

Bias Card REV B Bill of Materials

| Item # | Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--------|---|----------|---------|----------------------|-----------------------------|--|----------------------------------|
| 1 | IPC8 | 1 | | Bias Card | Any | Printed Circuit Board | |
| 2 | C1, C2 | 2 | 1000pF | C0603C102J5RACAUTO | Kemet | CAP, CERM, 1000 pF, 50 V, +/- 5%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 3 | C3, C5, C15, C27, C30, C43, C44, C50, C51, C52, C56, C70, C79 | 13 | 10uF | CGASL1X7R1H106K160AC | TDK | CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206 | 1206 |
| 4 | C4, C7 | 2 | 2.2uF | GRM188R71A225KE15J | MuRata | CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 5 | C6, C21, C39, C47, C48 | 5 | 1uF | CGA3E1X7R1E105K080AC | TDK | CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 6 | C8, C9, C14, C16, C20, C37, C42, C46 | 8 | 0.1uF | GCM155R71H104KE02D | MuRata | CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 0402 |
| 7 | C10, C12 | 2 | 0.1uF | CGA3E2X7R1H104K080AA | TDK | CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 8 | C11 | 1 | 4.7uF | GRT1188R61C475KE13D | MuRata | CAP, CERM, 4.7 uF, 16 V, +/- 10%, X9R, AEC-Q200 Grade 3, 0603 | 0603 |
| 9 | C13, C17, C18, C19 | 4 | 22uF | CGA6P3X7R1E226M250AB | TDK | Cap Ceramic 22uF 25V X7R 20% Pad SMD 1210 +125°C Automotive T/R | 1210 |
| 10 | C23, C26 | 2 | 100pF | CGA2B2C0G1H101J050BA | TDK | CAP, CERM, 100 pF, 50 V, +/- 5%, COG/NP0, AEC-Q200 Grade 1, 0402 | 0402 |
| 11 | C24, C25, C28, C29 | 4 | 0.01uF | CGA2B3X7R1H103K050BB | TDK | CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 0402 |
| 12 | C31, C32, C33, C34, C38 | 5 | 2.2uF | CGA4J3X7R1H225K125AB | TDK | CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805 | 0805 |
| 13 | C35, C36, C55 | 3 | 0.47uF | CGA3E3X7R1H147K080AE | TDK | CAP, CERM, 0.47 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 14 | C40, C41, C65, C66 | 4 | 22uF | GCM31CR71A226KE02L | MuRata | CAP, CERM, 22 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206 | 1206 |
| 15 | C45, C57, C71, C80 | 4 | 1uF | GCM21BR71H105K0A03K | MuRata | CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805 | 0805 |
| 16 | C49 | 1 | 22pF | CGA2B2NP01H220J050BA | TDK | CAP, CERM, 22 pF, 50 V, +/- 5%, COG/NP0, AEC-Q200 Grade 1, 0402 | 0402 |
| 17 | C53, C58, C64, C67, C72, C78, C81 | 7 | 0.1uF | GCJ188R72A104KA01D | MuRata | CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 18 | C54 | 1 | 0.012uF | C0603C123K5RACTU | Kemet | CAP, CERM, 0.012 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 19 | C59 | 1 | 1000pF | GCM155R71H102KA37D | MuRata | CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 0402 |
| 20 | C63 | 1 | 47uF | EEF-FK1H470P | Panasonic | CAP, AL, 47 uF, 50 V, +/- 20%, 0.68 ohm, AEC-Q200 Grade 2, SMD | Shunt Radial E |
| 21 | D1 | 1 | 13V | SZMM3213VST1G | ON Semiconductor | Diode, Zener, 13 V, 300 mW, AEC-Q101, SOD-323 | SOD-323 |
| 22 | D2 | 1 | Red | LTST-C190CKT | Lite-On | LED, Red, SMD | Red LED 1.6x0.8x0.8mm |
| 23 | D3 | 1 | 24V | SZ1SMA24CAT3G | Littelfuse | Diode, TVS, Bi, 24 V, 38.9 Vc, 400 W, 10.3 A, AEC-Q101, SMA (non-polarized) | SMA (non-polarized) |
| 24 | D4, D6, D7, D8, D9, D10, D11, D12, D13 | 9 | 60V | PMEG6010CEGWJ | Nexperia | Diode, Schottky, 60 V, 1 A, AEC-Q101, SOD-123 | SOD-123 |
| 25 | D5 | 1 | Green | LTST-C190GKT | Lite-On | LED, Green, SMD | 1.6x0.8x0.8mm |
| 26 | D15 | 1 | 5.6V | SZMM3256ST1G | ON Semiconductor | Diode, Zener, 5.6 V, 300 mW, AEC-Q101, SOD-323 | SOD-323 |
| 27 | J1, J3, J4 | 3 | | GRP8051VWCN-RC | Sullins Connector Solutions | Header, 1.27 mm, 5x1, Gold, R/A, TH | Header, 1.27mm, 5x1, RA, TH |
| 28 | J2 | 1 | | GRP8071VWCN-RC | Sullins | | HDR7 |
| 29 | L1 | 1 | 1uH | XGL5030-102MEC | Coilcraft | Shielded Power Inductor, 1uH, 20%, 17.8A IRMS, 5.8mOhm DCR max, AECQ200 Grade1, 5.28x5.48x3.1mm | SMT_IND_5MM28_5 MM48 |
| 30 | L2 | 1 | | 744316220 | Würth Electronics | 2.2uH Shielded Molded Inductor 7.5A 11.3mOhm Max 2-SMD | SMD2 |
| 31 | L3 | 1 | 4.7uH | 74439346047 | Würth Elektronik | Inductor, Shielded, Hyperflux, 4.7 uH, 7.4 A, 0.0143 ohm, SMD | 6.65x6.45mm |
| 32 | L4, L5 | 2 | | FBM3225HM601NTV | Taiyo Yuden | 600 Ohms @ 100 MHz 1 Power Line Ferrite Bead 1210 (3225 Metric) 3A 42mOhm | 1210 |
| 33 | L6, L7 | 2 | 47uH | SRN3015TA-470M | Bourns | Inductor, Shielded, Ferrite, 47 uH, 0.35 A, 1.44 ohm, AEC-Q200 Grade 1, SMD | 3.0x3.0x1.5mm |
| 34 | R1, R2 | 2 | 2.2 | ERJ-8RQF2R2V | Panasonic | RES, 2.20, 1%, 0.25 W, AEC-Q200 Grade 0, 1206 | 1206 |
| 35 | R3, R20 | 2 | 49.9 | CRCW040249R9FKED | Vishay-Dale | RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 36 | R4 | 1 | 49.9k | CRCW040249K9FKED | Vishay-Dale | RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 37 | R6 | 1 | 8.06k | CRCW040280K6FKED | Vishay-Dale | RES, 8.06 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 38 | R7 | 1 | 10.0k | CRCW040210K0FKED | Vishay-Dale | RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 39 | R8 | 1 | 102k | CRCW0402102KFED | Vishay-Dale | RES, 102 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 40 | R9 | 1 | 9.31k | CRCW04029K31FKED | Vishay-Dale | RES, 9.31 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 41 | R10, R13, R24, R27, R33 | 5 | 24.9k | CRCW040224K9FKED | Vishay-Dale | RES, 24.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 42 | R11, R47, R50, R53, R68 | 5 | 18.2k | CRCW040218K2FKED | Vishay-Dale | RES, 18.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 43 | R12 | 1 | 11.3k | CRCW040211K3FKED | Vishay-Dale | RES, 11.3 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 44 | R14 | 1 | 0.47 | ERJ-8RQF047V | Panasonic | RES, 0.47, 1%, 0.125 W, AEC-Q200 Grade 0, 0805 | 0805 |
| 45 | R15, R18 | 2 | 33.2k | CRCW040233K2FKED | Vishay-Dale | RES, 33.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 46 | R16, R25, R35, R37, R40, R43, R56, R57 | 8 | 0 | CRCW0402000020ED | Vishay-Dale | RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 47 | R17, R39, R52 | 3 | 9.76k | CRCW04029K76FKED | Vishay-Dale | RES, 9.76 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 48 | R19, R21 | 2 | 100k | CRCW0402100KHEDP | Vishay-Dale | RES, 100 k, 0.5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 49 | R23 | 1 | 1.21k | CRCW04021K21FKED | Vishay-Dale | RES, 1.21 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 50 | R28 | 1 | 88.7k | CRCW040288K7FKED | Vishay-Dale | RES, 88.7 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 51 | R32 | 1 | 4.64k | CRCW04024K64FKED | Vishay-Dale | RES, 4.64 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 52 | R34 | 1 | 5.36k | CRCW04025K36FKED | Vishay-Dale | RES, 5.36 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 53 | R42, R55 | 2 | 26.7k | CRCW040226K7FKED | Vishay-Dale | RES, 26.7 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 54 | T1, T2 | 2 | | 750319691 | Würth | TRANSFORMER | SMT_TRANSFORMER R_5MM45_8MM50 |
| 55 | U1 | 1 | | TPS552872RYOR | Texas Instruments | Automotive, 36-V, 4-Switch, Integrated Buck-boost Converter | VOFN21 |
| 56 | U2 | 1 | | LM61430AASQRJRRQ1 | Texas Instruments | 3-V to 36-V, Low EMI Synchronous Step-Down Converter | VOFN-HR14 |
| 57 | U3 | 1 | | LM74202QPWRQ1 | Texas Instruments | 60V, 2A Integrated Ideal Diode with Over-Voltage & OverCurrent protection, PWP0016H (HTSSOP-16) | PWP0016H |
| 58 | U4, U6 | 2 | | SN6507DQGRQ1 | Texas Instruments | Low-Noise 36V Push-Pull Transformer Driver with Duty Cycle Control for Isolated Power Supplies | PowerPAD10 |
| 59 | R5, R22, R26 | 0 | 0 | CRCW0402000020ED | Vishay-Dale | RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 60 | R36, R49 | 0 | 9.76k | CRCW04029K76FKED | Vishay-Dale | RES, 9.76 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 61 | R41, R46, R54, R59 | 0 | 1.21k | CRCW04021K21FKED | Vishay-Dale | RES, 1.21 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 62 | R45, R48 | 0 | 49.9k | CRCW040249K9FKED | Vishay-Dale | RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402 | 0402 |
| 63 | U5, U7 | 0 | | TL431A0D8ZRCQ1 | Texas Instruments | Automotive Catalog Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br) | DBZ0003A |