

TIDA-010030 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-010030	Any	Printed Circuit Board	
C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C14, C15, C16, C17, C21, C22, C23, C37	20	1uF	GRM188R71C105KE15D	MuRata	CAP, CERM, 1 μ F, 16 V, +/- 10%, X7R, 0603	0603
C13	1	1uF	C1608X7R1V105K080AC	TDK	CAP, CERM, 1 μ F, 35 V, +/- 10%, X7R, 0603	0603
C18	1	0.1uF	CGA4J2X7R2A104K125AA	TDK	CAP, CERM, 0.1 μ F, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
C19	1	470pF	GCM1885C1H471JA16D	MuRata	CAP, CERM, 470 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C20	1	2.2uF	GRM32ER72A225KA35L	MuRata	CAP, CERM, 2.2 μ F, 100 V, +/- 10%, X7R, 1210	1210
C24, C25, C26	3	10uF	C3225X5R1H106K250AB	TDK	CAP, CERM, 10 μ F, 50 V, +/- 10%, X5R, 1210	1210
C27, C28, C29	3	4700pF	GCM188R71H472KA37D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C30, C34, C35, C44, C47	5	4.7uF	GRM188R61C475KAAJ	MuRata	CAP, CERM, 4.7 μ F, 16 V, +/- 10%, X5R, 0603	0603
C31, C46	2	10uF	CL21B106KOQNNNE	Samsung Electro-Mechanics	CAP, CERM, 10 μ F, 16 V, +/- 10%, X7R, 0805	0805
C32, C40	2	2.2uF	GRM188R71A225KE15D	MuRata	CAP, CERM, 2.2 μ F, 10 V, +/- 10%, X7R, 0603	0603
C33, C39, C42	3	0.1uF	GRM188R71C104KA01D	MuRata	CAP, CERM, 0.1 μ F, 16 V, +/- 10%, X7R, 0603	0603
C36, C41, C43, C45, C54, C55, C56, C57, C58, C60, C61	11	0.1uF	GRM188R71H104KA93D	MuRata	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0603	0603
C38	1	1000pF	GRM1885C1H102JA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C48	1	0.01uF	GRM188R72A103KA01D	MuRata	CAP, CERM, 0.01 μ F, 100 V, +/- 10%, X7R, 0603	0603
C49	1	2.2uF	C2012X7R1V225K085AC	TDK	CAP, CERM, 2.2 μ F, 35 V, +/- 10%, X7R, 0805	0805
C50	1	220pF	GRM188R71H221KA01D	MuRata	CAP, CERM, 220 pF, 50 V, +/- 10%, X7R, 0603	0603
C51	1	2200pF	06031C222JAT2A	AVX	CAP, CERM, 2200 pF, 100 V, +/- 5%, X7R, 0603	0603
C52, C53, C68, C69, C70, C71	6	0.1uF	GRM188R72A104KA35D	MuRata	CAP, CERM, 0.1 μ F, 100 V, +/- 10%, X7R, 0603	0603
C59	1	4.7uF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7 μ F, 100 V, +/- 10%, X7S, 1210	1210
C62	1	56pF	GRM1885C1H560JA01D	MuRata	NC	0603
C63	1	2200pF	GRM1885C1H222JA01D	MuRata	CAP, CERM, 2200 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C64	1	56pF	GRM1885C1H560JA01D	MuRata	CAP, CERM, 56 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C65	1	3300pF	GRM188R71H332KA01D	MuRata	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0603	0603
C66, C67	2	4.7uF	GRM21BR71C475KA73L	MuRata	CAP, CERM, 4.7 μ F, 16 V, +/- 10%, X7R, 0805	0805
D1, D28, D29, D35	4	3.6V	MMSZ4685T1G	ON Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123	SOD-123
D2, D3, D4, D5, D6, D7, D8, D9, D10, D12, D13, D14, D15	13	5.6V	BZT52C5V6T-7	Diodes Inc.	Diode, Zener, 5.6 V, 300 mW, SOD-523	SOD-523
D11, D17, D18, D20, D42	5	100V	1N4148W-7-F	Diodes Inc.	Diode, Ultrafast, 100 V, 0.15 A, SOD-123	SOD-123
D16, D38	2	18V	MMSZ5248B-7-F	Diodes Inc.	Diode, Zener, 18 V, 500 mW, SOD-123	SOD-123
D19, D22	2	20V	SBR0220T5-7	Diodes Inc.	Diode, Super Barrier Rectifier, 20 V, 0.2 A, SOD-523	SOD-523
D21	1	3.3V	MMSZ5226BS-7-F	Diodes Inc.	Diode, Zener, 3.3 V, 200 mW, SOD-323	SOD-323

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D23, D24, D25, D26, D27	5	Red	150060RS75000	Würth Elektronik	LED, Red, SMD	LED_0603
D30, D31, D45, D46	4	20V	MBR0520LT1G	ON Semiconductor	Diode, Schottky, 20 V, 0.5 A, SOD-123	SOD-123
D32	1	24V	NUP3105LT1G	ON Semiconductor	Diode, TVS, Bi, 24 V, SOT-23	SOT-23
D33, D39, D41	3	100V	BAT46W-7-F	Diodes Inc.	Diode, Schottky, 100 V, 0.15 A, SOD-123	SOD-123
D34	1	5.1V	MMSZ5231B-7-F	Diodes Inc.	Diode, Zener, 5.1 V, 500 mW, SOD-123	SOD-123
D36, D37, D40, D43, D47	5	16V	MMSZ5246B-7-F	Diodes Inc.	Diode, Zener, 16 V, 500 mW, SOD-123	SOD-123
D44, D48	2	60V	SMBJ60A-13-F	Diodes Inc.	Diode, TVS, Uni, 60 V, 96.8 Vc, SMB	SMB
F1	1		CLM2213P5030C-AN	POLYTRONICS	Fuse, 30 A, SMD	9.5x2x5mm
F2	1		0456030.ER	Littelfuse	Fuse, 30 A, 125 VAC, 72 VDC, SMD	10.1x3.12mm
J1, J2, J6, J7	4		8199	Keystone	TERMINAL SCREW PC 30AMP, TH	12.9x6.3x7.9 mm
J3, J4, J5	3		22-23-2021	Molex	Header, 2.54mm, 2x1, Vertical, TH	Header, 2.54mm, 2x1, TH
L1	1	68uH	7447713680	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 68 µH, 1.1 A, 0.275 ohm, SMD	SMD
L2, L3, L4, L5, L6, L7	6	600 ohm	74279265	Würth Elektronik	Ferrite Bead, 600 ohm @ 100 MHz, 0.2 A, 0603	0603
P1	1				Header, 2-Pin, Dual row	
P2, P3	2		61300411121	Würth Elektronik	Header, 4-Pin	
P4, P5	2		61301411121	Würth Elektronik	Header, 14-Pin	
P6	1		61300211121	Würth Elektronik	Header, 2-Pin	
Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13	13	20V	DMG2302UK-7	Diodes Inc.	MOSFET, N-CH, 20 V, 2.8 A, AEC-Q101, SOT-23	SOT-23
Q14, Q17, Q21, Q24, Q25	5	100V	BSS123	Fairchild Semiconductor	MOSFET, N-CH, 100 V, 0.17 A, SOT-23	SOT-23
Q15, Q16, Q26, Q31	4	-100V	ZXMP10A13FTA	Diodes Inc.	MOSFET, P-CH, -100 V, -0.6 A, SOT-23	SOT-23
Q18, Q19	2	-20V	FDN302P	Fairchild Semiconductor	MOSFET, P-CH, -20 V, -2.4 A, SOT-23	SOT-23
Q20, Q27	2	60V	2N7002	Fairchild Semiconductor	MOSFET, N-CH, 60 V, 115 A, SOT-23	SOT-23
Q22	1	-50V	BSS84-7-F	Diodes Inc.	MOSFET, P-CH, -50 V, -0.13 A, SOT-23	SOT-23
Q23	1	60V	2N7002W-7-F	Diodes Inc.	MOSFET, N-CH, 60 V, 0.115 A, SOT-323	SOT-323
Q28, Q29, Q30, Q32, Q33, Q34	6	100V	CSD19536KTT	Texas Instruments	MOSFET, N-CH, 100 V, 200 A, KTT0002A (TO-263-2)	KTT0002A
R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R22, R23, R24, R25, R26, R27, R28, R29, R39, R40, R41, R42, R43, R44, R45, R46	26	80.6	CRCW120680R6FKEA	Vishay-Dale	RES, 80.6, 1%, 0.25 W, 1206	1206
R11, R12, R13, R14, R15, R16, R30, R31, R32, R33, R34, R50, R51, R52, R53, R54, R63, R64, R65, R95, R96, R97, R99	23	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, 0603	0603

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R17, R18, R19, R20, R21, R35, R36, R37, R38, R55, R56, R57, R58, R66	14	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, 0603	0603
R47, R49, R87	3	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R48, R100	2	200	CRCW0603200RFKEA	Vishay-Dale	RES, 200, 1%, 0.1 W, 0603	0603
R59, R69, R106, R112	4	1.0Meg	CRCW06031M00JNEA	Vishay-Dale	RES, 1.0 M, 5%, 0.1 W, 0603	0603
R60	1	499k	CRCW0603499KFKEA	Vishay-Dale	RES, 499 k, 1%, 0.1 W, 0603	0603
R61, R84, R85, R98, R107, R108, R111, R113, R117, R120, R124, R127	12	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
R62, R103, R105, R110, R114, R121	6	10Meg	CRCW060310M0JNEA	Vishay-Dale	RES, 10 M, 5%, 0.1 W, 0603	0603
R67	1	360k	ERJ-3EKF3603V	Panasonic	RES, 360 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R68	1	3.01k	CRCW06033K01FKEA	Vishay-Dale	RES, 3.01 k, 1%, 0.1 W, 0603	0603
R70, R104	2	3.3Meg	CRCW06033M30JNEA	Vishay-Dale	RES, 3.3 M, 5%, 0.1 W, 0603	0603
R71, R72	2	505k	RT0603BRD07505KL	Yageo America	RES, 505 k, 0.1%, 0.1 W, 0603	0603
R73, R102	2	16.5k	RT0603BRD0716K5L	Yageo America	RES, 16.5 k, 0.1%, 0.1 W, 0603	0603
R74, R115	2	47.0	RC0603FR-0747RL	Yageo America	RES, 47.0, 1%, 0.1 W, 0603	0603
R75, R81, R83, R88, R89, R90, R91	7	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R76, R77, R78, R79, R80	5	470	RC0603FR-07470RL	Yageo America	RES, 470, 1%, 0.1 W, 0603	0603
R82	1	47.0k	RC0603FR-0747KL	Yageo America	RES, 47.0 k, 1%, 0.1 W, 0603	0603
R86	1	6.8k	CRCW06036K80JNEA	Vishay-Dale	RES, 6.8 k, 5%, 0.1 W, 0603	0603
R92, R93	2	60.4	RC0603FR-0760R4L	Yageo America	RES, 60.4, 1%, 0.1 W, 0603	0603
R94	1	120	RC0603FR-07120RL	Yageo America	RES, 120, 1%, 0.1 W, 0603	0603
R101	1	665k	RT0603BRD07665KL	Yageo America	RES, 665 k, 0.1%, 0.1 W, 0603	0603
R109	1	510	CRCW0603510RJNEA	Vishay-Dale	RES, 510, 5%, 0.1 W, 0603	0603
R116	1	2.49Meg	CRCW06032M49FKEA	Vishay-Dale	RES, 2.49 M, 1%, 0.1 W, 0603	0603
R118, R119	2	0.002	CSNL2512FT2L00	Stackpole Electronics Inc	RES, 0.002, 1%, 2 W, 2512	2512
R122	1	6.8Meg	CRCW06036M80JNEA	Vishay-Dale	RES, 6.8 M, 5%, 0.1 W, 0603	0603
R123	1	3.0Meg	CRCW06033M00JNEA	Vishay-Dale	RES, 3.0 M, 5%, 0.1 W, 0603	0603
R125	1	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, 0603	0603
R126	1	115k	CRCW0603115KFKEA	Vishay-Dale	RES, 115 k, 1%, 0.1 W, 0603	0603
R128	1	383k	RC0603FR-07383KL	Yageo America	NC	0603
R129	1	383k	RC0603FR-07383KL	Yageo America	RES, 383 k, 1%, 0.1 W, 0603	0603
R130	1	240k	CRCW0603240KJNEA	Vishay-Dale	RES, 240 k, 5%, 0.1 W, 0603	0603
R131	1	715k	CRCW0603715KFKEA	Vishay-Dale	RES, 715 k, 1%, 0.1 W, 0603	0603
R132, R133	2	604	CRCW2512604RFKEG	Vishay-Dale	RES, 604, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512
RT1, RT2, RT3, RT4	4	10k ohm	NTCALUG03A103G	Vishay-Bccomponents	Thermistor NTC, 10k ohm, 2%, NTC Thermistor, Mini Lug Sensor, Pitch 1.5mm	NTC Thermistor, Mini Lug Sensor, Pitch 1.5mm
S1, S2	2		RS-032G05A3-SM RT	C&K Components	Switch, Tactile, SPST-NO, 0.05A, 12V, SMD	SPST, 6x3.5mm
T1	1	475uH	760390012	Würth Elektronik	Transformer, 475 uH, SMT	7.14x6.73mm

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
U1	1		BQ7694003DBTR	Texas Instruments	9 to 15-Series Cell Li-Ion and Li-Phosphate Battery Monitor (bq76940 Family), DBT0044A (TSSOP-44)	DBT0044A
U2, U10	2		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
U3	1		MSP430FR2155TDBTR	Texas Instruments	24MHz 105C ULP Microcontroller With 32 KB FRAM, 4 KB SRAM, 44 IO, 12-bit ADC, DBT0038A (TSSOP-38)	DBT0038A
U4	1		BQ34Z100PWR-G1	Texas Instruments	Multi-Chemistry Impedance Track Standalone Fuel Gauge	PW0014A
U5, U6, U7	3		TLP293(GB-TPL,E	Toshiba	Optocoupler, 3.75 kV, 100-600% CTR, SMT	SOP, 4-Leads, Body 2.65x4.60mm, Pitch 1.27mm
U8	1		SN6501DBVR	Texas Instruments	Low-Noise 350 mA, 410 kHz Transformer Driver, DBV0005A (SOT-23-5)	DBV0005A
U9	1		ISO1042BDWVR	Texas Instruments	Reinforced Isolated CAN XCVRs with 70V Protection Voltage and CAN FD, DWV0008A (SOIC-8)	DWV0008A
U11	1		THVD1500DR	Texas Instruments	250 kbps RS-485 Transceivers With +/-12-kV IEC ESD Protection, D0008A (SOIC-8)	D0008A
U12	1		TLV70450DBVT	Texas Instruments	Single Output LDO, 150 mA, Fixed 5 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
U13	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
U14	1		BQ76200PWR	Texas Instruments	High-Side N-Channel FET Driver, PW0016A (TSSOP-16)	PW0016A
U15	1		LM5164DDAT	Texas Instruments	100-V Low IQ Synchronous Buck Regulator, DDA0008E (SOIC-8)	DDA0008E