

TIDA-010072 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-010072	Any	Printed Circuit Board	
C1, C4, C13, C25, C46, C69	6	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C2, C14, C26	3	0.01uF	GRM155R71H103KA88D	MuRata	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0402	0402
C3, C47, C48, C67	4	10uF	CL31B106KBHNNNE	Samsung	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, 1206	1206
C5, C49, C60	3	1uF	UMK107AB7105KA-T	Taiyo Yuden	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0603	0603
C6, C8, C17, C29, C30	5	0.1uF	885012105001	Wurth Elektronik	CAP, CERM, 0.1 uF, 6.3 V, +/- 20%, X5R, 0402	0402
C7	1	0.047uF	C1005X7R1H473K050BB	TDK	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, 0402	0402
C9	1	1uF	GRM155R70J105MA12D	MuRata	CAP, CERM, 1 uF, 6.3 V, +/- 20%, X7R, 0402	0402
C10, C20, C94	3	0.01uF	GRM155R71E103KA01D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
C11, C12, C27, C28, C36, C37, C38, C39, C83, C84, C85, C86, C95, C96	14	22pF	885012005009	Wurth Elektronik	CAP, CERM, 22 pF, 10 V, +/- 5%, C0G/NP0, 0402	0402
C15, C16, C18	3	1000pF	GRM155R61E102KA01D	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 10%, X5R, 0402	0402
C19, C35, C91	3	0.1uF	885012105010	Wurth Elektronik	CAP, CERM, 0.1 uF, 10 V, +/- 20%, X5R, 0402	0402
C21	1	0.1uF	160R07X104KV4T	Johanson Technology	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X5R, 0402	0402
C22	1	4.7uF	C2012X5R1H475K125AB	TDK	CAP, CERM, 4.7 uF, 50 V, +/- 10%, X5R, 0805	0805
C23, C24	2	22uF	C1608X5R1A226M080AC	TDK	CAP, CERM, 22 uF, 10 V, +/- 20%, X5R, 0603	0603
C31, C32, C33	3	2200pF	GRM155R61C222KA01D	MuRata	CAP, CERM, 2200 pF, 16 V, +/- 10%, X5R, 0402	0402
C34	1	10uF	CL10A106MQ8NUNC	Samsung Electro-Mechanics	CAP, CERM, 10 uF, 6.3 V, +/- 20%, X5R, 0603	0603
C40	1	1000pF	GRM155R61C102KA01D	MuRata	CAP, CERM, 1000 pF, 16 V, +/- 10%, X5R, 0402	0402
C41	1	470pF	GRM188R72A471KA01D	MuRata	CAP, CERM, 470 pF, 100 V, +/- 10%, X7R, 0603	0603
C42	1	47uF	EMZA500ADA470MF80G	Chemi-Con	CAP, AL, 47 uF, 50 V, +/- 20%, 0.68 ohm, SMD	F80
C43, C44	2	330uF	EMVA500ATR331MKE0S	Chemi-Con	CAP, AL, 330 uF, 50 V, +/- 20%, SMD	KE0
C45	1	180uF	EEE-FK1H181SP	Panasonic	CAP, AL, 180 uF, 50 V, +/- 20%, 0.34 ohm, AEC-Q200 Grade 2, SMD	SMT Radial F
C50, C51, C52, C54, C55, C56	6	10uF	UMK316BBJ106KL-T	Taiyo Yuden	CAP, CERM, 10 uF, 50 V, +/- 10%, X5R, 1206	1206
C58	1	100pF	885012205055	Wurth Elektronik	CAP, CERM, 100 pF, 50 V, +/- 10%, X7R, 0402	0402
C59	1	0.1uF	GRM155R61H104ME14D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 20%, X5R, 0402	0402
C61	1	0.033uF	GRM155R61A333KA01D	MuRata	CAP, CERM, 0.033 uF, 10 V, +/- 10%, X5R, 0402	0402
C62	1	560pF	GRM155R71H561KA01D	MuRata	CAP, CERM, 560 pF, 50 V, +/- 10%, X7R, 0402	0402
C63	1	10uF	EMK107BBJ106MA-T	Taiyo Yuden	CAP, CERM, 10 uF, 16 V, +/- 20%, X5R, 0603	0603
C64	1	0.1uF	C1005X5R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X5R, 0402	0402
C65	1	0.1uF	C1005X5R1A104K050BA	TDK	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X5R, 0402	0402
C66	1	0.33uF	C1005X5R1A334K050BB	TDK	CAP, CERM, 0.33 uF, 10 V, +/- 10%, X5R, 0402	0402
C68	1	0.22uF	C1608X7R1H224K080AB	TDK	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, 0603	0603
C71, C72, C73	3	22uF	GRT32ER61E226KE13L	MuRata	CAP, CERM, 22 uF, 25 V, +/- 10%, X5R, AEC-Q200 Grade 3, 1210	1210
C75	1	1uF	GRM155R61E105KA12D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X5R, 0402	0402
C76	1	1uF	CC0603MRX5R7BB105	Yageo America	CAP, CERM, 1 uF, 16 V, +/- 20%, X5R, 0603	0603
C78, C79	2	1uF	GRM155R61A105KE15D	MuRata	CAP, CERM, 1 uF, 10 V, +/- 10%, X5R, 0402	0402
C81, C87	2	22uF	GRM21BR61E226ME44L	MuRata	CAP, CERM, 22 uF, 25 V, +/- 20%, X5R, 0805	0805
C82, C88	2	0.1uF	GRM155R71E104KE14D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402	0402

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C89	1	47uF	C2012X5R1A476M125AC	TDK	CAP, CERM, 47 uF, 10 V, +/- 20%, X5R, 0805	0805
C90	1	4.7uF	C1005X5R1A475K050BC	TDK	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0402	0402
C92	1	10uF	CC0402MRX5R6BB106	Yageo	CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0402	0402
D1, D6, D7, D9, D10, D11	6	Red	LTST-C170KRKT	Lite-On	LED, Red, SMD	Red 0805 LED
D2	1	60V	PMEG6010CEH,115	Nexperia	Diode, Schottky, 60 V, 1 A, SOD-123F	SOD-123F
D3	1	100V	MBR1H100SFT3G	ON Semiconductor	Diode, Schottky, 100 V, 1 A, SOD-123FL	SOD-123FL
D4, D5, D8	3	Green	LTST-C171GKT	Lite-On	LED, Green, SMD	0805 LED
H1, H2	2		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H7, H8	2		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
J1, J2	2		SSQ-110-03-G-D	Samtec	Receptacle, 2.54mm, 10x2, Gold, TH	Receptacle, 2.54mm, 10x2, TH
J3	1		SBH11-PBPC-D07-ST-BK	Sullins Connector Solutions	Header (shrouded), 100 mil, 7x2, Gold, TH	7x2 Shrouded Header
J4	1		850-10-004-10-001101	Preci-Dip	Header, 50mil, 4x1, Gold, TH	Header, 4x1, 50mil, TH
J5	1		691236510003	Würth Elektronik	Terminal Block, 5.08mm, 3x1, R/A, TH	Terminal Block, 5.08mm, 3x1, R/A, TH
J6	1		ED120/2DS	On-Shore Technology	Terminal Block, 5.08 mm, 2x1, Brass, TH	2x1 5.08 mm Terminal Block
J7, J8, J9, J10, J11, J12, J17, J18	8		61300211121	Würth Elektronik	Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH
J13, J14, J15, J16	4		TSW-103-07-G-S	Samtec	Header, 100mil, 3x1, Gold, TH	3x1 Header
L1	1	22uH	74438356220	Würth Elektronik	Inductor, Shielded, 22 uH, 1.7 A, 0.28 ohm, SMD	4.1x4.1mm
L2	1	4.7uH	XAL6060-472MEB	Coilcraft	Inductor, Shielded, Composite, 4.7 uH, 10.5 A, 0.0144 ohm, AEC-Q200 Grade 1, SMD	IND_6.4x6.1x6.6
L3	1	33uH	XAL6060-333MEB	Coilcraft	Inductor, Shielded, Composite, 33 uH, 3.6 A, 0.105 ohm, AEC-Q200 Grade 1, SMD	IND_6.4x6.1x6.6
L4	1	2.2uH	XFL3012-222MEB	Coilcraft	Inductor, Shielded, Composite, 2.2 uH, 1.6 A, 0.08 ohm, SMD	3x1.2x3mm
Q1	1	60V	CSD18532Q5B	Texas Instruments	MOSFET, N-CH, 60 V, 172 A, DNK0008A (VSON-CLIP-8)	DNK0008A
Q2, Q3	2	60V	CSD18543Q3A	Texas Instruments	MOSFET, N-CH, 60 V, 35 A, DNH0008A (VSONP-8)	DNH0008A
Q4	1	45 V	BC847CLT1G	ON Semiconductor	Transistor, NPN, 45 V, 0.1 A, SOT-23	SOT-23
R1, R2, R11, R23	4	82.0k	RC0402FR-0782KL	Yageo America	RES, 82.0 k, 1%, 0.063 W, 0402	0402
R3, R4, R14, R24	4	4.99k	CRCW04024K99FKED	Vishay-Dale	RES, 4.99 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R5, R15, R25	3	0.01	CRA2512-FZ-R010ELF	Bourns	RES, 0.01, 1%, 3 W, 2512	2512
R6, R17, R72	3	5.1k	CRCW04025K10JNED	Vishay-Dale	RES, 5.1 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R7, R8, R9, R12, R13, R16	6	10.0	RK73H1ETTP10R0F	KOA Speer	RES, 10.0, 1%, 0.063 W, 0402	0402
R10, R19	2	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R18, R59, R60, R61, R62, R64, R65, R73	8	470	CRCW0402470RJNED	Vishay-Dale	RES, 470, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R20, R56	2	100k	RMCF0402FT100K	Stackpole Electronics Inc	RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R21	1	49.9k	CRCW040249K9FKED	Vishay-Dale	RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R22	1	11.8k	CRCW040211K8FKED	Vishay-Dale	RES, 11.8 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R26, R27, R28	3	56.2	CRCW040256R2FKED	Vishay-Dale	RES, 56.2, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R29, R34	2	102	CRCW0402102RFKED	Vishay-Dale	RES, 102, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R30, R31, R32, R33	4	3.3k	CRCW04023K30JNED	Vishay-Dale	RES, 3.3 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

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R35	1	47k	CRCW040247K0JNED	Vishay-Dale	RES, 47 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R36, R37	2	35.7k	CRCW060335K7FKEA	Vishay-Dale	RES, 35.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R40	1	0.008	PMR100HZPFU8L00	Rohm	RES, 0.008, 1%, 2 W, 2512	2512
R41	1	8.2	RC1210JR-078R2L	Yageo	RES, 8.2, 5%, 0.5 W, 1210	1210
R42, R49, R50, R74, R75, R76, R77, R78	8	0	CRCW04020000Z0EDHP	Vishay-Dale	RES, 0, 0%, 0.2 W, AEC-Q200 Grade 0, 0402	0402
R43	1	49.9k	MCR01MZPF4992	Rohm	RES, 49.9 k, 1%, 0.063 W, 0402	0402
R44	1	39.0k	ERJ2RKF3902X	Panasonic	RES, 39.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R45, R46	2	100	CRCW0402100RFKED	Vishay-Dale	RES, 100, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R47	1	14.0k	RC0402FR-0714KL	Yageo	RES, 14.0 k, 1%, 0.0625 W, 0402	0402
R48	1	3.65k	CRCW04023K65FKED	Vishay-Dale	RES, 3.65 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R51	1	23.2k	CRCW040223K2FKED	Vishay-Dale	RES, 23.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R52	1	140k	CRCW0402140KFKED	Vishay-Dale	RES, 140 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R53	1	36.5k	CRCW040236K5FKED	Vishay-Dale	RES, 36.5 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R54, R55, R67, R70, R71	5	100k	CRCW0402100KJNED	Vishay-Dale	RES, 100 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R57	1	9.09k	CRCW04029K09FKED	Vishay-Dale	RES, 9.09 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R58, R66	2	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R63	1	330	CRCW0402330RJNED	Vishay-Dale	RES, 330, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R68	1	0.33	CSR1206FKR330	Stackpole Electronics Inc	RES, 0.33, 1%, 0.5 W, 1206	1206
R69	1	267k	CRCW0402267KFKED	Vishay-Dale	RES, 267 k, 1%, 0.063 W, 0402	0402
TP2, TP8, TP11, TP13, TP14	5		5117	Keystone	Test Point, Miniature, Blue, TH	Blue Miniature Testpoint
TP16, TP17, TP18, TP19	4		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP20, TP21, TP22, TP23	4		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U1, U4, U6	3		CSD88584Q5DC	Texas Instruments	40 V Half-Bridge NexFE Power Block, DMM0022A (LSON-CLIP-27)	DMM0022A
U2	1		DRV8323RSRGZR	Texas Instruments	60V Three-Phase Smart Gate Driver With Buck Regulator and Three Current Shunt Amplifiers, RGZ0048A (VQFN-48)	RGZ0048A
U3, U5, U24	3		TMP1075DSGT	Texas Instruments	I2C Compatible Upgrade to Industry Standard LM75 / TMP75 Digital Temperature Sensors, DSG0008A (WSON-8)	DSG0008A
U7	1			Texas Instruments	Dual 4-Input Positive-AND Gates, PW0014A, TUBE	PW0014A
U8	1		MSP430FR2155TRHAR	Texas Instruments	24MHz 105C ULP Microcontroller With 32 KB FRAM, 4 KB SRAM, 44 IO, 12-bit ADC, RHA0040E (VQFN-40)	RHA0040E
U9, U10, U11, U12, U13, U14, U15	7		TPD4E1U06DCKR	Texas Instruments	Quad-Channel High-Speed ESD Protection Device, DCK0006A (SOT-SC70-6)	DCK0006A
U16	1		TVS3301DRBR	Texas Instruments	33 V Bidirectional Flat-Clamp Surge Protection Device, DRB0008A (VSON-8)	DRB0008A
U17	1		LM5122MHX/NOPB	Texas Instruments	3-65V Wide Vin, Current Mode Synchronous Boost Controller with Multiphase Capability, PWP0020A (HTSSOP-20)	PWP0020A
U18	1		LM74700QDBVTQ1	Texas Instruments	Low Iq Always ON Smart Diode Controller, DBV0006A (SOT-23-6)	DBV0006A
U19	1		LMR33630ADDAR	Texas Instruments	SIMPLE SWITCHER 3.8V to 36V 3A/2A Synchronous Step-Down Voltage Regulator, DDA0008J (SOIC-8)	DDA0008J
U20	1		TPS7A0233PDQNR	Texas Instruments	1-uA IQ, 200-mA, Ultralow IQ Low-Dropout Regulator, DQN0004A (X2SON-4)	DQN0004A
U21, U22	2		DRV8847SPWR	Texas Instruments	Dual H-Bridge Motor Driver, PW0016A (TSSOP-16)	PW0016A
U23	1		TPS62840YBGR	Texas Instruments	Ultra low IQ Step Down Converter, YBG0006AJAN (DSBGA-6)	YBG0006AJAN
C53, C57	0	10uF	UMK316BBJ106KL-T	Taiyo Yuden	CAP, CERM, 10 uF, 50 V, +/- 10%, X5R, 1206	1206
C70	0	220pF	GRM033R71E221KA01D	MuRata	CAP, CERM, 220 pF, 25 V, +/- 10%, X7R, 0201	0201

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C74	0	22uF	GRT32ER61E226KE13L	MuRata	CAP, CERM, 22 μ F, 25 V,+/- 10%, X5R, AEC-Q200 Grade 3, 1210	1210
C77, C80, C93	0	10uF	CC0402MRX5R6BB106	Yageo	CAP, CERM, 10 μ F, 10 V,+/- 20%, X5R, 0402	0402
R38, R39	0	35.7k	CRCW060335K7FKEA	Vishay-Dale	RES, 35.7 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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