

TIDA-00648 REV E1 Bill of Material

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC B1	1		Printed Circuit Board		TIDA-00648	Any		
C1	1	0.01uF	CAP, CERM, 0.01 uF, 10 V, +/- 10%, X5R, 0402	0402	GRM155R61A103KA01D	MuRata		
C2, C6	2	2.2uF	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0402	0402	C1005X5R1C225K050B C	TDK		
C3	1	0.01uF	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0603	0603	C1608X7R2A103K	TDK		
C4	1	0.47uF	CAP, CERM, 0.47 uF, 100 V, +/- 10%, X7R, 0805	0805	GRM21BR72A474KA73 L	MuRata		
C7, C8	2	0.1uF	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X5R, 0402	0402	C1005X5R0J104K	TDK		
C9	1	0.1uF	CAP, CERM, 0.1 uF, 100 V, +/- 5%, X7R, 1206	1206	12061C104JAT2A	AVX		
C10	1	1uF	CAP, CERM, 1 uF, 100 V, +/- 10%, X7R, 1206	1206	GRM31CR72A105KA01 L	MuRata		
C11	1	0.39uF	CAP, CERM, 0.39 uF, 10 V, +/- 10%, X5R, 0402	0402	GRM155R61A394KE15 D	MuRata		
C12	1	0.22uF	CAP, CERM, 0.22 uF, 6.3 V, +/- 10%, X5R, 0402	0402	GRM155R60J224KE01D	MuRata		
C14	1	1000pF	CAP, CERM, 1000 pF, 6.3 V, +/- 10%, X5R, 0402	0402	GRM155R60J102KA01D	MuRata		
C15	1	0.47uF	CAP, CERM, 0.47 uF, 6.3 V, +/- 10%, X7R, 0603	0603	GRM188R70J474KA01D	MuRata		
C16, C18, C20	3	10uF	CAP, CERM, 10 uF, 16 V, +/- 10%, X5R, 0805	0805	GRM21BR61C106KE15 L	MuRata		
C17, C19, C21	3	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0402	0402	GRM155R71A104KA01 D	MuRata		
D1, D5	2	100V	Diode, Schottky, 100 V, 0.25 A, SOD-323F	SOD-323F	BAT46WJ,115	NXP Semiconductor		
D2, D4	2	90V	Diode, Switching, 90 V, 0.1 A, SOD-523F	SOD-523F	CDSU101A	Comchip Technology		
D3	1	39V	Diode, TVS, Bi, 39 V, 600 W, SMB	SMB	SM6T39CA	STMicroelectronics		
D7	1	3.9V	Diode, Zener, 3.9 V, 500 mW, SOD-123	SOD-123	MMSZ4686T1G	ON Semiconductor		
D8	1	Green	LED, Green, SMD	LED_0603	150060VS75000	Würth Elektronik		
D9	1	Super Red	LED, Super Red, SMD	LED_0603	150060SS75000	Würth Elektronik		
J1, J6	2		Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH	61300211121	Würth Elektronik		
J2	1		Terminal Block, 6A, 3.5mm Pitch, 2-Pos, TH	7.0x8.2x6.5mm	ED555/2DS	On-Shore Technology		
J3, J4, J5	3		Header, 2.54 mm, 3x1, Gold, TH	Header, 2.54mm, 3x1, TH	61300311121	Würth Elektronik		
J7	1		Header (Shrouded), 2.54 mm, 7x2, Gold, R/A, TH	Header (Shrouded), 2.54 mm, 7x2, R/A, TH	SBH11-PBPC-D07-RA-BK	Sullins Connector Solutions		
J8, J9	2		Connector, Receptacle, 100mil, 10x2, Gold plated, TH	10x2 Receptacle	SSW-110-23-F-D	Samtec		
L1, L2	2	600 ohm	Ferrite Bead, 600 ohm @ 100 MHz, 1.5 A, 1206	1206	MI1206K601R-10	Laird-Signal Integrity Products		
L3, L4	2	1000 ohm	Ferrite Bead, 1000 ohm @ 100 MHz, 0.25 A, 0402	0402	BLM15HG102SN1D	MuRata		
Q1, Q3	2	60 V	Transistor, NPN, 60 V, 1 A, AEC-Q101, SOT1061	SOT1061	BC55-16PA,115	NXP Semiconductor		
Q2	1	80 V	Transistor, NPN, 80 V, 0.5 A, SOT-323	SOT-323	MMSTA06-7-F	Diodes Inc.		
R1, R6	2	0	RES, 0, 5%, 0.1 W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R2	1	200	RES, 200, 1%, 0.25 W, 1206	1206	CRCW1206200RFKEA	Vishay-Dale		
R4	1	2.00Meg	RES, 2.00 M, 1%, 0.063 W, 0402	0402	CRCW04022M00FKED	Vishay-Dale		
R5	1	1.13Meg	RES, 1.13 M, 1%, 0.063 W, 0402	0402	CRCW04021M13FKED	Vishay-Dale		
R7	1	20.0	RES, 20.0, 1%, 0.1 W, 0603	0603	CRCW060320R0FKEA	Vishay-Dale		
R8	1	1.0Meg	RES, 1.0 M, 5%, 0.063 W, 0402	0402	CRCW04021M00JNED	Vishay-Dale		
R9, R10, R11, R12, R14	5	0	RES, 0, 5%, 0.063 W, 0402	0402	CRCW04020000Z0ED	Vishay-Dale		
R15, R24	2	470	RES, 470, 5%, 0.063 W, 0402	0402	CRCW0402470RJNED	Vishay-Dale		
R16, R17, R18	3	10.0	RES, 10.0, 1%, 0.1 W, 0603	0603	CRCW060310R0FKEA	Vishay-Dale		
R19	1	47k	RES, 47 k, 5%, 0.063 W, 0402	0402	CRCW040247K0JNED	Vishay-Dale		
R20	1	24.9k	RES, 24.9 k, 1%, 0.1 W, 0603	0603	CRCW060324K9FKEA	Vishay-Dale		
R21	1	49.9	RES, 49.9, 1%, 0.25 W, 1206	1206	CRCW120649R9FKEA	Vishay-Dale		
R22	1	100	RES, 100, 1%, 0.1 W, 0603	0603	CRCW0603100R0FKEA	Vishay-Dale		
S1	1		Switch, Tactile, SPST, 12 V, SMD	SMD, 6x3.9mm	434121025816	Würth Elektronik		
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5	5	1x2	Shunt, 100mil, Gold plated, Black	Shunt	969102-0000-DA	3M	SNT-100-BK-G	Samtec
U1	1		60-V, 5-µA IQ, 100-mA, Low-Dropout Voltage Regulator with Enable and Power-Good, DRB0008B	DRB0008B	TPS7A1601DRBR	Texas Instruments	TPS7A1601DRBT	Texas Instruments
U2	1		16-bit SPI Programmable DAC for 4-20mA Loops, RGH0016A	RGH0016A	DAC161S997RGHR	Texas Instruments	DAC161S997RGHT	Texas Instruments
U3	1		25 MHz Mixed Signal Microcontroller with 32 KB Flash, 2048 B SRAM and 29 GPIOs, -40 to 85 degC, 40-pin QFN (RSB), Green (RoHS & no Sb/Br)	RSB0040B	MSP430F5172RSBR	Texas Instruments	Equivalent	Texas Instruments
C5	0	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X5R, 0402	0402	GRM155R61A104KA01 D	MuRata		
C13	0	6800pF	CAP, CERM, 6800 pF, 25 V, +/- 10%, X7R, 0402	0402	GRM155R71E682KA01 D	MuRata		
C22	0	2200pF	CAP, CERM, 2200 pF, 6.3 V, +/- 10%, X7R, 0402	0402	GRM155R70J222KA01D	MuRata		
FID1, FID2, FID3	0		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	N/A		
LBL1	0		Thermal Transfer Printable Labels, 0.650" W x 0.200" H, 10,000 per roll	PCB Label 0.650"H x 0.200"W	THT-14-423-10	Brady		
R3	0	1.0Meg	RES, 1.0 M, 5%, 0.063 W, 0402	0402	CRCW04021M00JNED	Vishay-Dale		
R13	0	0	RES, 0, 5%, 0.063 W, 0402	0402	CRCW04020000Z0ED	Vishay-Dale		
R23, R25	0	0	RES, 0, 5%, 0.1 W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		

Notes:

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