

## TIDA-01494 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
I PCB1	1		TIDA-01494	Any	Printed Circuit Board	
C1	1	8200pF	GRM188R71E822KA01D	MuRata	CAP, CERM, 8200 pF, 25 V, +/- 10%, X7R, 0603	0603
C2, C3	2	0.047µF	B32652A0473J000	EPCOS (TDK)	CAP FILM 0.047UF 5% 1KVDC RADIAL	18x7mm
C4, C11	2	0.47uF	B32923C3474K	TDK	CAP, Film, 0.47 µF, 630 V, +/- 10%, TH	B32923 16.5mm
C7	1	270uF	EKMQ451VSN271MR40S	Chemi-Con	CAP, AL, 270 µF, 450 V, +/- 20%, TH	D30xL40mm
C8	1	2200pF	AY2222M35Y5US63L7	Vishay-Bccomponents	CAP, CERM, 2200 pF, 300 V, +/- 20%, Y5U, AEC-Q200 Grade 1, D9.5xT5mm	D9.5xT5mm
C9, C10	2	2200pF	DE2E3KY222MA2BM01	MuRata	CAP, CERM, 2200 pF, X1 250 VAC/Y2 300 VAC, +/- 20%, E, Radial D8x5mm	Radial D8x5mm
C12, C13, C14	3	1000uF	EEU-FR1V102B	Panasonic	CAP, AL, 1000 µF, 35 V, +/- 20%, 0.018 ohm, TH	D12.5xL20mm
C15, C22, C66, C67, C68	5	4.7uF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7 µF, 100 V, +/- 10%, X7S, 1210	1210
C16	1	4.7uF	0805ZD475KAT2A	AVX	CAP, CERM, 4.7 µF, 10 V, +/- 10%, X5R, 0805	0805
C17	1	0.01uF	08051C103KAT2A	AVX	CAP, CERM, 0.01 µF, 100 V, +/- 10%, X7R, 0805	0805
C18	1	3.3pF	06035A3R3CAT2A	AVX	CAP, CERM, 3.3 pF, 50 V, +/- 8%, C0G/NP0, 0603	0603
C19	1	2200pF	GRM188R72E222KW07D	MuRata	CAP, CERM, 2200 pF, 250 V, +/- 10%, X7R, 0603	0603
C20	1	10pF	06035A100JAT2A	AVX	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C23, C43	2	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603	0603
C24	1	0.022uF	C0603X223K5RACTU	Kemet	CAP, CERM, 0.022 µF, 50 V, +/- 10%, X7R, 0603	0603
C25, C57	2	1uF	GRM21BR71H105KA12L	MuRata	CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 0805	0805
C26	1	1uF	CC1206KKX7R0BB105	Yageo America	CAP, CERM, 1 µF, 100 V, +/- 10%, X7R, 1206	1206
C27	1	100pF	C1608C0G2E101J	TDK	CAP, CERM, 100 pF, 250 V, +/- 5%, C0G/NP0, 0603	0603
C28	1	1uF	C1608X5R0J105K	TDK	CAP, CERM, 1 µF, 6.3 V, +/- 10%, X5R, 0603	0603
C29	1	2700pF	GRM1885C1H272JA01D	MuRata	CAP, CERM, 2700 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
C30	1	1000pF	GRM1885C1E102JA01D	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 5%, C0G/NP0, 0603	603
C31	1	0.22uF	06033D224KAT2A	AVX	CAP, CERM, 0.22 µF, 25 V, +/- 10%, X5R, 0603	0603
C32	1	0.1uF	GRM188R72A104KA35J	MuRata	CAP, CERM, 0.1 µF, 100 V, +/- 10%, X7R, 0603	0603
C33	1	100pF	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
C34, C36	2	470pF	VJ1210Y471KXEAT5Z	Vishay-Vitramon	CAP, CERM, 470 pF, 500 V, +/- 10%, X7R, 1210	1210
C35	1	4.7uF	CC0603MRX5R8BB475	Yageo	CAP CER 4.7UF 25V X5R 0603	0603
C37	1	0.47uF	GRM188R61A474KA61D	MuRata	CAP, CERM, 0.47 µF, 10 V, +/- 10%, X5R, 0603	603
C38	1	4.7uF	C1608X6S1C475K080AC	TDK	CAP, CERM, 4.7 µF, 16 V, +/- 10%, X6S, 0603	0603
C39	1	150pF	GRM31A7U3A151JW31D	MuRata	CAP, CERM, 150 pF, 1000 V, +/- 5%, U2J, 1206	1206
C40	1	150pF	C1206C820JDGAC7800	KEMET	CAP CER 82PF 1KV NP0 1206	1206
C41	1	47pF	GRM31A7U3A470JW31D	MuRata	CAP, CERM, 47 pF, 1000 V, +/- 5%, U2J, 1206	1206
C42	1	1000pF	C0603C102K3GACTU	Kemet	CAP, CERM, 1000 pF, 25 V, +/- 10%, C0G/NP0, 0603	0603
C44, C45	2	330pF	GRM1885C2A331JA01D	MuRata	CAP, CERM, 330 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C46, C48	2	1uF	C0805C105K3RACTU	Kemet	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0805	0805
C47	1	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	0603
C49, C55, C56	3	0.01uF	CL10B103KB8NCNC	Samsung Electro-Mechanics	CAP, CERM, 0.01 µF, 50 V, +/- 10%, X7R, 0603	0603
C50	1	180pF	GRM1885C1H181JA01D	MuRata	CAP, CERM, 180 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C51	1	2.2uF	B32674D4225K	TDK	CAP, Film, 2.2 µF, 450 V, +/- 10%, 0.0078 ohm, TH	31.5x21.5x12.5mm
C52	1	0.1uF	C0603C104M3VACTU	Kemet	CAP, CERM, 0.1 µF, 25 V, +/- 20%, Y5V, 0603	0603
C53, C54	2	2.2uF	C1608X6S1C225K080AC	TDK	CAP, CERM, 2.2 µF, 16 V, +/- 10%, X6S, 0603	0603
C59	1	0.1uF	GRM188R71C104KA01D	MuRata	CAP, CERM, 0.1 µF, 16 V, +/- 10%, X7R, 0603	0603
C61	1	1uF	C1608X7R1E105K080AB	TDK	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	0603
C62	1	100pF	GRM1885C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C63, C64, C65	3	0.01uF	GRM188R71C103KA01D	MuRata	CAP, CERM, 0.01 µF, 16 V, +/- 10%, X7R, 0603	0603
D1	1	600V	TRS6E65F	ON Semiconductor	Diode, Ultrafast, 600 V, 8 A, TH	TO-220AC

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
D2	1	PB3510-E3/45	PB3510-E3/45	Vishay Semiconductor Diodes	RECTIFIER BRIDGE 1000V 35A PB	1.190 x 0.190 inch
D3	1	600V	1N5406	Vishay-Semiconductor	Diode, Switching-Bridge, 600 V, 3 A, TH	DO-201AD
D4	1	15V	BZT52C15T-7	Diodes Inc.	Diode, Zener, 15 V, 300 mW, SOD-523	SOD-523
D5	1	1SS355	1SS355	Rohm	Diode, Switching, 90V, 225 mA Ifm, High speed	SOD-323
D6	1	30V	BAT54HT1G	ON Semiconductor	Diode, Schottky, 30V, 0.2A, SOD-323	SOD-323
D7	1	600V	UFM15PL-TP	Micro Commercial Component	Diode, Ultrafast, 600 V, 1 A, SOD-123FL	SOD-123FL
D8, D13	2	30V	B130LAW-7-F	Diodes Inc.	Diode, Schottky, 30 V, 1 A, SOD-123	SOD-123
D9, D10	2	1000V	RS1MB-13-F	Diodes Inc.	Diode, P-N, 1000 V, 1 A, SMB	SMB
D11	1	30V	1SMB5936BT3G	ON Semiconductor	Diode, Zener, 30 V, 550 mW, SMB	SMB
D15	1	70V	BAW56-V-GS08	Vishay-Semiconductor	Diode, Switching, 70 V, 0.25 A, SOT-23	SOT-23
D16	1	5.1V	BZX585-C5V1,115	Nexperia	Diode, Zener, 5.1 V, 300 mW, SOD-523	SOD-523
FCL1	1		01110501Z	LITTELFUSE	FUSE CLIP, CARTRIDGE, 250V, 10A, PCB	
H1, H2, H3, H4, H5, H6	6		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
HS1, HS2	2			Advanced Thermal Solutions	Heat Sink, Vertical	Heatsink
J1	1		TSW-105-07-G-S	Samtec	Header, 100mil, 5x1, Gold, TH	5x1 Header
J2	1		OSTT7022150	On-Shore Technology	Terminal Block, 30A, 9.52mm (.375) Pitch, 2-Pos, TH	19.62x21.5x12.5mm
J3	1		1714968	Phoenix Contact	Terminal Block, 3x1, 6.35 mm, TH	19x21.5x12.5mm
J4	1		TSW-114-07-G-S	Samtec	Header, 100mil, 14x1, Gold, TH	14x1 Header
L1	1	420 uH	750343781	Wurth Electronics	Inductor, powder iron, 420 uH, 56 A, 0.0005 ohm, TH	11 x 9.2 x 9mm
L2, L3	2	5 mH	8113-RC	Bourns	Common Mode Filters / Chokes 5mH MIN	30x35x21mm
L4	1	230nH	FP1107R1-R23-R	Eaton	230nH Unshielded Wirewound Inductor 55A 0.29 mOhm Nonstandard	11.00mm x 7.20mm
Q1	1	TK31N60X, S1F	TK31N60X,S1F	Toshiba Semiconductor and S	N-Channel 600V 30.8A (Ta) 230W (Tc) Through Hole TO-247	TO-247-3
Q2, Q3	2	650V	IPP60R190P6	Infineon Technologies	MOSFET, N-CH, 650 V, 20.2 A, TO-220AB	TO-220AB
Q5	1	80V	CSD19501KCS	Texas Instruments	MOSFET, N-CH,80 V, 150 A, KCS0003B (TO-220-3)	KCS0003B
Q6, Q9	2	45 V	BC817-16LT1G	ON Semiconductor	Transistor, NPN, 45 V, 0.5 A, SOT-23	SOT-23
Q7	1	80V	CSD19501KCS	Texas Instruments	MOSFET, N-CH, 80 V, 150 A, KCS0003B (TO-220-3)	KCS0003B
Q8, Q12, Q16, Q18	4	60V	2N7002-7-F	Diodes Inc.	MOSFET, N-CH, 60 V, 0.17 A, SOT-23	SOT-23
Q10	1	30 V	BC848CLT1G	ON Semiconductor	Transistor, NPN, 30 V, 0.1 A, SOT-23	SOT-23
Q11	1	30 V	BC858C-7-F	Diodes Inc.	Transistor, PNP, 30 V, 0.1 A, SOT-23	SOT-23
Q15	1	600V	TK16G60W	AOS	MOSFET, N-CH, 600 V, 20 A, DDPAK	DDPAK
R1, R13, R28, R76	4	1.0k	RC0603JR-071KL	Yageo America	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R3	1	45.3	CRCW060345R3FKFA	Vishay-Dale	RES, 45.3, 1%, 0.1 W, 0603	0603
R4, R5, R8, R15	4	100k	CPF0603B100KE	TE Connectivity	RES, 100 k, 0.1%, 0.063 W, 0603	0603
R6	1	39.0k	RC0603FR-0739KL	Yageo America	RES, 39.0 k, 1%, 0.1 W, 0603	0603
R7	1	680k	CRCW0603680KJNEA	Vishay-Dale	RES, 680 k, 5%, 0.1 W, 0603	0603
R9	1	180k	RC0603FR-07180KL	Yageo America	RES, 180 k, 1%, 0.1 W, 0603	0603
R10, R22, R31	3	1.50k	ERJ-8ENF1501V	Panasonic	RES, 1.50 k, 1%, 0.25 W, 1206	1206
R11	1	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, 0603	0603
R12, R47, R62	3	10.0k	CRCW060310K0FKFA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R16, R63	2	1.00k	CRCW08051K00FKFA	Vishay-Dale	RES, 1.00 k, 1%, 0.125 W, 0805	0805
R17	1	70.6k	RT0603DRE0770K6L	Yageo America	RES, 70.6 k, 0.5%, 0.1 W, 0603	0603
R18, R19	2	332k	CRCW1206332KFKEA	Vishay-Dale	RES, 332 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R20, R21, R30	3	3.32Meg	CRCW12063M32FKFA	Vishay-Dale	RES, 3.32 M, 1%, 0.25 W, 1206	1206
R23	1	24.6k	RT0603BRD0724K6L	Yageo America	RES, 24.6 k, 0.1%, 0.1 W, 0603	0603
R24	1	374k	CRCW1206374KFKEA	Vishay-Dale	RES, 374 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R26	1	10.0	CRCW060310R0FKFA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, 0603	0603
R29, R36	2	330k	CRCW1206330KJNEA	Vishay-Dale	RES, 330 k, 5%, 0.25 W, 1206	1206
R32	1	487k	CRCW0603487KFKEA	Vishay-Dale	RES, 487 k, 1%, 0.1 W, 0603	0603
R33	1	13.3k	CRCW060313K3FKFA	Vishay-Dale	RES, 13.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R34	1	21.5k	RC0603FR-0721K5L	Yageo America	RES, 21.5 k, 1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R35	1	226	CRCW1206226RFKEA	Vishay-Dale	RES, 226, 1%, 0.25 W, 1206	1206
R37	1	17.8k	CRCW060317K8FKEA	Vishay-Dale	RES, 17.8 k, 1%, 0.1 W, 0603	0603
R38	1	22.0	RC1206FR-0722RL	Yageo America	RES, 22.0, 1%, 0.25 W, 1206	1206
R39	1	20.0k	RT0603DRE0720KL	Yageo America	RES, 20.0 k, 0.5%, 0.1 W, 0603	0603
R40, R68	2	22	CRCW120622R0JNEA	Vishay-Dale	RES, 22, 5%, 0.25 W, 1206	1206
R41	1	1.5	RC0805JR-071R5L	Yageo America	RES, 1.5, 5%, 0.125 W, 0805	0805
R42	1	2.2	CRCW06032R20JNEA	Vishay-Dale	RES, 2.2, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R43	1	374k	CRCW1206374KFKEA	Vishay-Dale	RES, 374 k, 1%, 0.25 W, 1206	1206
R44, R45, R48, R54, R56, R57	6	4.7k	CR0603-JW-472GLF	Bourns	RES, 4.7 k, 5%, 0.1 W, 0603	0603
R46	1	220	CRCW2512220RJNEG	Vishay-Dale	RES, 220, 5%, 1 W, 2512	2512
R49	1	18.0k	RC0805FR-0718KL	Yageo America	RES, 18.0 k, 1%, 0.125 W, 0805	0805
R50, R80	2	1.80k	RC0603FR-071K8L	Yageo America	RES, 1.80 k, 1%, 0.1 W, 0603	0603
R51	1	4.7k	CRCW12064K70JNEA	Vishay-Dale	RES, 4.7 k, 5%, 0.25 W, 1206	1206
R52, R53, R81, R82	4	10	CRCW080510R0JNEA	Vishay-Dale	RES, 10, 5%, 0.125 W, 0805	0805
R55	1	10.0k	CRCW080510K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R58	1	9.53k	RT0805BRD079K53L	Yageo America	RES, 9.53 k, 0.1%, 0.125 W, 0805	0805
R59	1	0.015	WSL2512R0150FEA	Vishay-Dale	RES, 0.015, 1%, 1 W, 2512	2512
R60, R61	2	4.7	CRCW08054R70JNEA	Vishay-Dale	RES, 4.7, 5%, 0.125 W, 0805	0805
R64	1	23.4k	RT0603DRE0723K4L	Yageo America	RES, 23.4 k, 0.5%, 0.1 W, 0603	0603
R65, R66	2	3.01	RC0805FR-073R01L	Yageo America	RES, 3.01, 1%, 0.125 W, 0805	0805
R67	1	1.00k	RR1220P-102-D	Susumu Co Ltd	RES, 1.00 k, 0.5%, 0.1 W, 0805	0805
R69	1	47.0k	RT0603BRD0747KL	Yageo America	RES, 47.0 k, 0.1%, 0.1 W, 0603	0603
R73	1	499	RT0603BRD07499RL	Yageo America	RES, 499, 0.1%, 0.1 W, 0603	0603
R74	1	1.98k	RT0603BRD071K98L	Yageo America	RES, 1.98 k, 0.1%, 0.1 W, 0603	0603
R75	1	988	RT0603BRD07988RL	Yageo America	RES, 988, 0.1%, 0.1 W, 0603	0603
R77	1	1k Ohm	PV37W502C01B00	Bourns	Trimmer Potentiometer, Lead Sealed Type Multiturn PV37 Series, TH	6.71x4.5mm
R79	1	18.0k	RC1206FR-0718KL	Yageo America	RES, 18.0 k, 1%, 0.25 W, 1206	1206
R83	1	1.00k	RT0603DRE071KL	Yageo America	RES, 1.00 k, 0.5%, 0.1 W, 0603	0603
R84, R85	2	0.001	ERJ-M1WTF1M0U	Panasonic	RES, 0.001, 1%, 1 W, 2512	2512
RF1	1	47	EMC2-47RK1	TT Electronics/IRC	RES, 47, 10%, 2 W, Fusible, TH	Axial resistor
RV1	1	275V	S10K275E2	EPCOS Inc	Varistor 275V RMS 10MM Radial, TH	10mm Radial
T1	1		750343657R01	Würth Electronics	Transformer, TH	51x33mm
TP1, TP6	2	Black	5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
TP2, TP3, TP4, TP5	4	Red	5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
U1	1		TLV3202AID	Texas Instruments	40-ns, microPOWER, Push-Pull Output Comparators, D0008A	D0008A
U2	1		UCC25630-3DDBR	Texas Instruments	LLC Resonant Controller Enabling Low Standby Power, DDB0014A (SOIC-14)	DDB0014A
U3	1		UCC28180D	Texas Instruments	8-PIN CONTINUOUS CONDUCTION MODE (CCM) PFC CONTROLLER, D0008A	D0008A
U4	1		TMP302AQDRLRQ1	Texas Instruments	Automotive Grade, Low-Power, Easy-to-Use, Temperature Switch in MicroPackage, DRL0006A	DRL0006A
U5, U6	2		VOL618A-2T	Vishay-Semiconductor	Optocoupler, 5 kV, 63-125% CTR, SMT	8x2x4mm
U7, U8	2		UCC24612-2DBVT	Texas Instruments	High-Frequency Multi-Mode Synchronous Rectifier Controller, DBV0005A (SOT-23-5)	DBV0005A
U9	1		TL103WAID	Texas Instruments	Dual Operational Amplifier with Internal Reference, 3 to 32 V, -40 to 105 degC, 8-pin SOIC (D0008A), Green (RoHS & no Sb/Br)	D0008A
U10	1		TLV70433DBVR	Texas Instruments	Single Output LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input, with Ultra-Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U12	1		INA181A2IDBV	Texas Instruments	Bidirectional, Low- and High-Side Measurement, Multichannel, Voltage Output, Current-Sense Amplifier, DBV0006A (SOT-6)	DBV0006A

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C5, C6	0	1000pF	CD45-E2GA102M-NKA	TDK	CAP, CERM, 1000 pF, X1 440 VAC/Y1 400 VAC, +/- 20%, E, D7xT6mm	D7xT6mm
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R25	0	750k	CRCW0603750KFKEA	Vishay-Dale	RES, 750 k, 1%, 0.1 W, 0603	0603
R27	0	100k	CPF0603B100KE	TE Connectivity	RES, 100 k, 0.1%, 0.063 W, 0603	0603

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