

TIDA-010071 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-010071	Any	Printed Circuit Board	
+1, Reg1, Reg2, Reg3, Reg4, Reg5, Reg6, Reg7, Reg8, Reg_ 1, Unreg_-1, Unreg_+1	12		5005	Keystone	Test Point, Compact, Red, TH	Red Compact Testpoint
AC IN, RELAY_ISO	2		691 101 710 003	Wurth Elektronik	Terminal Block, 5 mm, 3x1, Tin, TH	Terminal Block, 5 mm, 3x1, TH
Bridge1, D19, D20	3		MDB6S	Fairchild Semiconductor	600 V, 1 A, Single-Phase Bridge Rectifier, -55 to 150 degC, 4-Pin 5 x 4.4 x 1.6 mm MicroDIP, RoHS, Tape and Reel	MDBXS-4
C2, C3	2	18uF	400AX18MEFC10X16	Rubycon	CAP, AL, 18 µF, 400 V, +/- 20%, TH	D10xL16mm
C4	1	1000pF	GRM31B5C2J102JW01L	MuRata	CAP, CERM, 1000 pF, 630 V, +/- 5%, C0G/NP0, 1206	1206
C5, C11	2	680uF	EMZS350ARA681MJA0G	Chemi-Con	CAP, AL, 680 µF, 35 V, +/- 20%, 0.06 ohm, AEC-Q200 Grade 2, SMD	JA0
C7	1	680uF	APSG200ELL681MJB5S	Chemi-Con	CAP, Aluminum Polymer, 680 uF, 20 V, +/- 20%, 0.012 ohm, TH	10x11.5mm
C8	1	1uF	08053D105KAT2A	AVX	CAP, CERM, 1 uF, 25 V, +/- 10%, X5R, 0805	805
C9, C26, C27, C30, C31	5	1uF	C1608X7R1E105K080AE	TDK	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	603
C10, C15	2	4700pF	PHE850EA4470MA03R17	Kemet	CAP, Film, 4700 pF, 1250 V, +/- 20%, TH	13x5x11mm
C12	1	1uF	C0805C105K5RACTU	Kemet	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0805	805
C13, C14	2	0.1uF	R46KF310050POK	Kemet	CAP, Film, 0.1 uF, 560 V, +/- 10%, TH	13x12x6mm
C17, C18	2	2.2uF	C2012X7R1H225K125AC	TDK	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, 0805	805
C19	1	0.047uF	CGA3E2X7R1H473K080AA	TDK	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C20	1	1200pF	GRM155R71H122KA01D	MuRata	CAP, CERM, 1200 pF, 50 V, +/- 10%, X7R, 0402	402
C21	1	220pF	C0603C221M5RACTU	Kemet	CAP, CERM, 220 pF, 50 V, +/- 20%, X7R, 0603	603
C22	1	0.1uF	C0603C104K8RACTU	Kemet	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0603	603
C23	1	1000pF	VY2102M29Y5UG63V7	Vishay-Bccomponents	CAP, CERM, 1000 pF, 300 V, +/- 20%, Y5U, Radial Disc 7.5mm, ls=7.5	Radial Disc 7.5mm, ls=7.5
C24, C32, C36, C42, C45, C51, C53, C56, C60, C63, C64	11	0.1uF	GRM188R71E104KA01D	MuRata	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0603	603
C25, C33, C37, C46	4	0.01uF	GRM188R71E103KA01D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0603	603
C28, C29	2	0.047uF	GRM188R71E473KA01D	MuRata	CAP, CERM, 0.047 uF, 25 V, +/- 10%, X7R, 0603	603
C34, C35, C38, C39, C47, C48	6	2.2uF	GRM188Z71C225KE43	MuRata	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X7R, 0603	603
C40, C44, C49, C54	4	0.01uF	GRM188R71H103KA01D	MuRata	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0603	603
C41, C43, C50, C52, C55, C59	6	10uF	C3216X7R1V106K160AC	TDK	CAP, CERM, 10 uF, 35 V, +/- 10%, X7R, 1206	1206
C57, C58, C61, C62	4	10uF	GRM21BR71A106KE51L	MuRata	CAP, CERM, 10 uF, 10 V, +/- 10%, X7R, 0805	805
C65	1	1uF	GMK107BJ105KA-T	Taiyo Yuden	CAP, CERM, 1 uF, 35 V, +/- 10%, X5R, 0603	603
C66	1	100pF	0603ZC101KAT2A	AVX	CAP, CERM, 100 pF, 10 V, +/- 10%, X7R, 0603	603
C67	1	1uF	C1608X7R1C105K080AC	TDK	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	603
C68, C70	2	1000pF	C0603C102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	603
C69	1	0.1uF	C0603C104K4RACTU	Kemet	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0603	603
D1, D6	2	60V	B160B-13-F	Diodes Inc.	Diode, Schottky, 60 V, 1 A, SMB	SMB

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D2	1	40V	MBRA340T3G	ON Semiconductor	Diode, Schottky, 40 V, 3 A, SMA	SMA
D3, D4	2	14V	MMSZ4701T1G	ON Semiconductor	Diode, Zener, 14 V, 500 mW, SOD-123	SOD-123
D5	1	1000V	US1M-13-F	Diodes Inc.	Diode, Ultrafast, 1000 V, 1 A, SMA	SMA
D7	1	30V	MMSZ4713-E3-08	Vishay-Semiconductor	Diode, Zener, 30 V, 500 mW, SOD-123	SOD-123
D8	1	100V	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323
D9, D10, D11, D12, D13, D14, D17, D18	8	Green	150060GS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D15	1	14V	SMAJ14CA	Littelfuse	Diode, TVS, Bi, 14 V, 23.2 Vc, 400 W, 17.2 A, SMA (non-polarized)	SMA (non-polarized)
D16	1	100V	US1B-13-F	Diodes Inc.	Diode, Ultrafast, 100 V, 1 A, SMA	SMA
F1	1		0443003.DR	Littelfuse	Fuse, 5 A, 280VAC/VDC, SMD	FUSE 10.1x3.12x3.13mm
FID5, FID6, FID7, FID8	5		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
GND1, GND2, GND4, GND5, GND6, GND7, GND8, GND9, GND10, GND11, GND12, PGND1	12		5006	Keystone	Test Point, Compact, Black, TH	Black Compact Testpoint
H1, H2, H3, H4	4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
J1, J4, J5, J8, J9, J11, J13, J15, J17, J19	10		ED555/2DS	On-Shore Technology	Terminal Block, 3.5mm Pitch, 2x1, TH	7.0x8.2x6.5mm
J2, J3, J6, J7, J10, J12, J14, J16, J18, J22, PILOT OUT	11		61300211121	Würth Elektronik	Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH
J20, J21	2		SSQ-110-03-T-D	Samtec	Receptacle, 2.54mm, 10x2, Tin, TH	10x2 Receptacle
L1	1	10mH	744821110	Würth Elektronik	Coupled inductor, 10 mH, 0.7 A, 0.35 ohm, TH	15 x 18 x 7.5mm
L2	1	4.7uH	XFL5030-472MEC	Coilcraft	Inductor, Shielded, Composite, 4.7 µH, 2.5 A, 0.022 ohm, AEC-Q200 Grade 1, SMD	5.48x5.28mm
L3	1		VLS3012HBX-2R2M	TDK	2.2µH Shielded Wirewound Inductor 3.15A 106mOhm Max Nonstandard	SMT_3MM0_3MM0
O1	1		FOD817DS	Fairchild Semiconductor	Optocoupler, 5 kV, 300-600% CTR, SMT	DIP-4L Gullwing
PILOT	1		5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint
Q1	1		IPN70R1K2P7SATMA1	Infineon	N-Channel 700V 4.5A (Tc) 6.3W (Tc) Surface Mount PG-SOT223	SOT223-3
Q2	1	100V	CSD19534Q5A	Texas Instruments	MOSFET, N-CH, 100 V, 10 A, DQJ0008A (VSONP-8)	DQJ0008A
Q3, Q4	2	30 V	BC848CLT1G	ON Semiconductor	Transistor, NPN, 30 V, 0.1 A, SOT-23	SOT-23
R1	1	510k	CRCW0603510KJNEA	Vishay-Dale	RES, 510 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R2, R3, R4, R6	4	2.0k	CRCW08052K00JNEA	Vishay-Dale	RES, 2.0 k, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	805
R5	1	511	RT0805BRD07511RL	Yageo America	RES, 511, 0.1%, 0.125 W, 0805	805
R7	1	0	RCS06030000Z0EA	Vishay-Dale	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	603
R8	1	1.50k	ERJ-3EKF1501V	Panasonic	RES, 1.50 k, 1%, 0.1 W, 0603	603
R9	1	20	CRCW060320R0FKEA	Vishay-Dale	RES, 20.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R10	1	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R11	1	20	CRCW080520R0JNEA	Vishay-Dale	RES, 20, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	805
R12	1	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R13	1	160k	RC0603FR-07160KL	Yageo	RES, 160 k, 1%, 0.1 W, 0603	603
R14, R24, R26, R34, R40, R43, R44, R45, R48, R51, R81	11	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	603
R15	1	59.0k	RC0603FR-0759KL	Yageo	RES, 59.0 k, 1%, 0.1 W, 0603	603

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R16	1	1.10k	CRCW06031K10FKEA	Vishay-Dale	RES, 1.10 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R17	1	22.0k	RC0603FR-0722KL	Yageo	RES, 22.0 k, 1%, 0.1 W, 0603	603
R18	1	20.0k	CRCW060320K0FKEA	Vishay-Dale	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R19	1	38.3k	RT0603DRE0738K3L	Yageo America	RES, 38.3 k, 0.5%, 0.1 W, 0603	603
R20, R21	2	1.96	RC1206FR-071R96L	Yageo America	RES, 1.96, 1%, 0.25 W, 1206	1206
R22, R52	2	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R27, R28, R29, R32	4	1.2k	RC0603JR-071K2L	Yageo	RES, 1.2 k, 5%, 0.1 W, 0603	603
R30, R31, R62, R70	4	620	RC0603FR-07620RL	Yageo	RES, 620, 1%, 0.1 W, 0603	603
R37	1	9.09Meg	CRCW06039M09FKEA	Vishay-Dale	RES, 9.09 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R38	1	1.00Meg	CRCW06031M00DHEAP	Vishay-Dale	RES, 1.00 M, 0.5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R39	1	330k	CRCW0603330KJNEA	Vishay-Dale	RES, 330 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R41	1	93.1k	RT0603BRD0793K1L	Yageo America	RES, 93.1 k, 0.1%, 0.1 W, 0603	603
R42, R47, R50	3	10.0k	RT0603BRD0710KL	Yageo America	RES, 10.0 k, 0.1%, 0.1 W, 0603	603
R46	1	32.4k	RT0603BRD0732K4L	Yageo America	RES, 32.4 k, 0.1%, 0.1 W, 0603	603
R49	1	33.2k	RC0603FR-0733K2L	Yageo	RES, 33.2 k, 1%, 0.1 W, 0603	603
R53, R55, R56	3	200k	RC0603FR-07200KL	Yageo	RES, 200 k, 1%, 0.1 W, 0603	603
R54	1	1.0k	RC0603JR-071KL	Yageo	RES, 1.0 k, 5%, 0.1 W, 0603	603
R57	1	56k	RC0603JR-0756KL	Yageo	RES, 56 k, 5%, 0.1 W, 0603	603
R58	1	66.5k	RC0603FR-0766K5L	Yageo	RES, 66.5 k, 1%, 0.1 W, 0603	603
R59, R73, R78	3	560	RC0603JR-07560RL	Yageo	RES, 560, 5%, 0.1 W, 0603	603
R61	1	1.00k	RC0603FR-071KL	Yageo	RES, 1.00 k, 1%, 0.1 W, 0603	603
R63	1	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R65	1	1	CRCW25121R00FKEG	Vishay-Dale	RES, 1.00, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512
R67	1	200k	CRCW0603200KFKEA	Vishay-Dale	RES, 200 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R68	1	665k	CRCW0603665KFKEA	Vishay-Dale	RES, 665 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R69, R74	2	20.0k	ERJ-3EKF2002V	Panasonic	RES, 20.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R71, R72, R75, R76	4	30k	CRCW120630K0JNEA	Vishay-Dale	RES, 30 k, 5%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R77, R79	2	15k	CRCW060315K0JNEA	Vishay-Dale	RES, 15 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
RELAY OUT	1		691 101 710 002	Würth Elektronik	Terminal Block, 5 mm, 2x1, Tin, TH	Terminal Block, 5 mm, 2x1, TH
RV1	1	430V	B72214S0271K101	TDK	Varistor, 430V, 4.5KA, TH	Disc, 14x5mm
T1	1		750318383	Würth Electronics	TRANSFORMER	PTH_29MM0_21MM5
U1	1		UCC28740DR	Texas Instruments	Constant-Voltage, Constant-Current Flyback Controller Using Opto-Coupler Feedback, D0007A (SOIC-7)	D0007A
U2	1		TL431LIACDBZR	Texas Instruments	Programmable Shunt Regulator with Optimized Reference Current, DBZ0003A (SOT-23-3)	DBZ0003A
U3	1		TLV76012DBZR	Texas Instruments	100-mA, 30-V, Fixed-Output, Linear-Voltage Regulator, DBZ0003A (SOT-23-3)	DBZ0003A
U4	1		TPS715A01DRVR	Texas Instruments	24-V, 80-mA, Low Iq, Low-Dropout Linear Regulator, DRV0006A (WSON-6)	DRV0006A
U5	1		TLV70450DBVR	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
U6	1		LP2951-50DRGR	Texas Instruments	Fixed Regulator with 1 to 30 V Input and 1.2 to 30 V Output, -40 to 125 degC, 8-Pin SON (DRG), Green (RoHS & no Sb/Br)	DRG0008A
U7, U9	2		TPS7A3001DRBR	Texas Instruments	Vin -3V to -36V, -200mA, Ultra-Low-Noise, High-PSRR, Low-Dropout (LDO) Linear Regulator, DRB0008A (VSON-8)	DRB0008A
U8	1		LM79L05ACM/NOPB	Texas Instruments	Series 3-Terminal Negative Regulators, 8-pin Narrow SOIC, Pb-Free	D0008A
U10	1		TPS561201DDCR	Texas Instruments	4.5-V to 17-V Input, 2-A Synchronous Step-Down Voltage Regulator, DDC0006A (SOT-6)	DDC0006A
U11	1		TPS62172DSGR	Texas Instruments	Buck Step Down Regulator with 3 to 17 V Input and 3.3 V Output, -40 to 85 degC, 8-Pin WSON (DSG), Green (RoHS & no Sb/Br)	DSG0008A

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U12	1		TLV1805DBVR	Texas Instruments	40 V, microPower, Push-Pull Comparator with Shutdown, DBV0006A (SOT-23-6)	DBV0006A
U13	1		DRV110PWR	Texas Instruments	Single-Channel Relay, Solenoid, Valve Low-Side Controller With Current Regulation, PW0008A (TSSOP-8)	PW0008A
U14	1		ISO1212DBQR	Texas Instruments	ISO1212DBQR, DBQ00016A, DBQ0016A (SSOP-16)	DBQ0016A
C1, C6, C16	0	220pF	C0603C221M5RACTU	Kemet	CAP, CERM, 220 pF, 50 V, +/- 20%, X7R, 0603	603
FID1, FID2, FID3, FID4	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
R23, R25, R33, R80	0	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	603
R35	0	0	RCS06030000Z0EA	Vishay-Dale	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	603
R36	0	38.3k	RT0603DRE0738K3L	Yageo America	RES, 38.3 k, 0.5%, 0.1 W, 0603	603
R60	0	499k	CRCW0603499KFKEA	Vishay-Dale	RES, 499 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R64	0	51.1k	CRCW060351K1FKEA	Vishay-Dale	RES, 51.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R66	0	1	CRCW25121R00FKEG	Vishay-Dale	RES, 1.00, 1%, 1 W, AEC-Q200 Grade 0, 2512	2512

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