

Variant: 001
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 TID #: TIDA-020012



TIDA-020012 REV A Bill of Materials

| Item # | Designator | Quantity | Value | PartNumber | Manufacturer | Description | PackageReference |
|--------|---|----------|---------|--------------------------|----------------------|---|--------------------------|
| 1 | PCB1 | 1 | | TIDA-020012 | Any | Printed Circuit Board | |
| 2 | C1, C21, C22, C23, C24, C25, C26 | 7 | 0.1uF | CGA3E2X7R1E104K080AA | TDK | CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 3 | C2, C3, C6, C10 | 4 | 4.7uF | C1210C475K5RACAUTO | Kemet | CAP, CERM, 4.7 uF, 50 V,+/- 10%, X7R, AEC-Q200 Grade 1, 1210 | 1210 |
| 4 | C4, C5, C7 | 3 | 0.1uF | CGA2B3X7R1H104M050BB | TDK | CAP, CERM, 0.1 uF, 50 V, +/- 20%, X7R, AEC-Q200 Grade 1, 0402 | 0402 |
| 5 | C8, C13, C14, C15, C16 | 5 | 22uF | GRM31CR71A226ME15L | MuRata | CAP, CERM, 22 uF, 10 V, +/- 20%, X7R, 1206 | 1206 |
| 6 | C9, C17 | 2 | 0.047uF | CGA2B3X7R1H473K050BB | TDK | CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402 | 0402 |
| 7 | C11 | 1 | 22uF | EEE-FK1H220P | Panasonic | CAP, AL, 22 uF, 50 V, +/- 20%, 0.88 ohm, AEC-Q200 Grade 2, SMD | SMT Radial D |
| 8 | C20 | 1 | 1uF | CGA3E1X7R1E105K080AD | TDK | CAP, CERM, 1 uF, 25 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0603 | 0603 |
| 9 | D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30 | 30 | White | KW DPLS32.EC-6H6J-4F8G-1 | OSRAM | LED, White, SMD | 4x1.4mm |
| 10 | D31 | 1 | 26V | SMAJ26CAHE3/61 | Vishay-Semiconductor | Diode, TVS, Bi, 26 V, 42.1 Vc, AEC-Q101, SMA | SMA |
| 11 | D32 | 1 | 16V | BZT52C16-7-F | Diodes Inc. | Diode, Zener, 16 V, 500 mW, AEC-Q101, SOD-123 | SOD-123 |
| 12 | J1 | 1 | | 1725656 | Phoenix Contact | Terminal Block, 100mil, 2x1, 6A, 63V, TH | 6.2x8.5x5.54 mm |
| 13 | J2, J3 | 2 | | SSW-110-23-S-D | Samtec | Receptacle, 2.54mm, 10x2, Gold, TH | 10x2 Receptacle |
| 14 | L1 | 1 | 2.2uH | XAL4020-222MEB | Coilcraft | Inductor, Shielded, Composite, 2.2 uH, 5.5 A, 0.04 ohm, AEC-Q200 Grade 1, SMD | 4x2.1x4mm |
| 15 | L2 | 1 | 8.2uH | XAL5050-822MEB | Coilcraft | Inductor, Shielded, Composite, 8.2 uH, 5.6 A, 0.03 ohm, SMD | XAL5050 |
| 16 | Q1 | 1 | 60V | NTD3055-150T4G | ON Semiconductor | MOSFET, N-CH, 60 V, 9 A, AEC-Q101, DPAK | DPAK |
| 17 | Q2, Q3, Q4, Q8, Q9 | 5 | -30V | DMP3098L-7 | Diodes Inc. | MOSFET, P-CH, -30 V, -3.8 A, AEC-Q101, SOT-23 | SOT-23 |
| 18 | Q5, Q6, Q7, Q10, Q11 | 5 | 50 V | DTC114EET1G | ON Semiconductor | Transistor, NPN, 50 V, 0.1 A, AEC-Q101, SOT-416 | SOT-416 |
| 19 | R1 | 1 | 1.50k | CRCW06031K50FKEA | Vishay-Dale | RES, 1.50 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 20 | R2 | 1 | 100k | CRCW0603100KFKEA | Vishay-Dale | RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 21 | R3 | 1 | 33.0k | CRCW060333K0FKEA | Vishay-Dale | RES, 33.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 22 | R4, R5, R6, R13, R14, R15 | 6 | 10k | CRCW060310K0JNEA | Vishay-Dale | RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 23 | R7, R8, R9, R16, R17 | 5 | 100 | ERJ-3EKF1000V | Panasonic | RES, 100, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 24 | R10, R11, R12, R18, R19 | 5 | 1.00k | CRCW06031K00FKEA | Vishay-Dale | RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603 | 0603 |
| 25 | R20, R21, R22 | 3 | 1.60k | RC0603FR-071K6L | Yageo | RES, 1.60 k, 1%, 0.1 W, 0603 | 0603 |
| 26 | R23 | 1 | 0 | 5108 | Keystone | RES, 0, 1%, 0.5 W, 1206 | 1206 |
| 27 | U1 | 1 | | LMR33630AQRNXRQ1 | Texas Instruments | Automotive 3.8-V to 36-V 3-A Synchronous Step-Down Voltage Regulator, RNX0012B (VQFN-HR-12) | RNX0012B |
| 28 | U2 | 1 | | TPS7B8233QDGNRQ1 | Texas Instruments | 300mA High-Voltage Ultra-Low-Iq Low-Dropout (LDO) Regulator, DGN0008D (VSSOP-8) | DGN0008D |
| 29 | U3, U4, U5 | 3 | | TLC6C5724QDAPRQ1 | Texas Instruments | 24-Channel, Full Diagnostics, Constant-Current LED Driver with 7-Bit Dot Correction and 12-Bit PWM Dimming, DAP0038E (TSSOP-38) | DAP0038E |
| 30 | C12 | 0 | 10pF | CGA2B2C0G1H100D050BA | TDK | CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402 | 0402 |
| 31 | FID1, FID2, FID3 | 0 | | N/A | N/A | Fiducial mark. There is nothing to buy or mount. | N/A |
| 32 | J4 | 0 | | TSW-125-08-L-D | Samtec | Header, 2.54mm, 25x2, Gold, TH | Header, 2.54mm, 25x2, TH |

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