

TIDA-010015 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
PCB1	1		TIDA-010015	Any	Printed Circuit Board	
C1	1	220uF	ESMR451VSN221MQ30S	Chemi-Con	CAP ALUM 220UF 20% 450V SNAP	25.4x25mm
C2, C3	2	0.047uF	B32652A0473K000	EPCOS (TDK)	CAP FILM 0.047UF 10% 1KVDC RAD	18x7mm
C4	1	0.47uF	450MPK474J	Rubycon	CAP, Film, 0.47 μ F, 450 V, +/- 5%, TH	18x6.5mm
C5, C61	2	0.33uF	ECW-FE2W334K	Panasonic Electronic Compon	0.33uF Film Capacitor 450V Polypropylene (PP), Metallized Radial	13x12x6mm
C6, C8, C11, C47, C49	5	2200pF	AY2222M35Y5US63L7	Vishay-Bccomponents	CAP, CERM, 2200 pF, 300 V, +/- 20%, Y5U, AEC-Q200 Grade 1, D9.5xT5mm	D9.5xT5mm
C7, C65	2	470pF	VJ1210Y471KXEAT5Z	Vishay-Vitramon	CAP, CERM, 470 pF, 500 V, +/- 10%, X7R, 1210	1210
C9, C10	2	0.33uF	B32922C3334K	TDK	CAP, Film, 0.33 μ F, X2 305 VAC, +/- 10%, TH	B32922_14.5mm
C12, C13, C14, C76	4	680uF	EEU-FS1H681B	Panasonic Electronic Compon	680uF 50V Aluminum Electrolytic Capacitors Radial, Can 10000 Hrs @ 105°C	0.492" Dia (12.50mm)
C15, C23	2	2.2uF	08053C225KAT2A	AVX	CAP, CERM, 2.2 uF, 25 V, +/- 10%, X7R, 0805	0805
C16, C52	2	0.1uF	C1608X7R1H104K080AA	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
C17	1	0.01uF	GRM188R71C103KA01D	MuRata	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0603	0603
C18	1	100pF	885012006023	Würth Electronics Inc.	CAP CER 100PF 16V C0G/NP0 0603	0603
C19	1	3.3pF	08055A3R3CAT2A	AVX	CAP, CERM, 3.3 pF, 50 V, +/- 8%, C0G/NP0, 0805	0805
C20	1	10pF	06035A100JAT2A	AVX	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C21, C37	2	6800pF	GRM188R71E682KA01D	MuRata	CAP, CERM, 6800 pF, 25 V, +/- 10%, X7R, 0603	0603
C22	1	6800pF	GRM188R71H682KA01D	MuRata	CAP, CERM, 6800 pF, 50 V, +/- 10%, X7R, 0603	0603
C24, C25	2	22pF	C0603C220J5GACTU	Kemet	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C26	1	0.1uF	C0805C104K1RACTU	Kemet	CAP, CERM, 0.1 μ F, 100 V, +/- 10%, X7R, 0805	0805
C27, C28	2	0.1uF	C0603C104J3RACTU	Kemet	CAP, CERM, 0.1 uF, 25 V, +/- 5%, X7R, 0603	0603
C29, C33	2	1000pF	C1608X7R1H102K	TDK	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C30	1	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0603	0603
C31	1	0.22uF	06033D224KAT2A	AVX	CAP, CERM, 0.22 μ F, 25 V, +/- 10%, X5R, 0603	0603
C32	1	0.1uF	GRM188R72A104KA35J	MuRata	CAP, CERM, 0.1 μ F, 100 V, +/- 10%, X7R, 0603	0603
C34	1	820pF	06035A821JAT2A	AVX	CAP, CERM, 820 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C35	1	4.7uF	GRM188R61E475KE11D	MuRata	CAP, CERM, 4.7 uF, 25 V, +/- 10%, X5R, 0603	0603
C36	1	2.2uF	0805YD225KAT2A	AVX	CAP, CERM, 2.2 μ F, 16 V, +/- 10%, X5R, 0805	0805
C38	1	0.22uF	GRM188R71H224KAC4D	MuRata	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, 0603	0603
C39	1	150pF	GRM31A7U3A151JW31D	MuRata	CAP, CERM, 150 pF, 1000 V, +/- 5%, U2J, 1206	1206
C40	1	82pF	GRM31A7U3A820JW31D	MuRata	CAP CER 82PF 1KV U2J 1206	1206
C41	1	1000pF	06031C102MAT2A	AVX	CAP, CERM, 1000 pF, 100 V, +/- 20%, X7R, 0603	0603
C42	1	0.047uF	06033C473JAT2A	AVX	CAP, CERM, 0.047 uF, 25 V, +/- 5%, X7R, 0603	0603
C43	1	680pF	GRM188R71H681KA01D	MuRata	CAP, CERM, 680 pF, 50 V, +/- 10%, X7R, 0603	0603
C44, C45	2	330pF	12061A331JAT2A	AVX	CAP, CERM, 330 pF, 100 V, +/- 5%, C0G/NP0, 1206	1206
C46, C48	2	1uF	C0805C105K3RACTU	Kemet	CAP, CERM, 1 μ F, 25 V, +/- 10%, X7R, 0805	0805
C50	1	10pF	06035A100JAT2A	AVX	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C51	1	1uF	GRM319R61E105KC36D	MuRata	CAP, CERM, 1uF, 25V, +/-10%, X5R, 1206	1206
C53, C54	2	2.2uF	GRM188R6YA225KA12D	MuRata	CAP, CERM, 2.2 uF, 35 V, +/- 10%, X5R, 0603	0603
C55, C57	2	1uF	C1608X5R1E105K080AC	TDK	CAP, CERM, 1 uF, 25 V, +/- 10%, X5R, 0603	0603
C56	1	4.7uF	GRT188R61C475KE13D	MuRata	CAP, CERM, 4.7 μ F, 16 V, +/- 10%, X5R, AEC-Q200 Grade 3, 0603	0603
C58, C59	2	100pF	08055A101JAT2A	AVX	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0805	0805

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C60	1	1000µF	EEU-FS1V102LB	Panasonic	1000µF 35V Aluminum Electrolytic Capacitors Radial, Can 10000 Hrs @ 105°C	
C67, C68, C72, C73	4	4.7µF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7 µF, 100 V, +/- 10%, X7S, 1210	1210
D1, D5	2	600V	MUR860G	ON Semiconductor	Diode, Ultrafast, 600 V, 8 A, TH	TO-220AC
D2, D6	2	0.35V	BAT54HT1G	ON Semiconductor	Diode, Schottky, 30V, 0.2A, SOD-323	SOD-323
D3	1	GBU2510-G	GBU2510-G	Comchip Technology	RECT BRIDGE GPP 1000V 25A GBU	GBU
D4	1	15V	BZX384-C15,115	NXP Semiconductor	Diode, Zener, 15 V, 300 mW, SOD-323	SOD-323
D7, D8, D11	3	30V	SD103BW-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.35 A, SOD-123	SOD-123
D9, D10	2	1000V	RS1MB-13-F	Diodes Inc.	Diode, P-N, 1000 V, 1 A, SMB	SMB
D18	1	600V	US1J-13-F	Diodes Inc.	Diode, Ultrafast, 600 V, 1 A, SMA	SMA
D20	1	5.1V	BZT52C5V1S-7-F	Diodes Inc.	Diode, Zener, 5.1 V, 200 mW, SOD-323	SOD-323
F1	1	10A	38321000000	LITTELFUSE INC	FUSE, BOARD MOUNT, 10 A, 300 V, TH-2P	
H1, H2, H3, H4, H5, H6	6		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
H7	1		V6560W	Assman WSW	HEATSINK, ALUM, ANOD, for TO-220	29x12mm
J1	1		61300111121	Wurth Elektronik	Header, 2.54 mm, 1x1, Gold, TH	Header, 2.54 mm, 1x1, TH
J2	1		800-10-002-10-001000	Mill-Max	Header, 100mil, 2x1, TH	Header, 2x1, 100mil, TH
J3	1		350429-1	TE Connectivity	Header(Shrouded), 6.35mm, 3x1, Tin, TH	Header(Shrouded), 6.35mm, 3x1, TH
J4	1		22284033	Molex	Header, 2.54mm, 3x1, Tin, TH	Header, 2.54mm, 3x1, TH
J5	1		22284023	Molex	Header, 2.54mm, 2x1, Tin, TH	Header, 2.54mm, 2x1, TH
L1, L6	2	150 µH	Custom		Transformer, 160 uH, TH	43x38mm
L2	1	150uH	7447076	Wurth Elektronik	Inductor, Toroid, Powdered Iron, 150 µH, 5A, TH	
L3, L5	2	1mH	7448031501	Wurth Electronics	FILTER, WE-CMBNC COMMON MODE POWER LINE CHOKE, 1mH, 15A, VERTICAL, TH-4P	
L4	1	300nH	PA2607.301NLT	Pulse Engineering	Inductor, Ferrite, 300 nH, 32 A, 0.00031 ohm, SMD	10.31x7.65mm
L7	1				Inductor, Ferrite, 330 µH, 6.1 A, 0.074 ohm, TH	
M1, M2, M3, M4, M5, M6, M7, M8	8		WA-T220-101E	OHMITE	HEATSINK, ALUMINIUM WITH CLIP, VERTICAL MOUNT, SOLDERABLE PIN, TO-220	
Q1, Q2, Q3, Q12	4	650V	IPA60R120P7XKSA1	Infineon Technologies	MOSFET N-CHANNEL 600V 26A TO220	TO-220AB
Q4	1	60 V	MMBTA05LT1G	ON Semiconductor	Transistor, NPN, 60 V, 0.5 A, AEC-Q101, SOT-23	SOT-23
Q5, Q7	2	80V	CSD19505KCS	Texas Instruments	MOSFET, N-CH, 80 V, 100 A, KCS0003B (TO-220-3)	KCS0003B
Q6	1	30 V	MMBT2222LT1G	ON Semiconductor	Transistor, NPN, 30 V, 0.6 A, SOT-23	SOT-23
Q10	1	600V	AOD4S60	AOS	MOSFET, N-CH, 600 V, 4 A, DPAK	DPAK
Q13, Q14	2	30 V	BC858C-7-F	Diodes Inc.	Transistor, PNP, 30 V, 0.1 A, SOT-23	SOT-23
R1, R2, R55, R64, R72	5	10k	RNCF0603TKY10K0	Stackpole Electronics Inc	RES, 10 k, 0.01%, 0.063 W, 0603	0603
R3	1	200	RG2012P-201-B-T5	Susumu Co Ltd	RES, 200, 0.1%, 0.125 W, 0805	0805
R4, R5, R18	3	18.2	CRCW080518R2FKEA	Vishay-Dale	RES, 18.2, 1%, 0.125 W, 0805	0805
R6, R19, R74	3	10.0k	CRCW080510K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.125 W, 0805	0805
R7, R8	2	0.03	CSRN2512FK30L0	Stackpole Electronics Inc	RES, 0.03, 1%, 2 W, 2512	2512
R9	1	59.7k	RT0603BRD0759K7L	Yageo America	RES, 59.7 k, 0.1%, 0.1 W, 0603	0603
R10, R22, R31	3	1.00k	CRCW12061K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.25 W, 1206	1206

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R11, R37, R39, R41	4	66.5k	CRCW060366K5FKEA	Vishay-Dale	RES, 66.5 k, 1%, 0.1 W, 0603	0603
R12, R49	2	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R14	1	49.9k	ERJ-3EKF4992V	Panasonic	RES, 49.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R15, R16	2	2.2	CRCW08052R20JNEA	Vishay-Dale	RES, 2.2, 5%, 0.125 W, 0805	0805
R17, R47, R71, R73	4	6.04k	CRCW06036K04FKEA	Vishay-Dale	RES, 6.04 k, 1%, 0.1 W, 0603	0603
R20	1	3.0Meg	CRCW12063M00JNEA	Vishay-Dale	RES, 3.0 M, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R21, R23, R33, R87	4	2.7Meg	CRCW12062M70JNEA	Vishay-Dale	RES, 2.7 M, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R24, R26	2	16.5k	CRCW060316K5FKEA	Vishay-Dale	RES, 16.5 k, 1%, 0.1 W, 0603	0603
R25	1	750k	CRCW0603750KFKEA	Vishay-Dale	RES, 750 k, 1%, 0.1 W, 0603	0603
R27, R34, R46, R86	4	2.74Meg	CRCW08052M74FKEA	Vishay-Dale	RES, 2.74 M, 1%, 0.125 W, 0805	0805
R28, R77	2	511k	CRCW1206511KFKEA	Vishay-Dale	RES, 511k ohm, 1%, 0.25W, 1206	1206
R29, R36	2	330k	CRCW1206330KJNEA	Vishay-Dale	RES, 330 k, 5%, 0.25 W, 1206	1206
R30	1	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
R32, R70	2	487k	CRCW0603487KFKEA	Vishay-Dale	RES, 487 k, 1%, 0.1 W, 0603	0603
R35	1	133k	CRCW0603133KFKEA	Vishay-Dale	RES, 133 k, 1%, 0.1 W, 0603	0603
R38, R40	2	22	CRCW060322R0JNEA	Vishay-Dale	RES, 22, 5%, 0.1 W, 0603	0603
R42	1	7.50k	CRCW06037K50FKEA	Vishay-Dale	RES, 7.50 k, 1%, 0.1 W, 0603	0603
R43	1	374k	CRCW1206374KFKEA	Vishay-Dale	RES, 374 k, 1%, 0.25 W, 1206	1206
R44, R45	2	4.7k	CR0603-JW-472GLF	Bourns	RES, 4.7 k, 5%, 0.1 W, 0603	0603
R48	1	147k	CRCW0603147KFKEA	Vishay-Dale	RES, 147 k, 1%, 0.1 W, 0603	0603
R50	1	16.9k	CRCW060316K9FKEA	Vishay-Dale	RES, 16.9 k, 1%, 0.1 W, 0603	0603
R51, R63	2	113k	CRCW0603113KFKEA	Vishay-Dale	RES, 113 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R52, R53	2	10	CRCW080510R0JNEA	Vishay-Dale	RES, 10, 5%, 0.125 W, 0805	0805
R56	1	100k	RT0603BRD07100KL	Yageo America	RES, 100 k, 0.1%, 0.1 W, 0603	0603
R58, R59	2	10.0	CRCW060310R0FKEAHP	Vishay-Dale	RES, 10.0, 1%, 0.25 W, 0603	0603
R60, R61	2	4.7	CRCW08054R70JNEA	Vishay-Dale	RES, 4.7, 5%, 0.125 W, 0805	0805
R62	1	6.81k	RC0603FR-076K81L	Yageo	RES, 6.81 k, 1%, 0.1 W, 0603	0603
R65	1	0.0005	WSL2512L5000FEA18	Vishay-Dale	RES, 0.0005, 1%, 2 W, 2512	2512
R66, R78	2	10.0	CRCW060310R0FKEAHP	Vishay-Dale	RES, 10.0, 1%, 0.25 W, AEC-Q200 Grade 0, 0603	0603
R67	1	1.00Meg	CRCW08051M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R68	1	1.00Meg	MCT06030C1004FP500	Vishay/Beyschlag	RES, 1.00 M, 1%, 0.125 W, 0603	0603
R69	1	330k	ERJ-3EKF3303V	Panasonic	RES, 330 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R75	1	1.10Meg	CRCW06031M10FKEA	Vishay-Dale	RES, 1.10 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R76	1	49.9k	CRCW120649K9FKEA	Vishay-Dale	RES, 49.9k ohm, 1%, 0.25W, 1206	1206
R88	1	124k	ERJ-3EKF1243V	Panasonic	RES, 124 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R89	1	95.3k	CRCW060395K3FKEA	Vishay-Dale	RES, 95.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R90	1	82.5k	CRCW060382K5FKEA	Vishay-Dale	RES, 82.5 k, 1%, 0.1 W, 0603	0603
RF1	1	47	EMC2-47RKI	TT Electronics/IRC	RES, 47, 10%, 2 W, Fusible, TH	Axial resistor
RV1	1		S10K275E2	EPCOS Inc	Varistor 275V RMS 10MM Radial, TH	10mm Radial
T1	1		PQ3230	Payton	Transformer, TH	51x33mm
U1, U9	2		UCC27517DBVR	Texas Instruments	4A/4A Single Channel High-speed Low-side Gate Driver, DBV0005A (SOT-23-5)	DBV0005A
U2	1		UCC25630-1DDBR	Texas Instruments	Enhanced LLC Resonant Controller with Driver, DDB0014A (SOIC-14)	DDB0014A
U3	1		UCC28064ADR	Texas Instruments	Natural Interleaving Transition Mode PFC Controller with Improved Light Load Efficiency, D0016A (SOIC-16)	D0016A
U4	1		LP2951ACMX/NOPB	Texas Instruments	Series of Adjustable Micropower Voltage Regulators, D0008A (SOIC-8)	D0008A

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U5	1		TL431ACDBZR	Texas Instruments	Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, 0 to 70 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U6, U12	2		VO618A	Vishay-Semiconductor	Optocoupler, 5.3 kV, 50-600% CTR, TH	DIP, 4-Leads, Body 6.86x4.83mm, Pitch 2.54mm
U7, U8	2		UCC24612-1DBVR	Texas Instruments	UCC24612-1DBV, DBV0005A (SOT-23-5)	DBV0005A
U10	1		LP2981-50	Texas Instruments	Micropower 100 mA Ultra Low-Dropout Regulator, 5-pin SOT-23, Pb-Free	DBV0005A
U11	1		TL331IDBVR	Texas Instruments	SINGLE DIFFERENTIAL COMPARATOR, DBV0005A (SOT-23-5)	DBV0005A
U13	1		TLV171IDBVR	Texas Instruments	36V, Low-Power, RRO, General-Purpose Operational Amplifier, DBV0005A (SOT-23-5)	DBV0005A
U14	1		INA181A4IDBV	Texas Instruments	Bidirectional, Low- and High-Side Measurement, Multichannel, Voltage Output, Current-Sense Amplifier, DBV0006A (SOT-6)	DBV0006A
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial

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