

TIDA-010950 REV E Bill of Materials



Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	Package/Reference
1	PCB1	1		NON-CT0100	Any	Printed Circuit Board	
2	C1, C2, C3, C6	4	220pF	GRM1555C1H220J01D	MuRata	CAP. CERAM. 22 pF, 50 V, +/- 5%, XGR, 0402	0402
3	C4	1	100uF	GRM188R010M06E84	MuRata	CAP. CERAM. 10 uF, 6.3 V, +/- 20%, XGR, 0603	0603
4	C5, C7B	2	0.1uF	GRM1555R010M04K1D	MuRata	CAP. CERAM. 0.1 uF, 6.3 V, +/- 10%, XGR, 0402	0402
5	C7	1	0.47uF	GRM1555R01474KE18D	MuRata	CAP. CERAM. 0.47 uF, 6.3 V, +/- 10%, XGR, 0402	0402
6	C8	1	0.1uF	GRM1555R010M04K1D	MuRata	CAP. CERAM. 0.1 uF, 6.3 V, +/- 10%, XGR, 0402	0402
7	C9	1	1uF	C1608R01E100R080AC	TDK	CAP. CERAM. 1 uF, 25 V, +/- 10%, XGR, 0603	0603
8	C10	1	100uF	107AZG250M	Cornell Dubilier	Aluminum Electrolytic Capacitors Radial, Can - SMD 2.3x1.0mm B 100uF 250V 10% 80°C	RADIAL
9	C11, C14	2	0.1uF	C1608R01E100R080AC	TDK	CAP. CERAM. 0.1 uF, 50 V, +/- 10%, XGR, 0603	0603
10	C12, C53	2	10uF	GRM218R1H100M04K3L	MuRata	Chip Multilayer Ceramic Capacitors for General Purpose, 0805, 10uF, XGR, 16%, 20%, 50V	0805
11	C13	1	0.47uF	GRM188R01474KE18D	MuRata	CAP. CERAM. 0.47 uF, 6.3 V, +/- 10%, XGR, 0603	0603
12	C16	1	0.047uF	GRM1555R11473ME14D	MuRata	CAP. CERAM. 0.047 uF, 50 V, +/- 20%, XGR, 0402	0402
13	C18	1	0.047uF	GRM1555R11473ME14D	MuRata	CAP. CERAM. 0.047 uF, 50 V, +/- 20%, XGR, 0402	0402
14	C17	1	1uF	CG90C015K474PAC7U	Kemet	CAP. CERAM. 1 uF, 16 V, +/- 10%, XGR, 0603	0603
15	C19	1	0.1uF	MAK200R0100M02R01R1P1F	Avx	CAP. CERAM. 0.1 uF, 16 V, +/- 20%, XGR, 0603	0603
16	C20, C21, C22	3	300pF	GRM188C1H300J01D	MuRata	CAP. CERAM. 30 pF, 50 V, +/- 5%, COG/NPO, 0603	0603
17	C23, C24, C25	3	1000pF	300J2E11	Würth Elektronik	CAP. CERAM. 1000 pF, 16 V, +/- 10%, XGR, 0603	0603
18	C26	1	0.1uF	CG90C015K474PAC7U	Kemet	CAP. CERAM. 0.1 uF, 16 V, +/- 10%, XGR, 0603	0603
19	C28, C30, C54	4	0.1uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 0.1 uF, 10 V, +/- 10%, XGR, 0402	0402
20	C31	1	2.2uF	CG300R0100M02R01R1P1F	TDK	CAP. CERAM. 2.2 uF, 16 V, +/- 10%, XGR, 0603	0603
21	C32	1	0.1uF	CG300R0100M02R01R1P1F	TDK	CAP. CERAM. 0.1 uF, 10 V, +/- 10%, XGR, 0603	0603
22	C33, C34	2	0.068uF	C1608R01E100R080AC	TDK	CAP. CERAM. 0.068 uF, 100 V, +/- 10%, XGR, 0603	0603
23	C35	1	0.01uF	CG400R0100M02R01R1P1F	TDK	CAP. CERAM. 0.01 uF, 100 V, +/- 10%, XGR, AEC-Q200 Grade 1, 0402	0402
24	C36	1	0.1uF	GRM188R0101M04K3L	MuRata	CAP. CERAM. 0.1 uF, 16 V, +/- 10%, XGR, 0402	0402
25	C37, C38	2	100uF	EEE-FK1J101P	Panasonic	CAP. AL. 100 uF, 63 V, +/- 20%, 0.35-ohm, AEC-Q200 Grade 2, SMD	SMD Radial G
26	C39	1	4.7uF	CG120R1M100M02R01R1P1F	TDK	CAP. CERAM. 4.7 uF, 50 V, +/- 10%, XGR, 0605	0605
27	C40, C41	2	100uF	805VPP10M	Panasonic	Aluminum Polymer, 10 uF, 50 V, +/- 20%, 0.04-ohm, P61 SMD	P61
28	C42	1	1uF	C1608R01E100R080AC	TDK	CAP. CERAM. 1 uF, 50 V, +/- 10%, XGR, 0603	0603
29	C43	1	100uF	CG300R0100M02R01R1P1F	TDK	CAP. CERAM. 100 uF, 50 V, +/- 10%, XGR, 0603	0603
30	C44	1	0.1uF	CG400R0100M02R01R1P1F	TDK	CAP. CERAM. 0.1 uF, 10 V, +/- 10%, XGR, AEC-Q200 Grade 1, 0603	0603
31	C45	1	0.033uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 0.033 uF, 10 V, +/- 10%, XGR, 0402	0402
32	C46	1	0.1uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 0.1 uF, 10 V, +/- 10%, XGR, 0402	0402
33	C47	1	0.15uF	C1608R01E150R080AC	TDK	CAP. CERAM. 0.15 uF, 50 V, +/- 10%, XGR, 0603	0603
34	C48	1	0.033uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 0.033 uF, 50 V, +/- 10%, XGR, 0603	0603
35	C49	1	470pF	GRM030C1L470J01D	MuRata	CAP. CERAM. 47 pF, 25 V, +/- 5%, COG/NPO, 0201	0201
36	C50	1	100uF	LMV4000A010M1K10S	Chemi-Con	CAP. AL. 100 uF, 63 V, +/- 20%, 0.25-ohm, SMD	REEL
37	C51	1	470pF	GRM030C1L470J01D	MuRata	CAP. CERAM. 47 pF, 16 V, +/- 10%, XGR, 0201	0201
38	C52, C55	2	0.01uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 0.01 uF, 50 V, +/- 10%, XGR, 0402	0402
39	C53	1	0.01uF	GRM1555R101M04K1D	MuRata	Chip Capacitor, SMD	0402
40	D2	1	100V	DF1501S-E377	Vishay-Semiconductor	Diode, Switching,Bridge, 100 V, 1.5 A, DF-S	DF-S
41	D3	1	40V	SMAJ30	Littelfuse	Diode, TVS, Unid, 40 V, 64.5 Vc, 400 W, 6.2 A, SMA	SMA
42	D4, D5	2	60V	15T-C15HK8K	Lite-On	LED, Red, SMD	LED, 0603
43	D6	1	Orange	15T-C15HKPK	Lite-On	LED, Orange, SMD	LED, 0603
44	R2, R6, R8, R11	4		100K	Keystone	Standard, Res, 0.5 L-40 Nylon	Standard
45	R3, R9, R10, R12	4		NY PMS 440 0025 PH	B&P Fastener Supply	Machine Screw, Bores, 4x1.14, Nylon, Phillips panhead	Screw
46	J1, J3, J4, J11, J14, J14, J17, J20, J23	10		MDP-8770246	Herain	Header, 2.54mm, 2x1, Tin, SMT	Header, 2.54mm, 2x1, SMT
47	J2	1		17SH-105-01F-DV-K	Samtec	Header (Shrouded), 1.27mm, 5x2, Gold, SMT	Header (Shrouded), 1.27mm, 5x2, SMT
48	J5, J6	2		1718055	Phoenix Contact	Terminal Block, 2x1, 6.35mm, Green, TH	Terminal Block, 2x1, 6.35mm, Green, TH
49	J7	1		1718068	Phoenix Contact	Terminal Block, 3x1, 6.35 mm, TH	Terminal Block, 3x1, 6.35 mm, TH
50	J8	1		1718092	Phoenix Contact	Terminal Block, 5mm, 5x1, R/A, TH	Terminal Block, 5mm, 5x1, R/A, TH
51	J10, J12	2		SSW-110-23-F-D	Samtec	Connector, Receptacle, 100mil, 10x2, Gold plated, TH	10x2 Receptacle
52	J15, J21, J22	5		PCG25AAN	Sullins Connector Solutions	Header, 100mil, 2x1, Tin, TH	Header, 2 PIN, 100mil, Tin
53	J16	1		E3505-2S	On-Shore Technology	Terminal Block, 3.5mm Pitch, 3x1, TH	10.5x8.2x6.5mm
54	J17, J19	2		172016E	Phoenix Contact	Phoenix Block, 2P05 5mm, TH	10.5x8.2x6.5mm
55	L1	1	47uH	NP03C-470M1P	NIC Components	Inductor, Chip Core, Ferrite, 47 uH, 0.2 A, 1.5 ohm, SMD	1.5x2.1x3mm
56	L2	1	68uH	MSS1210-683ME	Coilcraft	Inductor, Shielded, Ferrite, 68 uH, 4.3 A, 0.074 ohm, SMD	10x7.6x3.3mm
57	L3	1			Würth Elektronik	WE-HO SMT Flat Wire High Current Inductor, size 1050, 7.6uH, 10A, 13mOhm	10x7.6x3.3mm
58	Q1, Q2, Q3	3	40 V	MMB2T222ALTIG	ON Semiconductor	Transistor, NPN, 40 V, 0.8 A, SOT-23	SOT-23
59	R1	1	100	RC0201FR-0700RL	Vyago America	RES. 100 k, 0.05 W, 0201	0201
60	R2, R41, R44	3	100K	RC0201FR-0700RL	Vyago America	RES. 100 k, 0.05 W, 0201	0201
61	R3, R42, R45	3	4.7k	RC0201FR-07047L	Vyago America	RES. 4.7 k, 0.05 W, 0201	0201
62	R4	1	100k	R1000R0201000	Vyago America	RES. 100 k, 0.1 W, 01 W, 0603	0603
63	R5	1	4.7k	CRCW0603247000NEQ	Vishay-Dale	RES. 4.7 k, 0.5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
64	R6, R8, R9, R10, R11, R47	6	0	CRCW060300002DEA	Vishay-Dale	RES. 0, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
65	R13, R47	1	0.1k	CRCW060301001NEA	Vishay-Dale	RES. 5.1 k, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
66	R14, R15, R16	3	1.0k	CRCW060310001NEA	Vishay-Dale	RES. 1.0 k, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
67	R17, R18, R19, R53	4	10.0k	CRW060310000K0EA	Vishay-Dale	RES. 10.0 k, 0.5%, 0.1 W, AEC-Q200 Grade 1, 0603	0603
68	R20, R21	2	4.7k	RC0201FR-07047L	Vyago America	RES. 4.7 k, 0.05 W, 0201	0201
69	R22	1	602	RC0201FR-06010L	Vyago America	RES. 602, 0.1 W, 0.125 W, 0201	0201
70	R23	1	200	R1000R0201000	Vyago America	RES. 200, 0.2 W, 0.1 W, 0603	0603
71	R24, R27	2	100k	RC0201FR-0700RL	Vyago America	RES. 100 k, 0.1 W, 0.05 W, 0201	0201
72	R28	1	64.9k	CRCW060364900K0EA	Vishay-Dale	RES. 64.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
73	R29	1	100k	CRCW0603100K0K0EA	Vishay-Dale	RES. 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
74	R30	1	1.0k	CRCW060310001K0EA	Vishay-Dale	RES. 1.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
75	R31	1	1.00Meg	MC10030C-100P500	VishayBeyschlag	RES. 1.00 M, 1%, 0.125 W, 0603	0603
76	R32	1	36.3k	CRCW060336300K0EA	Vishay-Dale	RES. 36.3 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
77	R33	1	20.0k	CRCW060320000K0EA	Vishay-Dale	RES. 20.0 k, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
78	R34	1	12.1k	CRCW0603121K1K0EA	Vishay-Dale	RES. 12.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
79	R35	1	15.7k	CRCW0603157K1K0EA	Vishay-Dale	RES. 15.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0605	0605
80	R36	1	95.3k	CRCW0603953K0K0EA	Vishay-Dale	RES. 95.3 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
81	R37	1	0.2k	CRCW060302000K0EA	Vishay-Dale	RES. 0.2 k, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
82	R38	1	20.0k	CRCW060320000K0EA	Vishay-Dale	RES. 20.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
83	R39, R50	3	10.0k	CRCW0603100K0K0EA	Vishay-Dale	RES. 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
84	R40, R49	2	20.0k	RC0201FR-07020L	Vyago America	RES. 20.0 k, 0.05 W, 0201	0201
85	R42, R43	2	158k	CRCW0603158K0K0EA	Vishay-Dale	RES. 158 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
86	R49	2	49.9k	CRCW0603499K0K0EA	Vishay-Dale	RES. 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
87	R51	2	120	CRCW0603120R0R0EA	Vishay-Dale	RES. 120, 1%, 0.1 W, AEC-Q200 Grade 0, 0512	0512
88	R52	1	12k	1NFW060312K0BYEN	Vishay	12 kOhms 40 1% 0.1W, 170W Chip Resistor 0603 (1608 Metric) Anti-Sulfur, Automotive AEC-Q200, Moisture Resistant Thin Film	0603
89	S1	1		110M253C0E2	C&K Components	Switch, Slide, SPDT, On-On-On, 1 Pos, 6A, 120 VAC, 28 VDC, TH	12.7x6.6mm
90	TP1, TP2, TP3, TP4, TP6, TP8, TP9, TP8, TP13, TP14, TP16	11	5122		Keystone Electronics	Test Point, Compact, Blue, TH	Blue Compact Testpoint
91	TP5, TP10, TP16, TP19	4	5001		Keystone Electronics	Test Point, Miniature, Black, TH	Black Miniature Testpoint
92	TP11	1	5117		Keystone	Test Point, Miniature, Blue, TH	Blue Miniature Testpoint
93	TP20	1	5000		Keystone Electronics	Test Point, Miniature, Red, TH	Red Miniature Testpoint
94	U1	1	MSPM0G3507SPM	Texas Instruments	Mixed-Signal Microcontrollers With CAN-FD Interface LQFP64	LQFP64	
95	U3	1	DRV8181CRSPR	Texas Instruments	Three-Phase Integrated FET Motor Driver	VQFN48	
96	U4	1	RF49C2R1ER	Texas Instruments	Stepper Drivers With Integrated Current Sense, 1256 Microstepping, STEP/DIR Interface and smart tune Technology, RTE00163 (WQFN-16)	RTE00163	
97	U5	1	IMP235LP	Texas Instruments	Precision Analog Output Temperature Sensor, LP00034 (TO-92-3)	LP00034	
98	U6	1	SO1212B0R	Texas Instruments	SO1212B0R, DR000016A, DR00016A (SSOP-16)	DR00016A	
99	U7	1	LANA034020R	Texas Instruments	1.5 V CAN Transceiver with CAN-FD Interface Data Rate, DCM0008A (SOT-23-6)	DCM0008A	
100	U8	1	LMR36020SDA	Texas Instruments	SIMPLE SWITCHER 4.2 V to 80 V, 2-A, Synchronous Buck Converter	HSO8C	
101	U9	1	TPS22920SDA	Texas Instruments	1.5 V to 30 V, 2-A Synchronous Buck Converter in SOT23 Package	TPS22920	
102	U10	1	TPS18410DR	Texas Instruments	TPS18410DR	VSON10	
103	U11, U12	4	UV3147DR01	Texas Instruments	UV3147 Bi-directional Flat-Clamp Surge Protection Device, DR00008A (VSON-8)	DR00008A	
104	U13	2	TLV9002DSGR	Texas Instruments	2-Channel, 1MHz, RRIO, 1.8V to 5.5V Operational Amplifier for Cost-Sensitive Systems, DR00008A (WSON-8)	DR00008A	
105	Y1	1	X1E000210179	Seiko Epson	Crystal 40MHz +/-10ppm (F0) s20ppm (Stability) 12PF FUND 400nm 4 Pin MEMS40M0 TDR	TSX3225	
106	Y2	1	01A0001410014	Epson	Crystal, 32.768 KHz, 12.5 pF, SMD	SMD, 2-Leads, Body 3.2x1.5mm	
107	C30	0	1uF	GRM1555R101M04K1D	MuRata	CAP. CERAM. 1 uF, 25 V, +/- 10%, XGR, 0402	0402
108	C37	0	0.1uF	GRM1555R101M04K1D	MuRata	C	

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