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| TIDA-01464 REV E1 Bill of Materials | INSTRUMENTS |

| em# | Designator IPCB1, IPCB100 | Quantity 2 | / Value | PartNumber TIDA-01464 | Manufacturer Any | Description Printed Circuit Board | PackageReferen |
|---------------------------------|--|---------------|-------------------------|--|---|---|---|
| 2 | C100, C107 C101, C108 | 2 | 220pF 470pF | VY2221K29Y5SG6TV7 VY2471K29Y5SS63V7 | Vishay-Bocomponents Vishay-Bocomponents | 220pF ±10% 440VAC Ceramic Capacitor YSS Radial, Disc CAP, CERM 470 pF, 300 V, al., 10%, VY2, 5v7,5 mm | 5x7.5 mm 5x7.5 mm |
| 5 | C102 C103 | 1 | 0.22uF 0.47uF | B32922C3224M B32922C3474K | TDK TDK | CAP, Film, 0.22 µF, 630 V, +/- 20%, TH CAP, Film, 0.47 µF, 630 V, +/- 10%, TH | B32922_12.5mm B32922_17.5mm |
| 7 | C104 C105 | 1 | 47uF 0.22uF | 500VXG47MEFCSN22X25 ECW-FD2W224KQ | Rubycon Panasonic Electronic | CAP, AL, 47 µF, 500 V, +/- 20%, TH 0.22µF ±10% Film Capacitor 450V Polypropylene (PP), Metallized Radial | D22xL25mm 18x6.5mm |
| 8 | C106 | 1 | 0.47uF | 450MPK474J | Components Rubycon | CAP, Film, 0.47 µF, 450 V, +/- 5%, TH | 18x6.5mm |
| 10 | C109 C110 | 1 | 0.47uF 680pF | C0603C474K8RACTU GRM188R71H681KA01D | Kernet MuRata | CAP, CERM, 0.47 µF, 10 V, +/- 10%, X7R, 0603 CAP, CERM, 680 pF, 50 V, +/- 10%, X7R, 0603 | 0603 0603 |
| 12 | C111 C112 | 1 | 1200pF 1uF | GRM1885C1H122JA01D C0603C105K4PACTU | MuRata Kernet | CAP, CERM, 1200 pF, 50 V, 4/- 5%, COG/NP0, 0603 CAP, CERM, 1 µF, 16 V, 4/- 10%, XSR, 0603 | 0603 0603 |
| 13 14 | C113 C114 | 1 | 820pF 6.8uF | C0603C821J5GACTU C3216X7R1V685K160AC C3225X7T2J104K160AC | Kernet TDK | CAP, CERM, 820 pF, 50 V, +/- 5%, COG/NP0, 0603 CAP, CERM, 6.8 µF, 35 V, +/- 10%, X7R, 1206 CAP, CERM, 0.1 µF, 630 V, +/- 10%, X7T, 1210 | 0603 1206 |
| 16 | C200, C219 C201, C202 C205 | 2 | 0.1uF 47uF 0.1uF | UCS2E470MHD1TO GRM31CR72E104KW03L | Nichicon MuRata | CAP, CERM, 0.1 µF, 830 V, +/- 10%, X/I, 1210 CAP, AL, 47 µF, 250 V, +/- 20%, TH CAP, CERM, 0.1 µF, 250 V, +/- 10%, X/R, 1206 | 1210 D12.5xl.20mm 1206 |
| 18 | C206 | 1 | 0.022uF | GRM31BR72E223KW01L | MuRata AVV | CAP, CERM, 0.022 µF, 250 V, +/- 10%, X7R, 1206 | 1206 |
| 19 20 21 | C207 C208, C217 C209 | 2 | 0.1uF 0.01uF DNP | 08055C104KAT2A GRM155R71H103KA88D GRM1555C1H220JA01D | MuRata MuRata | CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0805 CAP, CERM, 0.01 µF, 50 V, +/- 10%, X7R, 0402 CAP, CERM, 22 pF, 50 V, +/- 5%, COGINPO, 0402 | 0805 0402 0402 |
| 22 | C210 C211 | 1 | 47pF 2200pF | C0603C470J5GACTU DE6E3KJ222MN3A | Kemet MuRata | CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, 0603 CAP, CERM, 2200 pF, 300 V, +/- 20%, F, TH, 2, Leads, Rody 9/7mm | |
| | | | | | | Pin Spacing 7.5mm | TH, 2- Leads, Bod 9x7mm, Pin Spaci 7.5mm |
| 24 25 | C212, C213 C214 | 2 | 0.1uF 1000pF | GRM155R61E104KA87D 06031C102MAT2A 06035C104KAT2A | MuRata AVX | CAP, CERM, 0.1 µF, 25 V, +/- 10%, XSR, 0402 CAP, CERM, 1000pF, 100V, +/- 20%, X7R, 0603 CAP, CERM, 0.1uF, 50V, +/- 10%, X7R, 0603 | 0402 0603 |
| 26 27 | C215 C216 | 1 | 0.1uF 2.2uF | GRM188R6YA225KA12D | AVX MuRata | CAP, CERM, 2.2 µF, 35 V, +/- 10%, X5R, 0603 | 0603 0603 |
| 28 29 | C220 C221 | 1 | 220uF 22uF | EEU-FM1E221 12103D226MAT2A 06033C104JAT2A | Panasonic AVX | CAP ALUM 220UF 25V 20% RADIAL CAP, CERM, 22 µF, 25 V, +/- 20%, X5R, 1210 CAP, CERM, 0.1uF, 25V, +/- 5%, X7R, 0603 | RCAP_8x11.5mm 1210 |
| 31 | C222, C223 C224 | 1 | 0.1uF 1uF | 06033C104JAT2A CGA5L3X7R1H105K160AB GRM31CR61E106KA12L | TDK | CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206 | 1206 |
| 33 | C225 C226 | 1 | 10uF 0.01uF 0.1uF | 06031C103JAT2A | MuRata AVX | CAP, CERM, 10 µF, 25 V, +/- 10%, X5R, 1206 CAP, CERM, 0.01 µF, 100 V, +/- 5%, X7R, 0603 CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603 | 1206 0603 |
| 35 36 | C229 C230 | 1 1 | 1uF 22uF | 06033C104JAT2A GRM31MR71H105KA88L 1206YD226MAT2A | MuRata AVX | CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 1003 CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 1206 CAP, CERM, 22 µF, 16 V, +/- 20%, X5R, 1206, 190 | 1206 1206_190 |
| 37 | C231 | 1 | 100pF 10uF | 1206YU226MAT2A 06033C101KAT2A UPW1V100MDD6 | AVX AVX | CAP, CERM, 12 pr., 16 V, 4/- 20%, XSN, 1206, 190 CAP, CERM, 100 pr. 25 V, +/- 100, XTR, 0603 CAP, AL, 10 pr., 35 V, +/- 20%, 0.95 chm, TH | 0603 |
| 39 40 | D100 D101, D104, | 1 3 | 600V 100V | C3DQ2060F MMDL914-TP | Cree Micro Commercial | Diode Silcon Carbide Schottly 600V 4A (DC) Through Hole TO-220-F2 Diode, Switching, 100 V, 0.2 A, SOD-323 | TO-220-F2 SOD-323 |
| 41 | D214 D102 | 1 | 600V | GBU4J-BP | Components Micro Commercial | Diode, P-N-Bridge, 600 V, 4 A, TH | GRII |
| 42 | D200, D202 | 2 | 30V | BAT54HT1G | Components ON Semiconductor | Diode, Schottley, 30V, 0.2A, SOD-323 | S0D-323 |
| 43 44 | D201, D206 D203 | 2 | 600V 100V | MURS360T3G BAS316,115 | ON Semiconductor NXP Semiconductor | Diode, Ultrafast, 600 V, 0.25 A, SOD-323 | SMC SOD-323 |
| 45 46 | D204 D205 | 1 | 16V 600V | MMSZ5246BS-7-F C3D04060A | Diodes Inc. Cree | Diode, Zener, 16 V, 200 mW, SOD-323 Diode, Schottley, 600 V, 4 A, TH | SOD-323 TO-220-F2 |
| 47 48 | D207 D208 | 1 | 5.1V 30V | MMSZ5231B-7-F BAT54A-7-F | Diodes Inc. Diodes Inc. | Diode, Zener, 5.1 V, 500 mW, SOD-123 Diode, Schottky, 30 V, 0.2 A, SOT-23 | SOD-123 SOT-23 |
| 49 50 | D209 D210 | 1 | 120V 150V | SMAJ120A SS1150-LTP | Littefuse Micro Commercial | Diode, TVS, Uni, 120 V, SMA DIODE SCHOTTKY 150V 1A DO214AC | SMA SMA |
| 51 | D211 | 1 | 1.7V | US1M-13-F | Components Diodes Inc. | Diode, Ultrafast, 1000V, 1A, SMA | SMA |
| 52 53 | D212 D213 | 1 | 100V | BAS20HT1G SS110-TP | Micro Commercial | DIODE SWITCH 200V 200MA SOD323 Diode, Schotley, 100 V, 1 A, SMA | SOD-323 SMA |
| 54 | D902 | 1 | 600V | MURA160T3G | ON Semiconductor | Diode, Ultrafast, 600 V, 1 A, AEC-Q101, SMA | SMA SOD 222 |
| 56 56 | F100 FID1 FID2 FID3 | 1 6 | 5.1V | MMSZ5231BS-7-F 38314000000 N/A | Diodes Inc. Littefuse | Diode, Zener, 5.1 V. 200 mW, SOD-323 Fuse, 4 A, 300 VAC, TH Fiducial mark. There is nothing to buy or mount. | D8.5xHBmm Fidurial |
| - | FID4, FID5, FID6 | ľ | | Ī | I | | |
| 58 | H100 | 1 | | 513102B02500G | Aavid | Extruded heat sink with radial fins | Heat Sink TO-220 Aluminum |
| 59 | H200 | 1 | | 578622B03200G | Aavid | Twin Channel Style Heat Sink, TO-220, Vertical | Twin Channel Style Heat Sink, TO-220 Heat Sink TO-220 |
| 60 | H201 | 1 | | 6021BG | Aavid | Heat Sink TO-220 Aluminum | Aluminum |
| 61 62 | J100 J200 | 1 | | 1-1318301-3 282856-3 | TE Connectivity TE Connectivity | Header, 312mil, 3x1, Tin, TH Receptacle, 3x1, 5mm, R/A, TH | 19.7x10.7 x8.5 mm Receptacle, 3x1, |
| 63 | J201 | 1 | | 0022284033 | Molex | Header, 2.54mm, 3x1, Tin, TH | Receptacle, 3x1, 5mm, R/A, TH Header, 2.54mm, 3 |
| 64 | J202 | 1 | | 90120-0122 7447021 | Malex | Header, 100mil, 2x1, Tin, TH | TH Header 2x1 |
| 65 | L100 | 1 | 100µH | 7447021 48158388 | Wurth Elektronik | 100µH Unshielded Toroidal Inductor 2A 80 mOhm Max Radial | IND_TORROID_15. 7.5mm 44.5x52mm |
| 66 67 | L102 | 1 | 1.6mH 10mH | 744824310 | Minntronix Wurth Elektronik | Inductor, 1.6 mH, 4.3 A, 0.525 ohm, TH Coupled inductor, 10 mH, 3 A, 0.105 ohm, TH MOSFET N-CH 600V 13A TO220-3 | 18.5x33x27.5 mm |
| 68 69 | Q100 Q200, Q203 | 2 | 600V 650V | IPP60R180C7 STF18N65M2 2M2002-7-F | Infineon Technologies STMicroelectronics | MOSPET N-CH 650V 12A T0220FP MOSPET N-CH 650V 12A T0220FP | TO-220AB TO-220FP SOT-23 |
| 71 | Q202 Q204 | 1 | 40 V 60 V | MMBT2222A MMBT2907A | Fairchild Semiconductor Fairchild Semiconductor | Transistor, NPN, 40 V, 0.15 A, S07-23 Transistor, PNP, 60 V, 0.8 A, S07-23 | SOT-23 SOT-23 |
| 73 74 | Q205, Q206 R100, R102, R103 | 2 | 40 V 432k | MMBT4403 CRCW1206432KFKEA | Fairchild Semiconductor Vishay-Dale | Transistor, PNP, 40 V, 0.6 A, SOT-23 RES, 432 k. 1%, 0.25 W, 1206 | SOT-23 1206 |
| 75 | R101 | 1 | 10 | CRCW060310R0JNEAHP | Vishay-Dale | RES, 10, 5%, 0.25 W, 0603 | 0603 |
| 76 77 | R104 R105, R106, R108 | 1 3 | 20k 0.2 | CRCW120620K0JNEA MCR2SJZHFLR200 | Vishay-Dale Rohm | RES, 20 k, 5%, 0.25 W, 1206 RES, 0.2, 1%, 0.5 W, 1210 | 1206 1210 |
| 78 | R107, R110, R113 | 3 | 332k | CRCW1206332KFKEA | Vishay-Dale | RES, 332 k, 1%, 0.25 W, 1206 | 1206 |
| 79 | R111 | 1 | 221 | CRCW0603221RFKEA | Vishay-Dale | RES, 221, 1%, 0.1 W, 0603 | 0603 |
| 81 | R116 R117 | 1 | 5.90k 16.2k | CRCW06035K90FKEA CRCW060316K2FKEA | Vishay-Dale Vishay-Dale | RES, 5.90 k, 1%, 0.1 W, 0603 RES, 16.2 k, 1%, 0.1 W, 0603 | 0603 0603 |
| 82 83 | R118 R200 | 1 | 11.5k 3.0 | CRCW060311K5FKEA CRCW06033R00JNEA | Vishay-Dale Vishay-Dale | RES, 11.5 k, 1%, 0.1 W, 0603 RES, 3.0, 5%, 0.1 W, 0603 RES, 0.02, 1%, 1 W, 1206 | 0603 0603 |
| 84 85 86 | R202 R203, R229 R204 | 2 | 0.02 4.99k 110k | WSLP1206R0200FEA CR0603-FX-4991ELF CRCW0603110KFKEA | Vishay-Dale Bourns Vishay-Dale | RES, 0.02, 1%, 1 W, 1206 RES, 4.99 k, 1%, 0.1 W, 0603 RES, 110 k, 1%, 0.1 W, 0603 | 1206 0603 0603 |
| 86 87 88 | R204 R205, R206 R207 | 2 | 110k 4.75 DNP | CRCW0603110KFKEA RC0603FR-074R75L CRCW04021K00FKED | Vishay-Dale Yageo America Vishay-Dale | RES, 110 k, 1%, 0.1 W, 0603 RES, 4.75, 1%, 0.1 W, 0603 RES, 1.00 k, 1%, 0.063 W, 0402 | 0603 0603 |
| 89 90 | R208 R209 | 1 | 45.3k 10.0k | CRCW060345K3FKEA CRCW060345K3FKEA | Vishay-Dale Vishay-Dale Vishay-Dale | RES, 1.00 K, 1%, 0.063 W, 0402 RES, 1.00 K, 1%, 0.063 W, 0402 | 0603 0402 |
| 91 92 | R210 R211 | 1 | 15 | CRCW060315R0JNEA CRCW06030000Z0EA | Vishay-Dale Vishay-Dale Vishay-Dale | RES, 10.0 K, 1%, 0.063 W, 0402 RES, 15 ohm, 5%, 0.1W, 0603 RES, 0 ohm, 5%, 0.1W, 0603 | 0603 0603 |
| 93 94 | R212 R213 | 1 | 100k 20.0k | CRCW0805100KJNEA CRCW060320K0FKEA | Vishay-Dale Vishay-Dale | RES, 100k ohm, 5%, 0.125W, 0805 RES, 20.0k ohm, 1%, 0.1W, 0603 | 0805 0603 |
| 95 96 | R214 R215 | 1 | 590 37.9k | CRCW0603590RFKEA RT0603DRE0737K9L | Vishay-Dale Yageo America | RES, 590, 1%, 0.1 W, 0603 | 0603 0603 |
| 97 98 | R216 R217 | 1 | 33.2k 49.9k | CRCW060333K2FKEA CRCW060349K9FKEA | Vishay-Dale Vishay-Dale | RES, 37.9 k, 0.5%, 0.1 W, 0803 RES, 33.2 k, 1%, 0.1 W, 0603 RES, 49.9k ohm, 1%, 0.1W, 0603 | 0603 0603 |
| 99 | R218, R219 | 2 | 0.62 | ERJ-8BQFR62V | Panasonic Electronic Components | RES SMD 0.62 OHM 1% 1/2W 1206 | 1206 |
| 100 | R220 | 1 | 0.68 | ERJ-8BQFR68V | Panasonic Electronic Components | RES SMD 0.68 OHM 1% 1/2W 1206 | 1206 |
| 101 102 103 | R221 R223 | 1 | 187k 9.09k | CRCW1206187KFKEA CRCW06039K09FKEA | Vishay-Dale Vishay-Dale | RES, 187 k, 1%, 0.25 W, 1206 RES, 9.09 k, 1%, 0.1 W, 0603 RES, 20.5 k, 1%, 0.1 W, 0603 | 1206 0603 |
| 104 | R224, R231 R225 | 1 | 20.5k 1.05k | CRCW060320K5FKEA CRCW06031K05FKEA | Vishay-Dale Vishay-Dale | | 0603 0603 |
| 106 | R227 P229 | 1 | 15.0 | CRCW12060000ZDEA CRCW060315R0FKEA | Vishay-Dale Vishay-Dale | RES, 0, 5%, 0.25 W, 1206 RES, 15.0 chm, 1%, 0.1W, 0603 RES, 25.7 k, 100, 0.1 W, 0602 | 1206 0603 |
| 108 | R230, R234, R902 | 3 | 48.7k 10.0k | CRCW060348K7FKEA CRCW060310K0FKEA | Vishay-Dale Vishay-Dale | RES, 48.7 k, 1%, 0.1 W, 0603 RES, 10.0 k, 1%, 0.1 W, 0603 | 0603 0603 |
| 109 110 | R232 R233 R295 | 1 2 | 2.05k 1.0k | CRCW06032K05FKEA CRCW06031K00JNEA | Vishay-Dale Vishay-Dale | RES, 2.05 k, 1%, 0.1 W, 0603 RES, 1.0 k, 5%, 0.1 W, 0603 | 0603 |
| 111 | R236 R237 | 1 1 | 330 100k | CRCW06031R003NEA CRCW1206330RJNEA CRCW0603100KFKEA | Vishay-Dale Vishay-Dale Vishay-Dale | RES, 1.0 k, 5%, 0.25 W, 1206 RES, 100 k, 1%, 0.1 W, 0603 | 1206 0603 |
| 113 | R238 R239 | 1 | 46.4k 5.97k | CRCW060346K4FKEA RT0603DRE075K97L | Vishay-Dale Vishay-Dale Yageo America | RES, 166 N, 1%, 0.1 W, 0603 RES, 46.4 k, 1%, 0.1 W, 0603 RES, 5.97 k, 0.5%, 0.1 W, 0603 | 0603 0603 |
| 115 | R901 RT100 | 1 | 10.0 4.70 ohm | CRCW120610R0FKEA B57235S0479M000 | Vishay-Dale TDK | NES, 10.0, 1%, 0.25 W, 1206 Thermistor NTC, 4.70 ohm, 20%, D9.5xT6mm | 1206 D9.5xT6mm |
| 117 | RV100 SHJ1 | 1 | H | S10K275E2 60900213421 | EPCOS Inc Wurth Elektronik | Varistor 275V RMS 10MM Radial, TH Shunt, 2.54mm, Gold, Black | 10mm Radial Shunt, 2.54mm, Bla |
| 119 | T200 | 1 | 750 uH | 760301302 | Wurth Elektronik eiSos | Transformer, 750 uH, TH | 10.5x10.5mm |
| 120 121 122 | T201 T202 TP200, TP202 | 1 1 2 | 600uH 1.5mH | 4815839R 4815840R 5000 | Minntronix Minntronix | Transformer, 600 uH, TH Transformer, 1500 uH, TH Test Point, Miniature, Red, TH | 44.5x52mm 14.5x13.5mm Red Miniature |
| | | | Red | | Keystone | | Testpoint |
| 123 | TP201, TP203 | 2 | Black | 5001 | Keystone | Test Point, Miniature, Black, TH | Black Miniature Testpoint |
| 124 | U100 | 1 | | UCC28180DR | Texas Instruments | 8-PIN CONTINUOUS CONDUCTION MODE (CCM) PFC CONTROLLER, D0008A (SOIC-8) | D0008A |
| 125 | U200, U206 U201 | 1 | | PC817X4NSZ0F UCC28740DR | Texas Instruments | Opto-Isolator, 1 Channel, TH Constant-Voltage, Constant-Current Flyback Controller Using Opto- Coupler Feedback, D0007A | DIP-4 D0007A |
| 127 | U202 | 1 | | INA180A2IDBV | Texas Instruments | | DBV0005A |
| | U203 | 1 | | LM358M LM040C2SLDR7R | Texas Instruments | Sense Amplifier, DBV0005A (SOT-5) Low Power Dual Op Amp, D0005A Province Micropare, Shart Velhop Between 0.501 population, 2.5 M. | D0008A |
| 128 | 0204 | , | | LINGHUL COLUMEN | read instruments | Precision Micropower Shunt Voltage Reference, 0.5% accuracy, 2.5 V, 15 ppm / degC, 15 mA, -40 to 85 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br) | DALUUUAA |
| 128 | U206 | 1 | | UCC28910DR | Texas Instruments | (ROHS & no SDISF) High-Voltage Flyback Switcher with Primary-Side Regulation and Constant-Current Control, D0007A (SDIC-7) | D0007A |
| 128 129 130 | 0205 | 0 | 47pF 47uF | GRM1885C1H470JA01D UCS2E470MHD1TO | MuRata Mchicon | CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, 0803 | 0603 D12.5xL20mm |
| 130 | C115 | 0 | | CONTRACTOR AND THE | MuRata | CAP, AL, 47 (pr., 250 V, 41-20%, TH CAP, CERM, 22 pF, 50 V, 41-5%, COG/NPO, 0402 Diode, Switching, 100 V, 0.2 A, SOD-323 | 0402 SOD-323 |
| 130 131 132 | C115 C203, C204 | 0 | | GRM1555C1H220JA01D MMDL914-TP | Micro Commercial | | |
| 130 131 132 133 134 | C115 C203, C204 C218 D103 | 0 | 100V | GRM1555C1H220JA01D MMDL914+TP CRHV1206AF10M0FKE5 | MuRata Micro Commercial Components Vishav-Dale | | |
| 130 131 132 133 134 | C115 C203, C204 C218 D103 R109, R112, R115 | | 100V 10.0Meg | CRHV1206AF10M0FKE5 | Vishay-Dale | RES, 10.0 M, 1%, 0.3 W, 1206 | 1206 |
| 130 131 132 133 134 | C115 C203, C204 C218 D103 | 0 | 100V | | | | |

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