

TIDA-010247 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-010247	Any	Printed Circuit Board	
C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21	20	0.1uF	GRM155R71E104KE14D	MuRata	CAP, CERM, 0.1 μ F, 25 V,+/- 10%, X7R, 0402	402
C11, C22, C36, C37, C42, C43, C46, C64, C66, C68, C69, C70	12	0.1uF	GRM188R71H104KA93D	MuRata	CAP, CERM, 0.1 μ F, 50 V,+/- 10%, X7R, 0603	603
C23, C24	2	2.2uF	C1206X225K101TX	Holy Stone Enterprise	CAP, CERM, 2.2 μ F, 100 V,+/- 10%, X7R, 1206	1206
C25, C26, C27, C28, C38, C39, C50, C59, C77	9	100pF	GRM1885C2A101JA01D	MuRata	CAP, CERM, 100 pF, 100 V,+/- 5%, C0G/NP0, 0603	603
C29	1	2.2uF	GRM21BR71E225KA73L	MuRata	CAP, CERM, 2.2 μ F, 25 V,+/- 10%, X7R, 0805	805
C30, C31, C65	3	2.2uF	EMK107BB7225MA-T	Taiyo Yuden	CAP, CERM, 2.2 μ F, 16 V,+/- 10%, X7R, 0603	603
C32, C33, C34, C35, C62	5	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 μ F, 16 V,+/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C40, C41	2	0.022uF	GRM188R71H223KA01D	MuRata	CAP, CERM, 0.022 μ F, 50 V,+/- 10%, X7R, 0603	603
C44, C45	2	1uF	C3216X7R2A105K160AA	TDK	CAP, CERM, 1 μ F, 100 V,+/- 10%, X7R, 1206	1206
C47, C53, C56	3	47pF	GRM1885C1H470JA01D	MuRata	CAP, CERM, 47 pF, 50 V,+/- 5%, C0G/NP0, 0603	603
C48, C49, C51, C52, C54, C55	6	470pF	GRM188R71H471KA01D	MuRata	CAP, CERM, 470 pF, 50 V,+/- 10%, X7R, 0603	603
C57, C58, C60, C61, C73	5	0.1uF	GRM188R72A104KA35D	MuRata	CAP, CERM, 0.1 μ F, 100 V,+/- 10%, X7R, 0603	603
C63	1	10uF	C2012X6S1C106K085AC	TDK	CAP, CERM, 10 μ F, 16 V,+/- 10%, X6S, 0805	805
C67	1	1000pF	GRM1885C1H102JA01D	MuRata	CAP, CERM, 1000 pF, 50 V,+/- 5%, C0G/NP0, 0603	603
C71, C72	2	4.7uF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7 μ F, 100 V,+/- 10%, X7S, 1210	1210
C74	1	10uF	UUX2A100MNL1GS	Nichicon	CAP, AL, 10 μ F, 100 V, +/- 20%, SMD	D8xL6.2mm
C75	1	NC	GRM1885C1H560JA01D	MuRata	CAP, CERM, 56 pF, 50 V,+/- 5%, C0G/NP0, 0603	603
C76	1	2200pF	GRM155R71H222KA01D	MuRata	CAP, CERM, 2200 pF, 50 V,+/- 10%, X7R, 0402	402
C78	1	1500pF	GRM155R71H152KA01D	MuRata	CAP, CERM, 1500 pF, 50 V,+/- 10%, X7R, 0402	402
C79, C80, C81	3	4.7uF	GRM21BR71C475KA73L	MuRata	CAP, CERM, 4.7 μ F, 16 V,+/- 10%, X7R, 0805	805
D1, D4, D6, D8, D9, D11, D12, D32, D33, D35, D36	11	100V	BAT46W-7-F	Diodes Inc.	Diode, Schottky, 100 V, 0.15 A, SOD-123	SOD-123
D2, D5, D10, D16	4	30V	BAT42WS-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.2 A, SOD-323	SOD-323
D3, D7, D15, D40, D41	5	3.6V	MMSZ4685T1G	ON Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123	SOD-123
D13, D14, D46, D49	4	20V	DB2J20900L	Panasonic	Diode, Schottky, 20 V, 0.5 A, SOD-323F	SOD-323F

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D17, D19, D21, D31, D34	5	16V	MMSZ5246B-7-F	Diodes Inc.	Diode, Zener, 16 V, 500 mW, SOD-123	SOD-123
D18, D20, D26, D27	4	75V	MMSZ5267BT1G	ON Semiconductor	Diode, Zener, 75V, 500 mW, AEC-Q101, SOD-123	SOD-123
D22	1	100V	NC	Nexperia	Diode, Schottky, 100 V, 0.25 A, SOD-323F	SOD-323F
D23, D24, D25, D28, D38	5	100V	BAT46WJ,115	Nexperia	Diode, Schottky, 100 V, 0.25 A, SOD-323F	SOD-323F
D29, D48	2	100V	BAS516,115	Nexperia	Diode, Switching, 100 V, 0.25 A, SOD-523	SOD-523
D30	1	5.1V	BZT52C5V1S-7-F	Diodes Inc.	Diode, Zener, 5.1 V, 200 mW, SOD-323	SOD-323
D37	1	200V	ES3D-E3/57T	Vishay-Semiconductor	Diode, Ultrafast, 200 V, 3 A, SMC	SMC
D39	1	NC	MMSZ4685T1G	ON Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123	SOD-123
D42, D43, D44	3	Red	150060RS75000	Würth Elektronik	LED, Red, SMD	LED_0603
D45	1	5.6V	MMSZ4690T1G	ON Semiconductor	Diode, Zener, 5.6 V, 500 mW, SOD-123	SOD-123
D47	1	24V	NUP3105LT1G	ON Semiconductor	Diode, TVS, Bi, 24 V, SOT-23	SOT-23
F1	1		0325030.HXP	LittleFuse	Fuse, 30 A, 250 VAC, 125 VDC, TH	325
L1, L2, L3, L4	4	600 ohm	74279265	Würth Elektronik	Ferrite Bead, 600 ohm @ 100 MHz, 0.2 A, 0603	603
L5	1	1uH	74438335010	Würth Elektronik	Inductor, Shielded, 1 µH, 2.7 A, 0.039 ohm, SMD	3x3mm
L6	1	68uH	744777168	Würth Elektronik	Inductor, Shielded Drum Core, Metal Composite, 68 µH, 0.87 A, 0.239 ohm, SMD	SMD
P1	1				Header, 4-Pin	
P2	1				Header, 2-Pin, Dual row	
P3, P4	2				Header, 11-Pin	
P5, P6, P7	3				Header, 2-Pin	
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20	20	40 V	BSR14	Nexperia	Transistor, NPN, 40 V, 0.8 A, SOT-23	SOT-23
Q21	1	65 V	BC846B,215	Nexperia	Transistor, NPN, 65 V, 0.1 A, SOT-23	SOT-23
Q22, Q25, Q26, Q29, Q31, Q32	6	60 V	MMBTA05LT1G	ON Semiconductor	Transistor, NPN, 60 V, 0.5 A, AEC-Q101, SOT-23	SOT-23
Q23, Q24	2	60V	FZT493ATA	Diodes Inc.	Transistor, NPN, 60 V, 1 A, SOT-223	SOT-223
Q27, Q28, Q30, Q34, Q35	5	80 V	MMBTA56LT1G	ON Semiconductor	Transistor, PNP, 80 V, 0.5 A, SOT-23	SOT-23
Q33, Q49	2	-20V	DMG1013UW-7	Diodes Inc.	MOSFET, P-CH, -20 V, -0.82 A, SOT-323	SOT-323
Q36, Q37, Q38, Q39, Q42, Q43, Q44, Q45	8	100V	CSD19536KTT	Texas Instruments	MOSFET, N-CH, 100 V, 200 A, KTT0002A (TO-263-2)	KTT0002A
Q40	1	-150V	SI7439DP-T1-E3	Vishay-Siliconix	MOSFET, P-CH, -150 V, -3 A, PowerPAK SO-8	PowerPAK SO-8
Q41	1	-150V	SI2325DS-T1-E3	Vishay-Siliconix	MOSFET, P-CH, -150 V, -0.53 A, SOT-23	SOT-23
Q46	1	150 V	FMMT495TA	Diodes Inc.	Transistor, NPN, 150 V, 1 A, AEC-Q101, SOT-23	SOT-23
Q47	1	250V	CPH3461-TL-W	Fairchild Semiconductor	MOSFET, N-CH, 250V, 0.35 A, SOT-23	SOT-23
Q48	1	60V	2N7002W-7-F	Diodes Inc.	MOSFET, N-CH, 60 V, 0.115 A, SOT-323	SOT-323

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R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61	40	80.6	CRCW120680R6FKEA	Vishay-Dale	RES, 80.6, 1%, 0.25 W, 1206	1206
R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R88, R90, R97, R98, R102, R103, R105, R106, R180, R181, R182, R183, R184, R185, R186, R187, R188, R192, R193, R194, R195, R196, R197, R201, R202, R209	46	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	603
R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R65, R67, R69, R71, R73, R75, R77, R79, R81, R83	20	300	CRCW0603300RJNEA	Vishay-Dale	RES, 300, 5%, 0.1 W, 0603	603
R41, R84	2	20	CRCW060320R0FKEA	Vishay-Dale	RES, 20.0, 1%, 0.1 W, 0603	603
R62, R63, R120, R216, R217	5	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	603
R85, R87, R94, R95, R96, R110, R173, R179, R203, R204, R207	11	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R86, R91, R100, R101, R140, R148, R165, R167, R174	9	10Meg	CRCW060310M0JNEA	Vishay-Dale	RES, 10 M, 5%, 0.1 W, 0603	603
R89	1	2.00Meg	RC0603FR-072ML	Yageo America	RES, 2.00 M, 1%, 0.1 W, 0603	603
R92, R93	2	499k	CRCW0603499KFKEA	Vishay-Dale	RES, 499 k, 1%, 0.1 W, 0603	603
R99, R104, R199, R200	4	4.70k	RC0603FR-074K7L	Yageo America	RES, 4.70 k, 1%, 0.1 W, 0603	603
R107, R111	2	619	RC1206FR-07619RL	Yageo	RES, 619, 1%, 0.25 W, 1206	1206
R108, R109	2	154	AC1206FR-07154RL	Yageo	RES, 154, 1%, 0.25 W, 1206	1206
R112, R118	2	200	RC2512JK-07200RL	Yageo	RES, 200, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
R113	1	2.00k	RC0603FR-072KL	Yageo America	RES, 2.00 k, 1%, 0.1 W, 0603	603
R114, R128, R132, R136, R138	5	150k	CRCW0603150KFKEA	Vishay-Dale	RES, 150 k, 1%, 0.1 W, 0603	603
R115, R119, R122, R124, R127, R129, R133, R215	8	200k	CRCW0603200KFKEA	Vishay-Dale	RES, 200 k, 1%, 0.1 W, 0603	603
R116, R130, R134	3	80.6k	CRCW060380K6FKEA	Vishay-Dale	RES, 80.6 k, 1%, 0.1 W, 0603	603
R117, R131, R135	3	300	RC0603FR-07300RL	Yageo America	RES, 300, 1%, 0.1 W, 0603	603
R121	1	330k	CRCW0603330KJNEA	Vishay-Dale	RES, 330 k, 5%, 0.1 W, 0603	603
R123	1	33.0k	RC0603FR-0733KL	Yageo America	RES, 33.0 k, 1%, 0.1 W, 0603	603
R125	1	26.1k	CRCW060326K1FKEA	Vishay-Dale	RES, 26.1 k, 1%, 0.1 W, 0603	603
R126, R137, R218	3	10	RC0603FR-0710RL	Yageo America	RES, 10.0, 1%, 0.1 W, 0603	603
R139, R189, R190, R191	4	499	RC0603FR-07499RL	Yageo America	RES, 499, 1%, 0.1 W, 0603	603
R141, R142, R143, R144, R158, R159, R160, R161	8	75	CRCW060375R0FKEA	Vishay-Dale	RES, 75.0, 1%, 0.1 W, 0603	603
R145	1	49.9k	RT0603BRD0749K9L	Yageo America	RES, 49.9 k, 0.1%, 0.1 W, 0603	603
R146	1	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, 0603	603
R147	1	10	CRCW080510R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.125 W, 0805	805
R149	1	390	NC	Vishay-Dale	RES, 390, 1%, 0.1 W, 0603	603
R150, R151, R152, R153, R154	5	511	RC1206FR-07511RL	Yageo	RES, 511, 1%, 0.25 W, 1206	1206
R155, R166	2	56k	RC0805JR-0756KL	Yageo	RES, 56 k, 5%, 0.125 W, 0805	805
R156	1	806	NC	Vishay-Dale	RES, 806, 1%, 0.1 W, 0603	603
R157	1	806	AC0805FR-07806RL	Yageo	RES, 806, 1%, 0.125 W, 0805	805
R162	1	47	RC0603FR-0747RL	Yageo America	RES, 47.0, 1%, 0.1 W, 0603	603
R163	1	10M	NC	Vishay-Dale	RES, 10 M, 5%, 0.1 W, 0603	603
R164	1	NC	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	603
R168	1	100	CRCW0805100RFKEA	Vishay-Dale	RES, 100, 1%, 0.125 W, 0805	805
R169	1	620k	RC0603FR-07620KL	Yageo America	RES, 620 k, 1%, 0.1 W, 0603	603

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R170, R172, R176	3	5.1k	CRCW06035K10JNEA	Vishay-Dale	RES, 5.1 k, 5%, 0.1 W, 0603	603
R171	1	1.5k	AC0805JR-071K5L	Yageo	RES, 1.5 k, 5%, 0.125 W, 0805	805
R175	1	806	CRCW0603806RFKEA	Vishay-Dale	RES, 806, 1%, 0.1 W, 0603	603
R177	1	604k	RC0603FR-07604KL	Yageo America	RES, 604 k, 1%, 0.1 W, 0603	603
R178	1	68.0k	RC0603FR-0768KL	Yageo America	RES, 68.0 k, 1%, 0.1 W, 0603	603
R198	1	47.0k	RC0603FR-0747KL	Yageo America	RES, 47.0 k, 1%, 0.1 W, 0603	603
R205, R206	2	60.4	RC0603FR-0760R4L	Yageo America	RES, 60.4, 1%, 0.1 W, 0603	603
R208	1	120	RC0603FR-07120RL	Yageo America	RES, 120, 1%, 0.1 W, 0603	603
R210	1	82.5k	CRCW060382K5FKEA	Vishay-Dale	RES, 82.5 k, 1%, 0.1 W, 0603	603
R211	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	402
R212	1	NC	RC0603FR-07499KL	Yageo America	RES, 499 k, 1%, 0.1 W, 0603	603
R213	1	523k	RC0402FR-07523KL	Yageo	RES, 523 k, 1%, 0.063 W, 0402	402
R214	1	63.4k	CRCW060363K4FKEA	Vishay-Dale	RES, 63.4 k, 1%, 0.1 W, 0603	603
R219, R220, R221, R222	4	0.002	CSNL2512FT2L00	Stackpole Electronics Inc	RES, 0.002, 1%, 2 W, 2512	2512
RT1, RT2, RT3, RT4, RT5, RT6	6	10.0k ohm	MF51E103F3950	Cantherm	THERMISTOR NTC 10KOHM BEAD	
RT7	1		TMP6131DECR	Texas Instruments	Thermistor, DEC0002A (X1SON-2)	DEC0002A
S1	1		RS-032G05A3-SM RT	C&K Components	Switch, Tactile, SPST-NO, 0.05A, 12V, SMD	SPST, 6x3.5mm
U1, U2	2		BQ76942PFBR	Texas Instruments	Multicell Battery Monitor and Protection Family, PFB0048A (TQFP-48)	PFB0048A
U3	1		ISO1640BDR	Texas Instruments	I ² C Digital Isolator 3000Vrms 2 Channel 50kV/μs CMTI 8-SOIC (0.154", 3.90mm Width)	SOIC8
U4	1		TPS7A2533DRVR	Texas Instruments	300-mA, 18-V, Low IQ, Low Dropout Voltage Regulator with Power Good, DRV0006A (WSO6)	DRV0006A
U5	1		MSP430FR2155TDBTR	Texas Instruments	24MHz 105C ULP Microcontroller With 32 KB FRAM, 4 KB SRAM, 44 IO, 12-bit ADC, DBT0038A (TSSOP-38)	DBT0038A
U6	1		TCAN1042HVDRQ1	Texas Instruments	Automotive Fault Protected CAN Transceiver With Flexible Data-Rate, D0008A (SOIC-8)	D0008A
U7	1		THVD2410DR	Texas Instruments	500 kbps RS-485 Transceivers With ±8-kV IEC ESD Protection	SOIC8
U8	1		TPD2E007DCKR	Texas Instruments	ESD Protection Array for AC Signal Data Interface, 2 Channels, -40 to +85 degC, 3-pin SC70 (DCK), Green (RoHS & no Sb/Br)	DCK0003A
U9	1		LM5168PDDAR	Texas Instruments	0.3-A, 120-V, Step-Down Converter with Fly-buck Capability	DDA0008E

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