

**TIDA-00704 REV E1 Bill of Materials**

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
I/PCB1	1		TIDA-00704	Any	Printed Circuit Board	
BR1	1	GBJ1508	GBJ1508-BP	Micro Commercial Co	Diode, Bridge Rectifier, GPP 15A 800V GBJ	1.190 x 0.190 inch
C1, C16, C49	3	3.3uF	C1608X5R1V335K080AC	TDK	CAP, CERM, 3.3 $\mu$ F, 35 V, +/- 10%, X5R, 0603	0603
C2, C3	2	470 uF	ESY477M050AL3AA	KEMET	CAP, ALUMINIUM, RADIAL, 470 uF, 50 V, 20%, TH	
C4, C5, C13	3	0.47uF	B32922C3474K189	EPCOS Inc	CAP FILM 0.47UF 10% 630VDC RAD	B32922_17.5mm
C6, C7, C8, C9	4	2200pF	DE2E3KY222MA2BM01	MuRata	CAP, CERM, 2200pF, 250V, +/-20%, KY, Radial D8x5mm	Radial D8x5mm
C10	1	220uF	450HXG220MEFCSN25X40	Rubycon	CAP, AL, 220 $\mu$ F, 450 V, +/- 20%, TH	D25xL40mm
C11	1	0.1uF	R46KI310040M1K1	Kemet	CAP FILM 0.1UF 10% 560VDC RADIAL	
C12	1	0.033uF	121MPE333J	Rubycon	CAP, Film, 0.033 $\mu$ F, 1250 V, +/- 5%, TH	18x9.5x18mm
C14	1	1uF	GMK212B7105KG-T	Taiyo Yuden	CAP, CERM, 1uF, 35V, +/-10%, X7R, 0805	0805
C15	1	47uF	GRM32ER71A476KE15L	MuRata	CAP, CERM, 47 $\mu$ F, 10 V, +/- 10%, X7R, 1210	1210
C17, C39	2	4700pF	06031C472JAT2A	AVX	CAP, CERM, 4700 pF, 100 V, +/- 5%, X7R, 0603	0603
C18	1	0.1uF	C1608X8R1E104K	TDK	CAP, CERM, 0.1 $\mu$ F, 25 V, +/- 10%, X8R, 0603	0603
C21, C24, C26, C40	4	0.1uF	06035C104KAT2A	AVX	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603
C23	1	10uF	C3225X5R1E106M	TDK	CAP, CERM, 10 $\mu$ F, 25 V, +/- 20%, X5R, 1210	1210
C25	1	2200pF	08055C222KAT2A	AVX	CAP, CERM, 2200pF, 50V, +/-10%, X7R, 0805	0805
C27, C28	2	1uF	C0603C105K8PACTU	Kemet	CAP, CERM, 1 $\mu$ F, 10 V, +/- 10%, X5R, 0603	0603
C29, C30, C33, C35	4	4.7uF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7uF, 100V, +/-10%, X7S, 1210	1210
C31, C32	2	47pF	GRM1555C1E470JA01D	MuRata	CAP, CERM, 47 pF, 25 V, +/- 5%, C0G/NP0, 0402	0402
C34, C36	2	10uF	GMK316AB7106KL	Taiyo Yuden	CAP, CERM, 10 $\mu$ F, 35 V, +/- 10%, X7R, 1206	1206
C37	1	10uF	C2012X5R1E106K125AB	TDK	CAP, CERM, 10 $\mu$ F, 25 V, +/- 10%, X5R, 0805	0805
C38	1	0.1uF	06035C104KAT2A	AVX	CAP, CERM, 0.1 $\mu$ F, 50 V, +/- 10%, X7R, 0603	0603
C41	1	0.022uF	GRM188R71H223KA01D	MuRata	CAP, CERM, 0.022 $\mu$ F, 50 V, +/- 10%, X7R, 0603	0603
C42, C45	2	470pF	C0603C471K5RACTU	Kemet	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, 0603	0603
C43	1	1000pF	C0603C102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C44, C48	2	0.1uF	06033C104KAT2A	AVX	CAP, CERM, 0.1 $\mu$ F, 25 V, +/- 10%, X7R, 0603	0603
C46	1	100pF	06035A101FAT2A	AVX	CAP, CERM, 100 pF, 50 V, +/- 1%, C0G/NP0, 0603	0603
C47	1	47uF	GRM32ER61C476ME15L	MuRata	CAP, CERM, 47 $\mu$ F, 16 V, +/- 20%, X5R, 1210	1210
D1	1	600V	C3D04060A	Cree	Diode, Schottky, 600V, 4A, TH	TO-220-F2
D2	1	Green	LTST-C190GKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
D3	1	1SS355	1SS355TE-17	Rohm	Diode, Switching, 90V, 225 mA Ifm, High speed	SOD-323
D4, D6	2	800V	DA2JF8100L	Panasonic	Diode, Fast Rectifier, 800 V, 0.2 A, SOD-323F	SOD-323F
D5	1	30V	BAT54HT1G	ON Semiconductor	DIODE SCHOTTKY 30V 200MA SOD323	SOD-323
D7	1	BAW56	BAW56-V-GS08	Vishay-Semiconductor	Diode, Switching, 70V, 0.25A, SOT-23	SOT-23
D8, D9, D11, D12, D19, D20	6	100V	BAS316,115	NXP Semiconductor	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
D10	1	100V	MMDL914-TP	Micro Commercial Component	Diode, Switching, 100 V, 0.2 A, SOD-323	SOD-323
D13, D14	2	600V	S3J	Fairchild Semiconductor	DIODE GEN PURP 600V 3A SMC	SMC (DO-214AB)
D15, D16, D17, D18	4	30V	BAT54HT1G	ON Semiconductor	DIODE SCHOTTKY 30V 200MA SOD323	SOD-323
F1	1		0216008.MXESPP	Littelfuse	FUSE CERAMIC 8A 250VAC 5X20MM	
H1, H2, H3, H4, H5, H6	6		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
H7, H8, H9, H16	4		NY PMS 440 0050 PH	B&F Fastener Supply	MACHINE SCREW PAN PHILLIPS 4-40, length 12.7mm	
H10, H11, H12, H18, H19, H20	6		3200	Keystone	Washer, Flat, #4 Nylon	

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
H13, H14, H15, H17	4		HNSS440	B&F Fastener Supply	HEX NUT 1/4" STN STEEL 4-40	4-40 Nut and Standoff
HS1, HS4	2		V6560X	Assmann	HEATSINK ALUM ANOD	TH, 2-Leads, Body 50x12.7mm, Pin Spacing 25.4mm
HS2, HS3	2	21.0°C/W	V7237C	Assmann WSW Components	HEATSINK TO-220 19.05X13.21MM	Heat Sink, TO-220 Vertical
HS5	1		513102B02500G	Aavid	HEATSINK TO-220 W/PINS 1.5" TALL	12.70x50.80x34.92 mm
J1	1		1715747	Phoenix Contact	Terminal Block, 5.08mm, 4x1, TH	Terminal Block, 5.08mm, 4x1, TH
J4	1		ED120/3DS	On-Shore Technology	TERMINAL BLOCK 5.08MM VERT 3POS, TH	TERM_BLK, 3pos, 5.08mm
L1	1		750343229	WURTH ELECTRONIK	Transformer, 750uH, 10A, 12 pin, TH	
L2	1	5mH	744825605	Wurth Elektronik	Coupled inductor, 5 mH, 6 A, 2X0.045 ohm, TH	21x30x40mm
L3	1	1uH	PCV-0-102-25L	Coilcraft	Inductor, Drum Core, Ferrite, 1uH, 21.8A, 0.002 ohm, TH	10.7mm x17.3mm
L4	1	1.25-2.3mH	750343135	Wurth Elektronik	Coupled inductor, 1.25-2.3mH, 6 A.	14x9x19mm
M1, M2	2		43-77-9G	Aavid Thermalloy	THERMALFILM THERMAL PAD TO-220	
M3	1		4880G	Aavid Thermalloy	MOUNTING KIT TO-220	
Q1, Q2	2	80V	CSD19501KCS	Texas Instruments	MOSFET, N-CH, 80 V, 100 A, KCS0003A	KCS0003A
Q3	1	650V	IPP60R190P6	Infineon Technologies	MOSFET N-CH 600V 20.2A TO220	TO-220
Q4, Q5	2		FDPF18N50	Vishay	MOSFET N-CH 500V 18A TO-220F	TO-220AB
Q6	1	60V	2N7002ET1G	ON Semiconductor	MOSFET N-CH 60V 260MA SOT-23	SOT-23
Q7, Q8	2	100V	BSS123	Fairchild Semiconductor	MOSFET, N-CH, 100 V, 0.17 A, SOT-23	SOT-23
Q9	1	600V	BSS126 H6906	Infineon Technologies	MOSFET, N-CH, 600 V, 0.021 A, AEC-Q101, SOT-23	SOT-23
Q10	1	0.25V	MMBT3906LT1G	ON Semiconductor	TRANS PNP 40V 0.2A SOT23	SOT-23
R1	1	2.61k	CRCW06032K61FKEA	Vishay-Dale	RES, 2.61 k, 1%, 0.1 W, 0603	0603
R2, R59	2	470	RC0603FR-07470RL	Yageo America	RES, 470, 1%, 0.1 W, 0603	0603
R3, R4, R5, R25, R26, R30	6	3.09Meg	CRCW12063M09FKEA	Vishay-Dale	RES, 3.09 M, 1%, 0.25 W, 1206	1206
R6, R12	2	7.15k	RC0603FR-077K15L	Yageo America	RES, 7.15 k, 1%, 0.1 W, 0603	0603
R7, R10, R23	3	0	RC0603JR-070RL	Yageo America	RES, 0, 5%, 0.1 W, 0603	0603
R8	1	3.0k	CRCW06033K00JNEA	Vishay-Dale	RES, 3.0 k, 5%, 0.1 W, 0603	0603
R9, R14	2	0.02	WSL2512R0200FEA	Vishay-Dale	RES, 0.02 ohm, 1%, 1W, 2512	2512
R11	1	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, 0603	0603
R13	1	604	RC0603FR-07604RL	Yageo America	RES, 604, 1%, 0.1 W, 0603	0603
R15, R18, R19, R46	4	0	CRCW12060000Z0EA	Vishay-Dale	RES, 0, 5%, 0.25 W, 1206	1206
R16	1	1.20	ERJ-1TRQF1R2U	Panasonic	RES, 1.20 ohm, 1%, 1W, 2512	2512
R17	1	1.00k	RC0603FR-071KL	Yageo America	RES, 1.00k ohm, 1%, 0.1W, 0603	0603
R40	1	475	RC0603FR-07475RL	Yageo America	RES SMD 475 OHM 1% 1/10W 0603	0603
R20	1	3.83k	CRCW06033K83FKEA	Vishay-Dale	RES, 3.83 k, 1%, 0.1 W, 0603	0603
R21	1	100k	RC0603FR-07100KL	Yageo America	RES, 100k ohm, 1%, 0.1W, 0603	0603
R22, R41, R56	3	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0k ohm, 1%, 0.1W, 0603	0603
R24	1	6.65k	RC0603FR-076K65L	Yageo America	RES, 6.65 k, 1%, 0.1 W, 0603	0603
R27	1	5.10k	RC0603FR-075K1L	Yageo America	RES, 5.10 k, 1%, 0.1 W, 0603	0603
R28	1	34.8k	RC0603FR-0734K8L	Yageo America	RES, 34.8k ohm, 1%, 0.1W, 0603	0603
R29	1	49.9	RC0603FR-0749R9L	Yageo America	RES, 49.9 ohm, 1%, 0.1W, 0603	0603
R31, R32, R75	3	100k	CRCW0603100K0FKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R33, R34	2	221k	CRCW0603221K0FKEA	Vishay-Dale	RES, 221 k, 1%, 0.1 W, 0603	0603
R35	1	226k	RC0603FR-07226KL	Yageo America	RES, 226 k, 1%, 0.1 W, 0603	0603
R36, R37, R43, R44	4	10.0	RC0603FR-0710RL	Yageo America	RES, 10.0, 1%, 0.1 W, 0603	0603
R38, R39	2	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R42	1	1.15k	RC0603FR-071K15L	Yageo America	RES, 1.15k ohm, 1%, 0.1W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R45, R57, R64, R76	4	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R47	1	0.032	WSL2512R0320FEA18	Vishay-Dale	RES, 0.032, 1%, 2 W, 2512	2512
R48	1	1.74k	RC0603FR-071K74L	Yageo America	RES, 1.74 k, 1%, 0.1 W, 0603	0603
R49	1	330k	ERJ-3EKF3303V	Panasonic	RES, 330 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R50	1	2.21	CRCW06032R21FKEA	Vishay-Dale	RES, 2.21, 1%, 0.1 W, 0603	0603
R51	1	3.01	CRCW06033R01FKEA	Vishay-Dale	RES, 3.01, 1%, 0.1 W, 0603	0603
R52	1	1.00	CRCW08051R00FKEA	Vishay-Dale	RES, 1.00, 1%, 0.125 W, 0805	0805
R53	1	7.50k	CRCW06037K50FKEA	Vishay-Dale	RES, 7.50 k, 1%, 0.1 W, 0603	0603
R55	1	6.81k	RC0603FR-076K81L	Yageo America	RES, 6.81k ohm, 1%, 0.1W, 0603	0603
R58	1	1.5	CRCW12061R50JNEA	Vishay-Dale	RES, 1.5, 5%, 0.25 W, 1206	1206
R60	1	1.00k	CRCW12061K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.25 W, 1206	1206
R61	1	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R62	1	2.21k	CRCW06032K21FKEA	Vishay-Dale	RES, 2.21 k, 1%, 0.1 W, 0603	0603
R63, R66	2	5.11	CRCW12065R11FKEA	Vishay-Dale	RES, 5.11, 1%, 0.25 W, 1206	1206
R65	1	1.00	CRCW25121R00FKEG	Vishay-Dale	RES, 1.00, 1%, 1 W, 2512	2512
R67	1	0.75	CSRN2512FKR750	Stackpole Electronics Inc	RES, 0.75, 1%, 2 W, 2512	2512
R68, R69, R70	3	1.00Meg	ERJ-8ENF1004V	Panasonic	RES, 1.00 M, 1%, 0.25 W, 1206	1206
R71	1	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, 0603	0603
R72	1	8.45k	CRCW06038K45FKEA	Vishay-Dale	RES, 8.45 k, 1%, 0.1 W, 0603	0603
R73	1	158k	RC0603FR-07158KL	Yageo America	RES SMD 158K OHM 1% 1/10W 0603	0603
R74	1	2.00k	CRCW12062K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.25 W, 1206	1206
RT1	1	5 ohm	CL-30	Amphenol Advanced Sensors	ICL 2.5 OHM 25% 8A 19.56MM	Disc, 220x770 mil
RV1	1	275V	S10K275E2	EPCOS Inc	Varistor 275V RMS 10MM Radial, TH	10mm Radial
SOLAR+	1	Red	5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
SOLAR-	1	Black	5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
T1	1		750343230	WURTH ELECTRONIK	TRANSFORMER, 12-LEAD, TH	
T2	1		78602/9C	MURATA	TRANSFORMER 1:1:1 10MH 56VUS	
U1, U2	2		LTV-817A	Lite-On	Opto-Isolator, 1 Channel, TH	DIP-4
U3	1	TLV1117I-xxCDCY	TLV1117I-xxCDCY	TI	IC, vvV, 800mA LDO Voltage Regulators	SOT-223
U4	1		TL431AIDBZR	Texas Instruments	Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 85 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U5	1		LM258AD	Texas Instruments	Dual Low Power Op Amp, D0008A	D0008A
U6, U7	2		UCC24610DR	Texas Instruments	GREEN Rectifier Controller Device, D0008A	D0008A
U8	1		UCC29950DR	Texas Instruments	CCM PFC and LLC Combo Controller, D0016A	D0016A
C19	0	0.1uF	06035C104KAT2A	AVX	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603
C20	0	1000pF	08055C102KAT2A	AVX	CAP, CERM, 1000pF, 50V, +/-10%, X7R, 0805	0805
C22	0	100pF	C1608C0G1H101J	TDK	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	0603
J2	0		PBC02SGBN	SULLINS	CONNECTOR, HEADER, 2.54MM PITCH, 2 POS, RIGHT ANGLE, TH, ROHS	
J3	0		PBC06SGBN	SULLINS	CONNECTOR, HEADER, 2.54MM PITCH, 6 POS, RIGHT ANGLE, TH, ROHS	
J5	0	Right Angle Header	TSW-106-08-G-D-RA	Samtec	Header, 100mil, 6x2, Gold, R/A, TH	6x2 R/A Header
R54	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603

## IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ("TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products (<http://www.ti.com/sc/docs/stdterms.htm>), [evaluation modules](#), and [samples](http://www.ti.com/sc/docs/sampterm.htm) (<http://www.ti.com/sc/docs/sampterm.htm>).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2017, Texas Instruments Incorporated