

TIDA-050030 REV E2 Bill of Materials

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	IPC81	1		TIDA-050030	Any	Printed Circuit Board	
2	C1, C2	2	0.01uF	GCM188R71H103KA37D	MuRata	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
3	C3	1	220uF	EMZR500ARA221MHA0G	Chem-Con	CAP, AL, 220 uF, 50 V, +/- 20%, AEC-Q200 Grade 2, SMD	HA0
4	C4, C6, C11	3	0.1uF	C0805C104K5RACAUTO	Kemet	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 0, 0805	0805
5	C5, C16, C17, C30, C31	5	4.7uF	C3216X7R1H475K160AC	TDK	CAP, CERM, 4.7 uF, 50 V, +/- 10%, X7R, 1206	1206
6	C7, C8, C9, C10, C12	5	10uF	CGA6P3X7S1H106K250AB	TDK	CAP, CERM, 10 uF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
7	C14, C28	2	33uF	EEE-FK1K330P	Panasonic	CAP, AL, 33 uF, 80 V, +/- 20%, 1.3 ohm, AEC-Q200 Grade 2, SMD	SMT Radial F
8	C18	1	0.033uF	GRM188R71H333KA61D	MuRata	CAP, CERM, 0.033 uF, 50 V, +/- 10%, X7R, 0603	0603
9	C19, C20, C21, C22, C32, C33, C34, C35	8	4.7uF	CGA6M3X7S2A475K200AB	TDK	CAP, CERM, 4.7 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
10	C23, C40	2	10pF	GRM1885C1H100JA01D	MuRata	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
11	C24	1	1uF	CGA5L3X7R1H105K160AB	TDK	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
12	C25, C36	2	470pF	GRM1885C2A471JA01D	MuRata	CAP, CERM, 470 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
13	C26, C38	2	1000pF	C0603X102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
14	C27	1	100pF	CGA3E2NP01H101J080AA	TDK	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 0, 0603	0603
15	C37, C39	2	2.2uF	GRM188Z71C225KE43	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	0603
16	C41, C55, C56, C70	4	0.1uF	CGA3E3X7S2A104K080AB	TDK	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0603	0603
17	C42, C54, C57, C69	4	2200pF	GRM188R71C222KA01D	MuRata	CAP, CERM, 2200 pF, 16 V, +/- 10%, X7R, 0603	0603
18	C43, C52, C59, C67	4	0.1uF	CGA3E2X7R1E104K080AA	TDK	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
19	C44, C53, C58, C68	4	1000pF	GRM188R72A102KA01D	MuRata	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	0603
20	C45, C51, C60, C66	4	1.5uF	CGA6M3X7R2A155K200AB	TDK	CAP, CERM, 1.5 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1210	1210
21	C46, C48, C61, C63	4	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
22	C47, C49, C50, C62, C64, C65	6	0.1uF	CL10B104K08WVPC	Samsung Electro-Mechanics	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0603	0603
23	C71, C72, C78, C79, C106	5	0.1uF	GRM188R71C104KA01D	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0603	0603
24	C73, C84	2	4700pF	GRM188R71H472KA01D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0603	0603
25	C74, C75, C76, C77, C80, C81, C82, C83	8	0.22uF	C1206C224K5RACTU	Kemet	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, 1206	1206
26	C85, C104, C105, C109, C110, C112, C113	7	10uF	GRM31CR71E106KA12L	MuRata	CAP, CERM, 10 uF, 25 V, +/- 10%, X7R, 1206	1206
27	C86	1	2.2uF	GRM31CR71H225KA88L	MuRata	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, 1206	1206
28	C87, C88, C89, C90, C91, C94, C98, C99	8	0.1uF	GRM155R71C104KA88D	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
29	C92	1	2.2uF	GRM188R61C225KE15D	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0603	0603
30	C93	1	1uF	GRM155R61A105KE15D	MuRata	CAP, CERM, 1 uF, 10 V, +/- 10%, X5R, 0402	0402
31	C95, C96, C97	3	330pF	C0603C331K5RACTU	Kemet	CAP, CERM, 330 pF, 50 V, +/- 10%, X7R, 0603	0603
32	C100, C101, C102, C103	4	12pF	GRM1555C1H120JA01D	MuRata	CAP, CERM, 12 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
33	C107	1	1uF	CGA4J3X7S2A105K125AB	TDK	CAP, CERM, 1 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0805	0805
34	C108	1	0.1uF	CGA4J2X7R2A104K125AA	TDK	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
35	C111	1	100uF	EEFFP1C101AP	Panasonic	CAP, AL, 100 uF, 16 V, +/- 20%, 0.26 ohm, AEC-Q200 Grade 2, SMD	SMT Radial D
36	C114	1	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
37	C117	1	5pF	GRM1555C2A5R0CA01D	MuRata	CAP, CERM, 5 pF, 100 V, +/- 5%, C0G/NP0, 0402	0402
38	C118	1	0.022uF	CGA3E2X7R2A223K080AA	TDK	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
39	C119	1	3900pF	GRM188R71H392KA01D	MuRata	CAP, CERM, 3900 pF, 50 V, +/- 10%, X7R, 0603	0603
40	C122, C123, C124, C125, C126, C127, C128, C129, C130	9	0.01uF	GRM188R72A103KA01D	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603
41	D1	1	26V	SMAJ26CAHE3/61	Vishay-Semiconductor	Diode, TVS, Bi, 26 V, 42.1 Vc, AEC-Q101, SMA	SMA
42	D2	1	8.2V	MMSZ4694-E3-08	Vishay-Semiconductor	Diode, Zener, 8.2 V, 500 mW, SOD-123	SOD-123
43	D3, D4, D5	3	60V	PMEG6010CEGWJ	Nexperia	Diode, Schottky, 60 V, 1 A, AEC-Q101, SOD-123	SOD-123
44	D6, D7	2	100V	PDS5100HQ-13	Diodes Inc.	Diode, Schottky, 100 V, 5 A, AEC-Q101, PowerDI5	PowerDI5
45	D8, D9, D10, D11	4	60V	PD3S160Q-7	Diodes Inc.	Diode, Schottky, 60 V, 1 A, AEC-Q101, PowerDI323	PowerDI323
46	D12	1	60V	SS26SHE3_A/H	Vishay-Semiconductor	Diode, Schottky, 60 V, 2 A, AEC-Q101, SMA	SMA
47	FID1, FID2, FID3	3	N/A	N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
48	J2	1				347720140	
49	J3	1		FTSH-105-01-F-DV	Samtec	Header, 1.27mm, 5x2, Gold, Black, SMT	Header, 1.27mm, 5x2, SMT
50	L1	1	1uH	SPM10040T-1R0M	TDK	Inductor, Shielded, Ferrite, 1 uH, 15 A, 0.0042 ohm, SMD	10x4.0x10.795mm
51	L2, L3	2	15uH	SPM125665V-150M-D	TDK	Inductor, Shielded, 15 uH, 8.5 A, 0.02299 ohm, AEC-Q200 Grade 0, SMD	13x12.5mm
52	L4, L5, L6, L7	4	47uH	SPM6545T-470M-D	TDK	Inductor, Shielded, Metal Composite, 47 uH, 1.5 A, 0.318 ohm, SMD	SMD
53	L8, L17	2	51uH	B82793SS13N201	TDK	Coupled inductor, 51 uH, A, 0.14 ohm, SMD	7.1x6mm
54	L9, L10, L27, L29, L30, L31, L32, L33	8	33 ohm	742792012	Würth Elektronik	Ferrite Bead, 33 ohm @ 100 MHz, 4 A, 0805	0805
55	L22	1	220 ohm	BLM21PG221SN1D	MuRata	Ferrite Bead, 220 ohm @ 100 MHz, 2 A, 0805	0805
56	L23	1	60 ohm	BKP2125HS600-T	Taiyo Yuden	Ferrite Bead, 60 ohm @ 100 MHz, 3 A, 0805	0805
57	L24	1	2.2uH	LPS3010-222MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 2.2 uH, 1.1 A, 0.22 ohm, SMD	LPS3010
58	L25	1	15uH	XAL4040-153MEB	Coilcraft	Inductor, Shielded, Composite, 15 uH, 2.8 A, 0.109 ohm, SMD	4.0x4.1x4.0mm
59	Q1	1	60V	BLU9Y15-60E_115	Nexperia	MOSFET, N-CH, 60 V, 53 A, AEC-Q101, SOT869	SOT869
60	Q2	1	60 V	MMBT405LTI1G	ON Semiconductor	Transistor, NPN, 60 V, 0.5 A, AEC-Q101, SOT-23	SOT-23
61	Q3, Q4	2	80V	SQJA90EP-T1_GE3	Vishay-Siliconix	MOSFET, N-CH, 80 V, 60 A, AEC-Q101, PowerPAK_SO-8L	PowerPAK_SO-8L
62	Q5, Q7	2	-20V	SI2323DS	Vishay-Siliconix	MOSFET, P-CH, -20 V, -3.7 A, SOT-23	SOT-23
63	Q6, Q8	2	40 V	MMBT3904LT1G	ON Semiconductor	Transistor, NPN, 40 V, 0.2 A, SOT-23	SOT-23
64	R1, R2, R3, R4	4	100k	TNPW0603100KFKEA	Vishay-Dale	RES, 100 k, 0.1%, 0.1 W, AEC-Q200 Grade 1, 0603	0603
65	R5, R8	2	221k	CRCW0603221KFKEA	Vishay-Dale	RES, 221 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
66	R6, R21	2	7.5	CRCW20107R50JNEF	Vishay-Dale	RES, 7.5, 5%, 0.75 W, AEC-Q200 Grade 0, 2010	2010
67	R7, R13, R16, R17, R20, R35, R37, R40, R52, R54, R56, R87, R95, R96, R97, R100	16	10.0k	RMCF0603F110K0	Stackpole Electronics Inc	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
68	R9, R36, R53	3	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
69	R10	1	20.0k	RC0603FR-0720KL	Yageo	RES, 20.0 k, 1%, 0.1 W, 0603	0603
70	R11	1	1.00	CRCW06031R00KFKEA	Vishay-Dale	RES, 1.00, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
71	R12, R22	2	4.99	RC0603FR-07499L	Yageo	RES, 4.99, 1%, 0.1 W, 0603	0603
72	R14, R24	2	10.0	CRCW060310R0KFKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
73	R15	1	4.12k	RC0603FR-074K12L	Yageo	RES, 4.12 k, 1%, 0.1 W, 0603	0603
74	R18, R25	2	0.01	PMR50HZPFU10L0	Rohm	RES, 0.01, 1%, 1 W, 2010	2010
75	R23	1	154k	CRCW0402154KFKEA	Vishay-Dale	RES, 154 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

76	R27, R39, R44, R57	4	15.8k	CRCW060315K8FKEA	Vishay-Dale	RES, 15.8 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
77	R28, R42, R45, R59	4	0.1	KRL1220E-M-R100-F-T5	Susumu Co Ltd	RES, 0.1, 1%, .5 W, AEC-Q200 Grade 0, 0805	0805
78	R29, R33, R41, R46, R50, R58, R86, R88, R89, R101, R103, R105, R106	13	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
79	R30, R32, R34, R38, R48, R49, R51, R55	8	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
80	R31, R43, R47, R60	4	30.1k	CRCW060330K1FKEA	Vishay-Dale	RES, 30.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
81	R61, R108, R111, R121	4	47.0k	RC0603FR-0747KL	Yageo	RES, 47.0 k, 1%, 0.1 W, 0603	0603
82	R62, R63, R71, R72, R85, R91, R93, R102, R122, R123, R125, R126	12	0	CRCW0603000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
83	R64, R65, R73, R74	4	61.9	CRCW060361R9FKEA	Vishay-Dale	RES, 61.9, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
84	R66, R75, R112, R118	4	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
85	R76	1	100	RMCF0402JT100R	Stackpole Electronics Inc	RES, 100, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
86	R77, R78, R79, R80	4	10.0k	RMCF0402FT10K0	Stackpole Electronics Inc	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
87	R81, R82, R83, R84	4	33.0	RMCF0402FT33R0	Stackpole Electronics Inc	RES, 33.0, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
88	R90	1	2.20k	RC0603FR-072K2L	Yageo	RES, 2.20 k, 1%, 0.1 W, 0603	0603
89	R92	1	51.0	RC0603FR-0751RL	Yageo	RES, 51.0, 1%, 0.1 W, 0603	0603
90	R94	1	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
91	R98	1	100	RC0603FR-07100RL	Yageo	RES, 100, 1%, 0.1 W, 0603	0603
92	R99	1	4.87k	CRCW06034K87FKEA	Vishay-Dale	RES, 4.87 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
93	R104	1	0	RC0402JR-070RL	Yageo America	RES, 0, 5%, 0.063 W, 0402	0402
94	R107	1	2.0k	CRCW04022K00JNED	Vishay-Dale	RES, 2.0 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
95	R109	1	523k	CRCW0603523K3FKEA	Vishay-Dale	RES, 523 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
96	R110	1	31.6k	RC0603FR-0731K6L	Yageo	RES, 31.6 k, 1%, 0.1 W, 0603	0603
97	R113	1	4.7	CRCW06034R70JNEA	Vishay-Dale	RES, 4.7, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
98	R114	1	133k	CRCW0603133K3FKEA	Vishay-Dale	RES, 133 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
99	R115	1	52.3k	CRCW060352K3FKEA	Vishay-Dale	RES, 52.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
100	R117	1	95.3k	CRCW060395K3FKEA	Vishay-Dale	RES, 95.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
101	R119	1	71.5k	CRCW060371K5FKEA	Vishay-Dale	RES, 71.5 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
102	RT1	1	100k	NCP18WF104J03RB	MuRata	Thermistor NTC, 100k ohm, 5%, 0603	0603
103	S1	1		1188E-1K2-V-TR	Diptronics	Switch, SPST, 0.05 A, 12 VDC, SMD	7.8x3.5mm
104	TP1	1		1593-2	Keystone	Terminal, Turret, TH, Double	Keystone1593-2
105	TP6	1		1502-2	Keystone	Terminal, Turret, TH, Double	Keystone1502-2
106	U1	1		TPS92682QRHM01	Texas Instruments	Dual Channel Constant Voltage and Constant Current Controller with SPI Interface, RHM0032A (VQFNFP-32)	RHM0032A
107	U2, U3	2		TPS92520QDADQ1	Texas Instruments	4.5 to 65-V Input Dual 1.6-A Synchronous Buck LED Driver with SPI Control, DAD0032A (HTSSOP-32)	DAD0032A
108	U4, U5	2		TCAN1042VDRQ1	Texas Instruments	Automotive Fault Protected CAN Transceiver With Flexible Data-Rate, D0008A (SOIC-8)	D0008A
109	U6	1		TPS57160QDQGRQ1	Texas Instruments	Automotive 3.5V to 60V, 1.5A Step Down SWIFT(TM) Converter with Eco-Mode(TM), DGQ0010D (VSSOP-10)	DGQ0010D
110	U7	1		LM26420Q0XMHX/NOPB	Texas Instruments	Dual 2.0A, High Frequency Synchronous Step-Down DC-DC Regulator, PWP0020A (HTSSOP-20)	PWP0020A
111	U10	1		MSP432E401YTPDT	Texas Instruments	MSP432E401YTPDT, PDT0128A (TQFP-128)	PDT0128A
112	Y1	1		CMR200T-32.768KDZY-UT	Citizen FineDevice	Crystal, 32.768 kHz, SMD	D1.9xL6mm
113	Y2	1		NX3225GA-25.000M-STD-CRG-2	NDK	Crystal, 25 MHz, 8pF, SMD	3.2x0.75x2.5mm
114	R19, R26	0	0.02	WLSL2010R0200FEA18	Vishay-Dale	RES, 0.02, 1%, 1 W, 2010	2010

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