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11/27/2023 9:37 PM

TIDA-010933

**TIDA-010933-ACDC REV E1 Bill of Materials**

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB1	1		TIDA-010933-ACDC	Any	Printed Circuit Board	
C1, C2, C14, C15, C50	5	2200pF	DE6E3KJ222MN3A	MuRata	CAP, CERM, 2200 pF, 300 V, +/- 20%, E, TH, 2- Leads, Body 9x7mm, Pin Spacing 7.5mm	TH, 2- Leads, Body 9x7mm, Pin Spacing 7.5mm
C3, C17	2	5.6µF	C4AQHBU4560P1XJ	KEMET	5.6 µF Film Capacitor - 600V Polypropylene (PP), Metallized Radial	RADIAL
C4, C6, C10, C13, C69	5	0.1uF	C1812W104KDRACU	Kemet	CAP, CERM, 0.1 uF, 1000 V, +/- 10%, X7R, 1812	1812
C5, C7, C12	3	120µF	ALC80A121BD450	KEMET	ALC80, Aluminum Electrolytic, 120 uF, 20%, 450 VDC, -40/+105°C	RADIAL
C8	1	2.2µF	F863FL225K310Z	KEMET	2.2 µF Film Capacitor 310V Polypropylene (PP), Metallized Radial	RADIAL
C9	1	1µF	F863DS105K310Z	KEMET	Cap Film 1uF 310VAC PP 10% (26.5 X 11 X 20mm) Dipped Radial 22.5mm 110°C Pizza Pack	RADIAL
C11, C52, C54, C55, C56, C58, C59, C60, C76, C86, C92, C93, C101	13	4.7uF	GRM188R61E475KE11D	MuRata	CAP, CERM, 4.7 uF, 25 V, +/- 10%, X5R, 0603	0603

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C16, C18	2	1000pF	GRM1885C2A102JA01D	MuRata	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C19, C22, C38	3	1000pF	C0603X102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C20, C21, C26, C35, C96	5	0.1uF	C0603X104K3RACTU	Kemet	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	0603
C23, C39	2	2.2uF	EMK107BB7225KA-T	Taiyo Yuden	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
C24, C94	2	0.01uF	CGA3E2X7R2A103K080AA	TDK	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C25, C27, C29, C31, C32, C33, C40, C47, C48, C49, C62, C64, C65, C67, C79, C82, C83, C102	18	0.1uF	06033C104JAT2A	AVX	CAP, CERM, 0.1 uF, 25 V, +/- 5%, X7R, 0603	0603
C28, C30, C36, C37, C42, C43, C44, C45, C46, C66, C68, C70, C72, C73, C84, C85, C87	17	220pF	C0603C221K5GACTU	Kemet	CAP, CERM, 220 pF, 50 V, +/- 10%, C0G/NP0, 0603	0603

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C34	1	1000pF	C0603C102J5RACAUTO	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 5%, X7R, AEC-Q200 Grade 1, 0603	0603
C41, C95	2	470uF	TPSE477M010R0045	AVX	CAP, TA, 470 uF, 10 V, +/- 20%, 0.045 ohm, SMD	7343-43
C51, C74, C89, C90, C97, C103	6	10uF	GRM188R61E106MA73D	MuRata	CAP, CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	0603
C53, C57, C78, C91	4	0.1uF	CGA3E3X8R1H104K080AE	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X8R, AEC-Q200 Grade 0, 0603	0603
C61, C80	2	10uF	GRM219B31E106MA12	MuRata	CAP, CERM, 10 uF, 25 V, +/- 20%, B, 0805	0805
C71, C88	2	2.2uF	GRM21BR71E225KA73L	MuRata	CAP, CERM, 2.2 uF, 25 V, +/- 10%, X7R, 0805	0805
C75, C77	2	3300pF	C0603X332K5RACTU	Kemet	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0603	0603
C98	1	0.47uF	C2012X6S1H474K125AB	TDK	CAP, CERM, 0.47 uF, 50 V, +/- 10%, X6S, 0805	0805
C99	1		CL10B104KB8NNNC	Samsung	CAP CER 0.1uF 50V X7R 0603	0603
C100	1	1uF	885012206026	Wurth Elektronik	CAP, CERM, 1 uF, 10 V, +/- 10%, X7R, 0603	0603
D1	1	40V	BAT165E6327HTSA1	Infineon Technologies	Diode, Schottky, 40 V, 0.75 A, AEC-Q101, SOD-323	SOD-323
D2, D3, D5, D7, D14, D24	6	20V	MBR0520LT1G	ON Semiconductor	Diode, Schottky, 20 V, 0.5 A, SOD-123	SOD-123
D4, D6, D15	3	16V	MMSZ4703T1G	ON Semiconductor	Diode, Zener, 16 V, 500 mW, SOD-123	SOD-123
D8, D12	2		NRVBA340T3G	ON Semiconductor	Diode Schottky 40V 3A Surface Mount SMA	SMA
D9, D13, D22, D23, D26	5		KG DELLS1.22-JGKH-24	Osram Opto	Standard LEDs - SMD Green TOPLED E 1608	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
D10, D11	2	600V	UFM15PL-TP	Micro Commercial Componer	Diode, Ultrafast, 600 V, 1 A, SOD-123FL	SOD-123FL
D16	1	Red	BR1111C-TR	Stanley Electric Co., LTD	LED, Red, SMD	1.6x0.8mm
D17	1	400V	DFLU1400-7	Diodes Inc.	Diode, Superfast Rectifier, 400 V, 1 A, PowerDI123	PowerDI123
D18	1	40V	B340LB-13-F	Diodes Inc.	Diode, Schottky, 40 V, 3 A, SMB	SMB
D19	1	5.6V	SMAZ5V6-13-F	Diodes Inc.	Diode, Zener, 5.6 V, 1 W, SMA	SMA
D20	1	120V	SMAJ120A	Littelfuse	Diode, TVS, Uni, 120 V, 193 Vc, 400 W, 2.1 A, SMA	SMA
D21	1	200V	BAS20HT1G	ON Semiconductor	Diode, Switching, 200 V, 0.2 A, AEC-Q101, SOD-323	SOD-323
D25	1	5V	PLVA650A,215	Nexperia	Diode, Zener, 5 V, 250 mW, SOT-23	SOT-23
F1, F2	2		SF-3812F1500T-2	Bourns	15 A 250 V AC 80 V DC Fuse Board Mount (Cartridge Style Excluded) Surface Mount 2-SMD, Square End Block	3812
FB1, FB2, FB3, FB4, FB5, FB6, FB7, FB8, FB9, FB10, FB11, FB12	12		MH1608-601Y	Bourns	600 Ohms @ 100 MHz 1 Power, Signal Line Ferrite Bead 0603 (1608 Metric) 1A 200mOhm	0603
FID1, FID2, FID3, FID4, FID5, FID6	6		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J1, J2, J3, J4, J5	5		98065	Wurth Elektronik	Power Element Bolt, M3, SMD	Power Element Bolt, M3, SMD

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
J6, J8, J9, J10	4		61300211121	Würth Elektronik	Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH
J7	1		SHF-112-01-L-D-TH	Samtec	Conn Shrouded Header (4 Sides) HDR 24 POS 1.27mm Solder ST Top Entry Thru-Hole Tube	HDR24
J11	1		694106402002	Würth Electronics	Power Barrel Connector Jack 2.10mm ID (0.083"), 5.50mm OD (0.217") Through Hole	CONN_PWR_10MM7_9MM0
K1	1		RTD14005F	TE Connectivity	Relay, SPDT (1 Form C), 16 A, 5 V, TH	29 x 12.7 mm
L1, L11	2		SRF2012-361YA	Bourns	Inductor, Wirewound, Ferrite, 0.3 A, 0.45 ohm, SMD	2.0x1.2x1.2mm
L2	1	11uH	D6746	Bourns	PFC Inductor	PTH_59MM5_50MM0
L3, L4	2		D6744	Bourns	Common Mode Chokes 4mH 50mohm 250kHz	PTH_CMC_38MM0
L20, L22	2	10uH	74404020100	Würth Elektronik	Inductor, 10 uH, 0.5 A, 0.85 ohm, SMD	2x1.6mm
MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8, MP9, MP10, MP11, MP12	12		9774015960R	Würth Electronics	Round Spacer Unthreaded Steel 0.059" (1.50mm)	ROUND_SPACER_6MM0
Q1	1	70V	ZXMN7A11GTA	Diodes Inc.	MOSFET, N-CH, 70 V, 3.8 A, AEC-Q101, SOT-223	SOT-223
Q2, Q3	2		IP160R022S/XTMA1	Infineon	N-Channel 600 V 23A (Tc) 390W (Tc) Surface Mount PG-HSOF-8-2	HSOF8

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
Q4	1		STD2HNK60Z	STMicroelectronics	MOSFET N-Channel 600 V 2A (Tc) 45W (Tc) Surface Mount DPAK	DPAK
R1, R8, R20	3		IsoM3-275-B-L2	Bourns	3 kA Varistor 1 Circuit Through Hole Disc 13.2mm	RADIAL
R2	1	680k	TNPV1206680KBEEN	Vishay Draloric	RES, 680 k, 0.1%, 1 W, 1206	1206
R3, R12	2	560k	TNPV1206560KBEEN	Vishay Draloric	RES, 560 k, 0.1%, 1 W, 1206	1206
R4, R5, R6, R9, R10, R11, R13, R14, R15	9	330k	CRCW1206330KJNEA	Vishay-Dale	RES, 330 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R7, R23	2	0.002	CRF1206-FZ-R002ELF	Bourns	RES, 0.002, 1%, 1 W, AEC-Q200 Grade 0, 1206	1206
R16, R17, R18, R19	4	1M	RGV3216P-1004-B-T1	Susumu	1 MOhms $\pm 0.1\%$ 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Anti-Sulfur, Automotive AEC-Q200, High Voltage Thin Film	1206
R21	1	8.20k	RG1608P-822-B-T5	Susumu Co Ltd	RES, 8.20 k, 0.1%, 0.1 W, 0603	0603
R22	1	10.0k	RG1608P-103-B-T5	Susumu Co Ltd	RES, 10.0 k, 0.1%, 0.1 W, 0603	0603
R24, R25, R26, R27	4	10.0	RT0603BRD0710RL	Yageo America	RES, 10.0, 0.1%, 0.1 W, 0603	0603
R28, R30, R35, R36, R40, R61, R62, R63, R64, R65, R83, R85, R86, R99	14	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R29	1	60Ω	PTCEL13R600LBE	Vishay Bcomponents	PTCEL Series 500 V 60 Ohm ±30 % Radial Inrush Current Limiter PTC Thermistor	RADIAL
R31, R33, R34, R37, R38, R39, R41, R42, R43, R46, R47, R48, R49, R50, R51, R52, R53, R55, R56, R57, R58, R59, R60, R66, R67, R68, R69, R70, R71, R72, R73, R74, R78, R79, R80, R95, R96, R117, R118	39	56.0	RC0603FR-0756RL	Yageo	RES, 56.0, 1%, 0.1 W, 0603	0603
R32, R102, R103, R104	4	47.0k	RC0603FR-0747KL	Yageo	RES, 47.0 k, 1%, 0.1 W, 0603	0603
R75, R82	2	5.1	CRCW06035R10JNEA	Vishay-Dale	RES, 5.1, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R76, R93	2	1.00	CRCW06031R00FKEA	Vishay-Dale	RES, 1.00, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R77, R87, R88, R94	4	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R81, R97	2	33.0k	RC0603FR-0733KL	Yageo	RES, 33.0 k, 1%, 0.1 W, 0603	0603
R84, R98	2	5.6k	RC0603JR-075K6L	Yageo	RES, 5.6 k, 5%, 0.1 W, 0603	0603
R89, R91	2	20	CRCW060320R0JNEA	Vishay-Dale	RES, 20, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R90	1	18k	RC0603JR-0718KL	Yageo	RES, 18 k, 5%, 0.1 W, 0603	0603
R92	1	1.21k	CRCW08051K21FKEA	Vishay-Dale	RES, 1.21 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R100	1	100k	CRCW0805100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R101	1	100	CRCW0805100RFKEA	Vishay-Dale	RES, 100, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R105	1	470	CRCW0603470RJNEA	Vishay-Dale	RES, 470, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R106	1	0.56	RCWE0603R560FKEA	Vishay-Dale	RES, 0.56, 1%, 0.2 W, AEC-Q200 Grade 0, 0603	0603
R107	1	150k	RC0603FR-07150KL	Yageo	RES, 150 k, 1%, 0.1 W, 0603	0603
R108	1	470	RC0603FR-07470RL	Yageo	RES, 470, 1%, 0.1 W, 0603	0603
R109	1	2.20	ERJ-6RQF2R2V	Panasonic	RES, 2.20, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R110	1	6.20	RC0805FR-076R2L	Yageo America	RES, 6.20, 1%, 0.125 W, 0805	0805
R111	1	33.2k	CRCW0603332KFKEA	Vishay-Dale	RES, 33.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R112	1	1.00Meg	MCT06030C1004FP500	Vishay/Beyschlag	RES, 1.00 M, 1%, 0.125 W, 0603	0603
R113	1	39.0k	ERJ3EKF3902V	Panasonic	RES, 39.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R114	1	820	CRCW0603820RJNEA	Vishay-Dale	RES, 820, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R115, R119	2	1.5k	CRCW06031K50JNEA	Vishay-Dale	RES, 1.5 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R116	1	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	0603
T1, T2, T3	3		PAD002-T764113S	Bourns	Power Transformer 1:1.3 3100Vrms 2W 6 Terminal Gull Wing SMD	SMT_XFRMR_7MM1_6MM5
TP3	1		5004	Keystone Electronics	Test Point, Miniature, Yellow, TH	Yellow Miniature Testpoint
TP4	1		5003	Keystone Electronics	Test Point, Miniature, Orange, TH	Orange Miniature Testpoint
TP5, TP38	2		5001	Keystone Electronics	Test Point, Miniature, Black, TH	Black Miniature Testpoint

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TP17, TP18, TP21, TP22	4		0312-0-15-15-34-27-10-0	Mill-Max	Pin Receptacle, .032-.046" .075" Dia, Gold, TH	Pin Receptacle
TP28, TP36, TP37	3		5000	Keystone Electronics	Test Point, Miniature, Red, TH	Red Miniature Testpoint
U1	1		AMC3330QDWERO1	Texas Instruments	Precision, ±1-V Input, Reinforced Isolated Amplifier With Integrated DC/ DC Converter	SOIC16
U2, U4	2		AMC1302DWV	Texas Instruments	Precision Reinforced Isolated Amplifier for Current Sensing, DWV0008A (SOIC-8)	DWV0008A
U3	1		AMC1311BDWVR	Texas Instruments	Precision, 2-V Input, Reinforced Isolated Amplifier, DWV0008A (SOIC-8)	DWV0008A
U5	1		TMCS1123B2QDVGR	Texas Instruments	TMCS1123B2QDVGR	SOICW10
U6, U7	2		SN74LVC1G08MDBVREP	Texas Instruments	Enhanced Product Single 2-Input Positive-And Gate, DBV0005A, LARGE T&R	DBV0005A
U8	1		SN74LVC1G14DBVT	Texas Instruments	Single Schmitt-Trigger Inverter, DBV0005A, SMALL T&R	DBV0005A
U9, U10, U16	3		SN6505BDBVR	Texas Instruments	Low-Noise 1 A, 420 kHz Transformer Driver, DBV0006A (SOT-23-6)	DBV0006A
U11, U14	2		LMG3522R030Q	Texas Instruments	650-V 30-mΩ GaN FET with Integrated Driver and Protection	VQFN52
U12, U15	2		ISO7741FDW	Texas Instruments	DGTL ISO 5000VRMS 4CH GP 16SOIC	
U13	1		UCC21540DW	Texas Instruments	Isolated Dual-Channel Gate Driver, DW0016B (SOIC-16)	DW0016B
U17	1		UCC28710DR	Texas Instruments	Constant-Voltage, Constant-Current PWM Controller with Primary-Side Regulation, D0007A (SOIC-7)	D0007A

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U18	1		TLV75533PDRVR	Texas Instruments	500mA LDO, DRV0006A (WSON-6)	DRV0006A
C63, C81	0	220pF	C0603C221K5GACTU	Kemet	CAP, CERM, 220 pF, 50 V, +/- 10%, C0G/NP0, 0603	0603
R44, R45, R54	0	56.0	RC0603FR-0756RL	Yageo	RES, 56.0, 1%, 0.1 W, 0603	0603
TP1, TP9, TP10, TP27, TP29, TP30, TP31, TP32, TP33, TP34, TP35	0		5001	Keystone Electronics	Test Point, Miniature, Black, TH	Black Miniature Testpoint
TP2	0		5002	Keystone Electronics	Test Point, Miniature, White, TH	White Miniature Testpoint
TP7, TP8, TP11, TP12	0		3620-2-32-15-00-00-08-0	Mill-Max	PCB Pin, 0.04" DIA, Edge-Mount	PCB Pin, 0.04" DIA, Edge-Mount