

## TIDA-050045 REV A Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
I PCB1	1		N/A	Any	Printed Circuit Board	
C1, C2, C3, C4	4	0.01uF	CGA3E2X7R2A103K080AA	TDK	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C5, C6	2	1000pF	GR442QR73D102KW01L	MuRata	CAP, CERM, 1000 pF, 2000 V, +/- 10%, X7R, 1808	1808
C7, C8, C9, C10	4	1000pF	C1608X7R2A102K080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	0603
C11	1	470pF	08051C471KAT2A	AVX	CAP, CERM, 470 pF, 100 V, +/- 10%, X7R, 0805	0805
C12, C13, C14, C15	4	330pF	885012006060	Würth Elektronik	CAP, CERM, 330 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C16	1	2200pF	C4532X7R3D222K130KA	TDK	CAP, CERM, 2200 pF, 2000 V, +/- 10%, X7R, 1812	1812
C17	1	0.047uF	CGA5H2X7R2A473K115AA	TDK	CAP, CERM, 0.047 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C19	1	4700pF	12061C472JAT2A	AVX	CAP, CERM, 4700 pF, 100 V, +/- 5%, X7R, 1206	1206
C20, C34	2	0.1uF	GRM319R72A104KA01D	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 1206	1206
C21	1	68uF	EEV-FK2A680Q	Panasonic	CAP, AL, 68 uF, 100 V, +/- 20%, 0.32 ohm, AEC-Q200 Grade 2, SMD	SMT Radial H13
C22, C23, C24	3	2.2uF	GRM32ER72A225KA35L	MuRata	CAP, CERM, 2.2 uF, 100 V, +/- 10%, X7R, 1210	1210
C25	1	0.1uF	GRM21BR72A104KAC4L	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0805	0805
C27, C29	2	100uF	GRM32EC70J107ME15L	MuRata	CAP, CERM, 100 uF, 6.3 V, +/- 20%, X7S, 1210	1210
C28	1	470uF	UUD0J471MNL1GS	Nichicon	CAP, AL, 470 uF, 6.3 V, +/- 20%, 0.17 ohm, SMD	8x10
C31	1	470pF	GRM188R71H471KA01D	MuRata	CAP, CERM, 470 pF, 50 V, +/- 10%, X7R, 0603	0603
C32	1	1uF	GRM21BR71E105KA99L	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0805	0805
C33	1	0.047uF	GRM31CR72E473KW03L	MuRata	CAP, CERM, 0.047 uF, 250 V, +/- 10%, X7R, 1206	1206
C35	1	0.047uF	GRM188R71H473KA61D	MuRata	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X7R, 0603	0603
C36	1	1000pF	CGA3E2X7R2A102K080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C38	1	0.1uF	GCM21BR71H104KA37K	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
C39	1	0.1uF	C2012X5R1H104M085AA	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 20%, X5R, 0805	0805
C40	1	0.1uF	CGA3E2X7R1E104K080AA	TDK	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C41	1	2200pF	C0603C222K5RAC	Kemet	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	0603
C42	1	0.1uF	C0603C104J3RACTU	Kemet	CAP, CERM, 0.1 uF, 25 V, +/- 5%, X7R, 0603	0603
C43	1	1000pF	06031C102KAT2A	AVX	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	0603
C44	1	0.047uF	GRM188R71C473KA01D	MuRata	CAP, CERM, 0.047 uF, 16 V, +/- 10%, X7R, 0603	0603
C45	1	0.015uF	GRM188R71H153KA01D	MuRata	CAP, CERM, 0.015 uF, 50 V, +/- 10%, X7R, 0603	0603
C47	1	2.2uF	C2012X7R1H225K125AC	TDK	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, 0805	0805
D1, D2, D3, D4, D5	5	100V	B2100-13-F	Diodes Inc.	Diode, Schottky, 100 V, 2 A, SMB	SMB
D6	1	58V	SMBJ58A-13-F	Diodes Inc.	Diode, TVS, Uni, 58 V, 93.6 Vc, SMB	SMB
D12	1	100V	MURA110T3G	ON Semiconductor	Diode, Ultrafast, 100 V, 2 A, SMA	SMA
D13, D14, D15, D16, D20, D22	6	100V	MMSD914T1G	ON Semiconductor	Diode, Switching, 100 V, 0.2 A, SOD-123	SOD-123
D17, D18	2	12V	MMSZ5242B-7-F	Diodes Inc.	Diode, Zener, 12 V, 500 mW, SOD-123	SOD-123
D23	1	30V	BAT54S-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.2 A, SOT-23	SOT-23
D25, D26, D27	3	Yellow	150060YS75000	Würth Elektronik	LED, Yellow, SMD	LED_0603
H1, H2, H3, H4	4		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
J1, J2	2		1-406541-1	TE Connectivity	RJ45, No LED, tab up, R/A, TH	16.26x14.54x15.75
J3	1		39357-0002	Molex	Terminal Block, 3.5 mm, 2x1, Tin, TH	Terminal Block, 3.5 mm, 2x1, TH
J4, J8, J11	3		5-146278-3	TE Connectivity	Header, 100mil, 3x1, Tin, TH	Header, 3x1, 100mil, TH

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
J5	1		PEC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Tin, TH	Header, 2 PIN, 100mil, Tin
J6	1		ED555/2DS	On-Shore Technology	Terminal Block, 3.5mm Pitch, 2x1, TH	7.0x8.2x6.5mm
J7, J9, J10	3		5-146278-2	TE Connectivity	Header, 100mil, 2x1, Tin, TH	Header, 2x1, 100mil, TH
L1, L3, L4, L6	4	300 ohm	742792641	Würth Elektronik	Ferrite Bead, 300 ohm @ 100 MHz, 2 A, 0603	0603
L7	1	3.3uH	744325330	Würth Elektronik	Inductor, Shielded Drum Core, Superflux, 3.3 uH, 12 A, 0.0059 ohm, SMD	WE-HC6
L8	1	3.5uH	7443556350	Würth Elektronik	Inductor, Shielded Drum Core, WE-Superflux200, 3.5 uH, 22.5 A, 0.0031 ohm, SMD	18.3x8.9x18.2mm
L9	1	2.2mH	768775322	Würth Elektronik	Inductor, Unshielded Drum Core, Metal Composite, 2.2 mH, 0.15 A, 6 ohm, SMD	7x5x7.8mm
LBL1	1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch
Q1, Q2, Q3, Q4	4	100V	CSD19538Q2	Texas Instruments	MOSFET, N-CH, 100 V, 4.5 A, DQK0006C (WSON-6)	DQK0006C
Q6	1	100V	BSC105N10LSF G	Infineon Technologies	MOSFET, N-CH, 100 V, 90 A, PG-TDSON-8	PG-TDSON-8
Q7	1	100 V	FCX493TA	Diodes Inc.	Transistor, NPN, 100 V, 1 A, SOT-89	SOT-89
Q8	1	40V	CSD18503Q5A	Texas Instruments	MOSFET, N-CH, 40 V, 100 A, DQJ0008A (VSONP-8)	DQJ0008A
Q10	1	-150V	FDMC2523P	Fairchild Semiconductor	MOSFET, P-CH, -150 V, -3 A, QFN-8	QFN-8
Q11	1	150V	FDMS86250	Fairchild Semiconductor	MOSFET, N-CH, 150 V, 6.7 A, PQFN08A	PQFN08A
R1	1	75.0	CRCW060375R0FKEA	Vishay-Dale	RES, 75.0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R2, R3, R4, R5, R6, R7, R8	7	75.0	CRCW060375R0FKEA	Vishay-Dale	RES, 75.0, 1%, 0.1 W, 0603	0603
R9, R12, R13, R24	4	0	PMR10EJPJ000	Rohm	RES, 0, 0%, W, AEC-Q200 Grade 0, 0805	0805
R10, R14	2	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R11	1	4.42k	CRCW06034K42FKEA	Vishay-Dale	RES, 4.42 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R15, R16, R17, R18	4	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R19	1	15.0k	CRCW060315K0FKEA	Vishay-Dale	RES, 15.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R20, R21, R22, R23	4	232k	CRCW0603232KFKEA	Vishay-Dale	RES, 232 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R25	1	110k	CRCW0603110KFKEA	Vishay-Dale	RES, 110 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R26, R36, R44, R48, R59, R60, R61, R62, R63, R64	10	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R27	1	10k	CRCW251210K0JNEG	Vishay-Dale	RES, 10 k, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
R28	1	5.6	CRCW25125R60JNEG	Vishay-Dale	RES, 5.6, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
R30	1	10.0	CRCW060310R0FKEAHP	Vishay-Dale	RES, 10.0, 1%, 0.25 W, AEC-Q200 Grade 0, 0603	0603
R31	1	499	CRCW0603499RFKEA	Vishay-Dale	RES, 499, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R33	1	5.10	ERJ-6RF5R1V	Panasonic	RES, 5.10, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R34	1	237k	RC0603FR-07237KL	Yageo	RES, 237 k, 1%, 0.1 W, 0603	0603
R37	1	60.4k	CRCW060360K4FKEA	Vishay-Dale	RES, 60.4 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R38	1	10.0	CRCW060310R0FKEA	Vishay-Dale	RES, 10.0, 1%, 0.1 W, 0603	0603
R39	1	49.9	RC0603FR-0749R9L	Yageo	RES, 49.9, 1%, 0.1 W, 0603	0603
R40	1	49.9k	CRCW060349K9FKEA	Vishay-Dale	RES, 49.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R41	1	665	CRCW0603665RFKEA	Vishay-Dale	RES, 665, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R42	1	2.00k	Y16362K0000F9R	Vishay Foil Resistors	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R43	1	1.50k	CRCW06031K50FKEA	Vishay-Dale	RES, 1.50 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R45	1	10.2k	RC0603FR-0710K2L	Yageo	RES, 10.2 k, 1%, 0.1 W, 0603	0603
R46	1	1.05k	RC0603FR-071K05L	Yageo	RES, 1.05 k, 1%, 0.1 W, 0603	0603
R47	1	31.6	CRCW080531R6FKEA	Vishay-Dale	RES, 31.6, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R49	1	121	CRCW0805121RFKEA	Vishay-Dale	RES, 121, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R50	1	3.00k	RC0603FR-073KL	Yageo	RES, 3.00 k, 1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R51	1	27.4k	RC0603FR-0727K4L	Yageo	RES, 27.4 k, 1%, 0.1 W, 0603	0603
R52	1	0.05	ERJ-8CWFR050V	Panasonic	RES, 0.05, 1%, 1 W, AEC-Q200 Grade 0, 1206	1206
R53	1	3.24k	CRCW06033K24FKEA	Vishay-Dale	RES, 3.24 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R54	1	42.2k	CRCW060342K2FKEA	Vishay-Dale	RES, 42.2 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R55	1	499k	CRCW0603499KFKEA	Vishay-Dale	RES, 499 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5, SH-J6, SH-J7	7		60900213421	Würth Elektronik	Shunt, 2.54mm, Gold, Black	Shunt, 2.54mm, Black
T1	1	350uH	7490220122	Würth Elektronik	Transformer, 350 uH, SMT	14.7x18.29mm
T2	1		750318938	Würth Electronics	TRANSFORMER	SMT_XFRMR_29MM 65_23MM11
TP1, TP2, TP3, TP4	4		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
TP5	1		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
TP6, TP9, TP12, TP13, TP14, TP15, TP16, TP17, TP21, TP23, TP24, TP27, TP28, TP30, TP31, TP32, TP36	17		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP7, TP10, TP22, TP25, TP26, TP33, TP37, TP41	8		5002	Keystone	Test Point, Miniature, White, TH	White Miniature Testpoint
TP8, TP11, TP18, TP19, TP20, TP29, TP35, TP38, TP39, TP40, TP42	11		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
TP34, TP43, TP44, TP45, TP46, TP47, TP48	7		5003	Keystone	Test Point, Miniature, Orange, TH	Orange Miniature Testpoint
U1	1		TPS23730RMT	Texas Instruments	TPS23730RMT, RMT0045A (VQFN-45)	RMT0045A
U2	1		TCMT1107	Vishay-Semiconductor	Optocoupler, 3.75 kV, 80-160% CTR, SMT	SOP-4
U3	1		TLV431IDBVR	Texas Instruments	Low Voltage Adjustable Precision Shunt Regulator, 39 ppm / degC, 15 mA, 40 to 85 degC, 5-pin SOT-23 (DBV), Green (RoHS & no Sb/Br)	DBV0005A
U4, U5, U6	3		FOD817DS	Fairchild Semiconductor	Optocoupler, 5 kV, 300-600% CTR, SMT	DIP-4L Gullwing
C18	0	2200pF	C4532X7R3D222K130KA	TDK	CAP, CERM, 2200 pF, 2000 V, +/- 10%, X7R, 1812	1812
C26	0	100pF	06033C101KAT2A	AVX	CAP, CERM, 100 pF, 25 V, +/- 10%, X7R, 0603	0603
C30	0	560uF	EEEFPE561UAP	Panasonic	CAP, AL, 560 uF, 25 V, +/- 20%, 0.08 ohm, AEC-Q200 Grade 2, SMD	D10xL10.2mm
C37	0	0.047uF	CGA5H2X7R2A473K115AA	TDK	CAP, CERM, 0.047 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C46	0	47pF	GRM1885C1H470JA01D	MuRata	CAP, CERM, 47 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
D7, D8, D9, D10	0	100V	B2100-13-F	Diodes Inc.	Diode, Schottky, 100 V, 2 A, SMB	SMB
D11, D21	0	60V	SMCJ60A	Fairchild Semiconductor	Diode, TVS, Uni, 60 V, SMC	SMC
D19	0	100V	MURA110T3G	ON Semiconductor	Diode, Ultrafast, 100 V, 2 A, SMA	SMA
D24	0	100V	B3100-13-F	Diodes Inc.	Diode, Schottky, 100 V, 3 A, SMC	SMC
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A

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L2, L5	0	250uH	744272251	Würth Elektronik	Coupled inductor, 250 uH, A, 0.035 ohm, SMD	8.7x10mm
Q5	0	100 V	FCX493TA	Diodes Inc.	Transistor, NPN, 100 V, 1 A, SOT-89	SOT-89
Q9	0	-80V	SQ2337ES-T1_GE3	Vishay-Siliconix	MOSFET, P-CH, -80 V, -2.2 A, AEC-Q101, SOT-23	SOT-23
Q12	0	150V	SI4848DY-T1-E3	Vishay-Siliconix	MOSFET, N-CH, 150 V, 2.7 A, SOIC-8	SOIC-8
R29	0	4.02k	CRCW12064K02FKEA	Vishay-Dale	RES, 4.02 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R32	0	8.06k	CRCW12068K06FKEA	Vishay-Dale	RES, 8.06 k, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
R35	0	10k	CRCW251210K0JNEG	Vishay-Dale	RES, 10 k, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
R56, R57, R58	0	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603

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