | |
| C4 | 1 | 0.22uF | CAP, Film, 0.22uF, 275V, +/-20%, TH | 17.5x8x17.5mm | ECQ-U2A224ML | Panasonic | | |
| C5 | 1 | 0.47uF | CAP, Film, 0.47uF, 275V, +/-20%, TH | Radial 25x8.5x18.5 | ECQ-U2A474ML | Panasonic | | |
| C6 | 1 | 1uF | CAP FILM 1UF 450VDC RADIAL | Radial 18.2x8.5x17.9 | 450MPK105J | Rubycon | | |
| C7 | 1 | 2.2uF | CAP, Film, 2.2uF, 450V, +/-5%, TH | 18.00x20.00x13.50mm | 450MPK225J | Rubycon | | |
| C10 | 1 | 1uF | CAP, CERM, 1uF, 25V, +/-10%, X5R, 1206 | 1206 | GRM319R61E105KC36D | MuRata | | |
| C11 | 1 | 220pF | CAP, CERM, 220pF, 50V, +/-5%, C0G/NP0, 0603 | 0603 | 06035A221JAT2A | AVX | | |
| C12 | 1 | 0.1uF | CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0603 | 0603 | 06033D104KAT2A | AVX | | |
| C13, C20 | 2 | 1000pF | CAP, CERM, 1000pF, 50V, +/-10%, C0G/NP0, 0603 | 0603 | 06035A102KAT2A | AVX | | |
| C14 | 1 | 0.22uF | CAP, CERM, 0.22uF, 16V, +/-10%, X7R, 0603 | 0603 | C1608X7R1C224K | TDK | | |
| C15 | 1 | 1uF | CAP, CERM, 1uF, 10V, +/-10%, X5R, 0603 | 0603 | C0603C105K8PACTU | Kemet | | |
| C16 | 1 | 220pF | CAP, CERM, 220pF, 50V, +/-1%, C0G/NP0, 0603 | 0603 | 06035A221FAT2A | AVX | | |
| C17 | 1 | 18pF | CAP, CERM, 18pF, 50V, +/-5%, C0G/NP0, 0603 | 0603 | 06035A180JAT2A | AVX | | |
| C18 | 1 | 0.22uF | CAP, CERM, 0.22uF, 50V, +/-10%, X7R, 1206 | 1206 | 12065C224KAT2A | AVX | | |
| C19 | 1 | 100pF | CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603 | 0603 | 06035A101JAT2A | AVX | | |
| C21, C38 | 2 | 1uF | CAP, CERM, 1uF, 16V, +/-10%, X5R, 0603 | 0603 | C0603C105K4PACTU | Kemet | | |
| C22 | 1 | 2200pF | CAP, CERM, 2200pF, 300V, +/-20%, Y5U, CAPRD500W60D900H1200 | CAPRD500W60D900H1200 | VY2222M35Y5US63V7 | Vishay-Bccomponents | | |
| C23, C24 | 2 | 1uF | CAP, CERM, 1uF, 25V, +/-10%, X5R, 0603 | 0603 | GRM188R61E105KA12D | MuRata | | |
| C25 | 1 | 0.1uF | CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0805 | 0805 | 08055C104KAT2A | AVX | | |
| C26, C27, C28 | 3 | 680uF | CAP, AL, 680uF, 35V, +/-20%, TH | 10x20 | EEU-FR1V681 | Panasonic | | |
| C29, C30, C31, C32 | 4 | 10uF | CAP CER 10UF 35V 10% X7R 1206 | 1206 | GMK316AB7106KL-TR | MuRata | | |
| C33 | 1 | 0.033uF | CAP, Film, 0.033uF, 1250V, +/-5%, TH | 18x9.5x18mm | 121MPE333J | Rubycon | | |
| C34 | 1 | 100pF | CAP, CERM, 100pF, 1000V, +/-5%, U2J, 1206 | 1206 | GRM31A7U3A101JW31D | MuRata | | |
| C35 | 1 | 0.47uF | CAP, CERM, 0.47uF, 16V, +/-10%, X7R, 0603 | 0603 | C0603C474K4RACTU | Kemet | | |
| C36 | 1 | 0.01uF | CAP, CERM, 0.01uF, 50V, +/-10%, X7R, 0603 | 0603 | C0603C103K5RACTU | Kemet | | |
| C37 | 1 | 0.22uF | CAP, CERM, 0.22uF, 25V, +/-5%, X7R, 0805 | 0805 | 08053C224JAT2A | AVX | | |
| C39 | 1 | 100pF | CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603 | 0603 | C1608C0G1H101J | TDK | | |
| C40 | 1 | 2200pF | CAP, CERM, 2200pF, 50V, +/-10%, X7R, 0603 | 0603 | C0603C222K5RACTU | Kemet | | |
| C41 | 1 | 3900pF | CAP, CERM, 3900pF, 25V, +/-10%, X7R, 0603 | 0603 | GRM188R71E392KA01D | MuRata | | |
| C42 | 1 | 1uF | CAP, CERM, 1uF, 50V, +/-10%, X7R, 1206 | 1206 | C3216X7R1H105K | TDK | | |
| C43 | 1 | 10uF | CAP, AL, 10uF, 35V, +/-20%, TH | CAPPR2-5x11 | LVR1V100MDD1TA | Nichicon | | |
| C44 | 1 | 22pF | CAP, CERM, 22pF, 50V, +/-5%, C0G/NP0, 0603 | 0603 | 06035A220JAT2A | AVX | | |
| C45 | 1 | 1uF | CAP ALUM 1.0UF 450V 20% RADIAL | 6.3x5.5mm | 450PX1MEFC6.3X11 | Rubycon | | |
| C46 | 1 | 150uF | CAP ALUM 150UF 25V 20% RADIAL | 6.3x11.2mm | EEU-FR1E151B | Panasonic | | |
| C47, C48 | 2 | 0.1uF | CAP, CERM, 0.1uF, 16V, +/-10%, X5R, 0402 | 0402 | GRM155R61C104KA88D | MuRata | | |
| C49 | 1 | 0.1uF | CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603 | 0603 | 06033C104JAT2A | AVX | | |
| C50 | 1 | 1uF | CAP, CERM, 1uF, 16V, +/-10%, X5R, 0805 | 0805 | 0805YD105KAT2A | AVX | | |
| D1 | 1 | 0.98V | Diode, Ultrafast, 600V, 8A, TH | TO-220AC | MUR860G | ON Semiconductor | | |
| D2 | 1 | GBU6J | RECT BRIDGE GPP 6A 600V GBU | GBU | GBU6J | Micro Commercial Component | | |
| D3 | 1 | 20V | Diode, Zener, 20V, 500mW, SOD-123 | SOD-123 | MMSZ5250B-7-F | Diodes Inc. | | |
| D4 | 1 | 1.25V | Diode, Switching, 200V, 0.2A, SOD-123 | SOD-123 | BAV21W-7-F | Diodes Inc. | | |
| D5 | 1 | 200V | Diode, Switching, 200V, 0.2A, SOD-123 | SOD-123 | BAV21W-7-F | Diodes Inc. | | |
| D6, D9, D13, D14 | 4 | 0.63V | Diode, P-N, 70V, 0.2A, SOT-323 | SOT-323 | BAV99WT1G | Fairchild Semiconductor | | |
| D7, D10 | 2 | 0.35V | Diode, Schottky, 30V, 0.2A, SOD-323 | SOD-323 | BAT54HT1G | ON Semiconductor | | |
| D8, D11 | 2 | | DIODE SCHOTTKY 100V 30A TO220AB | TO-220AB | STPS30100ST | | | |
| D12 | 1 | 0.45V | Diode, Schottky, 60V, 3A, SOD-123 | SOD-123 | MBR0560-TP | Micro Commercial Component | | |
| D15 | 1 | 100V | Diode, Ultrafast, 100V, 0.15A, SOD-123 | SOD-123 | 1N4148W-7-F | Diodes Inc. | | |
| D16 | 1 | 600V | DIODE FAST REC 600V 1A DO214AC | SMA | ES1J-TP | Diodes Inc. | | |
| D17 | 1 | 600V | Diode, Ultrafast, 600V, 1A, SMB | SMB | MURS160-13-F | Diodes Inc. | | |
| D18 | 1 | 1V | Diode, Schottky, 30V, 0.2A, SOD-323 | SOD-323 | BAT42WS | Diodes Inc. | | |
| F1 | 1 | 6.3A/250V | FUSE 6.3A 250VAC RADIAL FAST | 0.335 inch | 37016300430 | Littelfuse | | |
| HS1, HS3 | 2 | 504102B00000 | Heatsink, TO-220 Vertical-mount, | 0.700 x 0.850 inch | 504102B00000 | Thermalloy | | |
| HS2 | 1 | | Heat Sink, TO-220 Vertical | 25.4x42.54x25.4mm | TBD | Aavid | | |
| HS4, HS6 | 2 | 578622B03200G | Heatsink, TO-220 Vertical-mount, | | 578622B03200G | Thermalloy | | |
| HS5, HS7 | 2 | 504222B00000G | Heatsink, TO-220 Vertical-mount, | 0.700 x 0.850 inch | 504222B00000G | Thermalloy | | |
| J1 | 1 | | CONN HEADER .312 VERT 2POS TIN | TH Header | 1-1318301-2 | AMP | | |
| J2 | 1 | 2x1 | Conn Term Block, 2POS, 5.08mm, TH | PhoenixContact_1715721 | 1715721 | Phoenix Contact | | |
| L1, L3 | 2 | 260uH | Transformer, PFC Boost 325 uH | 35.8x24.77x28.5 mm | 750314520 | Würth Elektronik eiSos | | |
| L2 | 1 | 220uH | Inductor, Toroid, Powdered Iron, 220uH, 5A, 0.07 ohm, TH | 44x15.5x44 mm | 7441156 | Würth Elektronik eiSos | | |
| L4 | 1 | 1mH | CHOKE TOROID 1.0MH 10A VERT | 18.5x33x27.5 mm | 744824101 | Würth Elektronik eiSos | | |
| L5 | 1 | 3.3mH | CHOKE COM MODE 3.3MH 6.0A | 30x35x21mm | 7448256033 | Würth Elektronik eiSos | | |
| L6 | 1 | 1uH | Inductor, Drum Core, Ferrite, 1uH, 21.8A, 0.002 ohm, TH | 10.7mm x17.3mm | PCV-0-102-25L | Coilcraft | | |
| L7 | 1 | 72uH | Inductor, Shielded E Core, ?, 72uH, 10A, 0.038 ohm, TH | Inductor, 23.5x29.5x26.0 mm | 750314573 | Würth Elektronik eiSos | | |
| L8 | 1 | 1mH | Inductor, Unshielded Drum Core, Ferrite, 1mH, 0.25A, 4.38 ohm, TH | D6 x 8.5mm | 7447462102 | Würth Elektronik eiSos | | |
| L9 | 1 | 100uH | INDUCTOR 100UH .9A 8095 RAD | Dia 8x10mm | 744772101 | Würth Elektronik eiSos | | |
| Q1 | 1 | 550V | MOSFET N-CH 550V 23A TO-247 | TO-247 | IPW50R140CP | Infineon Technologies | | None |
| Q2 | 1 | 500V | MOSFET N-CH, 500V, 17A, DDPAK | DDPAK | STB23NM50N | ST Microelectronics | | None |
| Q3 | 1 | 20V | Transistor, PNP, 20V, 1.5A, SOT-23 | SOT-23 | FMMT718TA | Diodes Inc. | | |
| Q4, Q8 | 2 | 0.3V | Transistor, PNP, 40V, 0.15A, SOT-23 | SOT-23 | MMBT2222A | Fairchild Semiconductor | | |
| Q5, Q7 | 2 | | MOSFET N-CH 600V 19.5A TO-220 | TO-220AB | STP23NM60ND | ST | | None |
| Q6, Q9 | 2 | 1.6V | Transistor, PNP, 60V, 0.8A, SOT-23 | SOT-23 | MMBT2907A | Fairchild Semiconductor | | |
| Q10 | 1 | 0.75V | Transistor, PNP, 40V, 0.6A, SOT-23 | SOT-23 | MMBT4403 | Fairchild Semiconductor | None | None |
| Q11 | 1 | 60V | MOSFET N-CH, 60V, 0.26A, SOT-23 | SOT-23 | 2N7002 | ON Semiconductor | | None |
| Q12 | 1 | 600V | MOSFET N-CH 600V 2.4A DPAK | DPAK | STD3NK60ZD | ST Microelectronics | | None |
| R1, R28, R30 | 3 | 3.0 | RES, 3.0 ohm, 5%, 0.1W, 0603 | 0603 | CRCW06033R00JNEA | Vishay-Dale | | |
| R2, R3, R10, R12, R15 | 5 | 511k | RES, 511k ohm, 1%, 0.25W, 1206 | 1206 | CRCW1206511KFKEA | Vishay-Dale | | |
| R4 | 1 | 10.0k | RES, 10.0k ohm, 1%, 0.25W, 1206 | 1206 | CRCW120610K0FKEA | Vishay-Dale | | |
| R5 | 1 | 49.9k | RES, 49.9k ohm, 1%, 0.25W, 1206 | 1206 | CRCW120649K9FKEA | Vishay-Dale | | |
| R6, R7 | 2 | 750k | RES, 750k ohm, 1%, 0.25W, 1206 | 1206 | CRCW1206750KFKFA | Vishay-Dale | | |
| R8 | 1 | 301k | RES, 301k ohm, 1%, 0.25W, 1206 | 1206 | CRCW1206301KFKEA | Vishay-Dale | | |
| R9, R11, R14 | 3 | 560k | RES, 560k ohm, 5%, 0.25W, 1206 | 1206 | CRCW1206560KJNEA | Vishay-Dale | | |
| R13 | 1 | 43.2k | RES, 43.2k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060343K2FKFA | Vishay-Dale | | |

| Designator | Quantity | Value | Description | PackageReference | PartNumber | Manufacturer | Alternate PartNumber | Alternate Manufacturer |
|------------|----------|---------|--|---------------------------------|------------------|------------------------|----------------------|------------------------|
| R16 | 1 | 10k | RES, 10k ohm, 5%, 0.1W, 0603 | 0603 | CRCW060310K0JNEA | Vishay-Dale | | |
| R17 | 1 | 1.0k | RES, 1.0k ohm, 5%, 0.1W, 0603 | 0603 | CRCW06031K00JNEA | Vishay-Dale | | |
| R18, R23 | 2 | 499k | RES, 499k ohm, 1%, 0.25W, 1206 | 1206 | CRCW1206499KFKEA | Vishay-Dale | | |
| R19 | 1 | 11.3k | RES, 11.3k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060311K3FKEA | Vishay-Dale | | |
| R20 | 1 | 10.0k | RES, 10.0k ohm, 1%, 0.125W, 0805 | 0805 | CRCW080510K0FKEA | Vishay-Dale | | |
| R21 | 1 | 30.1 | RES, 30.1 ohm, 1%, 0.125W, 0805 | 0805 | CRCW080530R1FKEA | Vishay-Dale | | |
| R22 | 1 | 11.5k | RES, 11.5k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060311K5FKEA | Vishay-Dale | | |
| R24, R45 | 2 | 2.49k | RES, 2.49k ohm, 1%, 0.1W, 0603 | 0603 | CRCW06032K49FKEA | Vishay-Dale | | |
| R25 | 1 | 7.5k | RES, 7.5k ohm, 5%, 0.1W, 0603 | 0603 | CRCW06037K50JNEA | Vishay-Dale | | |
| R26 | 1 | 51.1k | RES, 51.1k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060351K1FKEA | Vishay-Dale | | |
| R27 | 1 | 1.20 | RES, 1.20 ohm, 1%, 1W, 2512 | 2512 | ERJ-1TRQF1R2U | Panasonic | | |
| R29, R31 | 2 | 20.0k | RES, 20.0k ohm, 1%, 0.125W, 0805 | 0805 | CRCW080520K0FKEA | Vishay-Dale | | |
| R32, R33 | 2 | 10.0 | RES, 10.0 ohm, 1%, 0.25W, 1206 | 1206 | CRCW120610R0FKEA | Vishay-Dale | | |
| R34 | 1 | 4.99k | RES, 4.99k ohm, 1%, 0.125W, 0805 | 0805 | CRCW08054K99FKEA | Vishay-Dale | | |
| R35 | 1 | 511 | RES, 511 ohm, 1%, 0.063W, 0402 | 0402 | CRCW0402511RFKED | Vishay-Dale | | |
| R36, R42 | 2 | 10.0k | RES, 10.0k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060310K0FKEA | Vishay-Dale | | |
| R37 | 1 | 15 | RES, 15 ohm, 5%, 0.1W, 0603 | 0603 | CRCW060315R0JNEA | Vishay-Dale | | |
| R38 | 1 | 200 | RES, 200 ohm, 5%, 0.063W, 0402 | 0402 | CRCW0402200RJNED | Vishay-Dale | | |
| R39 | 1 | 20.0k | RES, 20.0k ohm, 1%, 0.063W, 0402 | 0402 | CRCW040220K0FKED | Vishay-Dale | | |
| R40 | 1 | 3.74k | RES, 3.74k ohm, 1%, 0.063W, 0402 | 0402 | CRCW04023K74FKED | Vishay-Dale | | |
| R41 | 1 | 25.5k | RES, 25.5k ohm, 1%, 0.125W, 0805 | 0805 | CRCW080525K5FKEA | Vishay-Dale | | |
| R43 | 1 | 100k | RES, 100k ohm, 1%, 0.063W, 0402 | 0402 | CRCW0402100KFKEA | Vishay-Dale | | |
| R44 | 1 | 0 | RES, 0 ohm, 5%, 0.1W, 0603 | 0603 | CRCW0603000Z0EA | Vishay-Dale | | |
| R46 | 1 | 42.2k | RES, 42.2k ohm, 1%, 0.25W, 1206 | 1206 | CRCW120642K2FKEA | Vishay-Dale | | |
| R47 | 1 | 475k | RES, 475k ohm, 1%, 0.25W, 1206 | 1206 | CRCW120647K5FKEA | Vishay-Dale | | |
| R48 | 1 | 17.8k | RES, 17.8k ohm, 1%, 0.1W, 0603 | 0603 | CRCW060317K8FKEA | Vishay-Dale | | |
| R49 | 1 | 619k | RES, 619k ohm, 1%, 0.063W, 0402 | 0402 | CRCW0402619KFKEA | Vishay-Dale | | |
| R50 | 1 | 2.21Meg | RES, 2.21Meg ohm, 1%, 0.1W, 0603 | 0603 | CRCW06032M21FKEA | Vishay-Dale | | |
| R51 | 1 | 0 | RES, 0 ohm, 5%, 0.063W, 0402 | 0402 | ERJ-2GE0R00X | Panasonic | | |
| R52, R53 | 2 | 10.0k | RES, 10.0k ohm, 1%, 0.063W, 0402 | 0402 | CRCW040210K0FKED | Vishay-Dale | | |
| R54 | 1 | 100 | RES, 100 ohm, 1%, 0.063W, 0402 | 0402 | CRCW0402100RFKED | Vishay-Dale | | |
| R55 | 1 | 100k | RES, 100k ohm, 1%, 0.1W, 0603 | 0603 | CRCW0603100KFKEA | Vishay-Dale | | |
| R56 | 1 | 392 | RES, 392 ohm, 1%, 0.1W, 0603 | 0603 | CRCW0603392RFKEA | Vishay-Dale | | |
| R57 | 1 | 0.82 | RES, 0.82 ohm, 1%, 0.25W, 1206 | 1206 | ERJ-8RQFR82V | Panasonic | | |
| RT1 | 1 | 10 ohm | Thermistor NTC, 10 ohm, 20%, Disc, 11.5mmx6mm | Disc, 11.5mmx6mm | B57236S0100M000 | EPCOS Inc | | |
| RV1 | 1 | | Varistor 275V RMS 10MM Radial, TH | 10mm Radial | S10K275E2 | EPCOS Inc | | |
| T1 | 1 | 30.5 mH | Transformer, 30.5 mH, TH | XFMR, 453X906X598 mil, SMT | G135036LF | GCI | | |
| T2 | 1 | 260uH | Transformer, Gate Drive, 260uH, SMT | XFMR_7x6x7mm, SMT | 760301105 | Würth Elektronik eiSos | | |
| T3 | 1 | 250 uH | Transformer, 250uH, TH | Transformer, 41.9x31.75x49.0 mm | 750314525 | Würth Elektronik eiSos | | |
| TP1 | 1 | Red | Test Point, TH, Miniature, Red | Keystone5000 | 5000 | Keystone | | |
| TP2 | 1 | Black | Test Point, TH, Miniature, Black | Keystone5001 | 5001 | Keystone | | |
| U1 | 1 | | TRANSITION MODE PFC CONTROLLER, D0008A | D0008A | UCC28051D | Texas Instruments | | None |
| U2 | 1 | | SINGLE DIFFERENTIAL COMPARATOR, DBV0005A | DBV0005A | TL331DBV | Texas Instruments | | None |
| U3 | 1 | | High-Performance Resonant Mode Controller with Voltage Control, 50 % Duty Cycle, -40 to +125 degC, 8-pin SOIC (D), Green (RoHS & no Sb/Br) | D0008A | UCC25600D | Texas Instruments | Equivalent | None |
| U4 | 1 | | Opto-Isolator, 1 Channel, TH | DIP-4 | PC817X4NSZ0F | | | |
| U5 | 1 | | Adjustable Precision Zener Shunt Regulator, 3-pin SOT-23 | MF03A | LM431ACM3 | National Semiconductor | | |
| U6 | 1 | | Constant-Voltage, Constant-Current Controller With Primary-Side Regulation, D0007A | D0007A | UCC28710D | Texas Instruments | | None |
| U7 | 1 | | 1.8V, Resistor-Programmable TEMPERATURE SWITCH and ANALOG OUT TEMPERATURE SENSOR, DCK0006A | DCK0006A | TMP300BIDCK | Texas Instruments | | None |
| XF1 | 1 | TR5 | Fuse Holder, TR5, TH | TR5 Fuse Holder | 56000001009 | Littelfuse | | |

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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