

## TIDA-010037 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB	1		TIDA-010037	Any	Printed Circuit Board	
C1	1	0.1uF	CL05B104KP5NNNC	Samsung Electro-Mechanics	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0402	0402
C3, C5, C7, C9, C125	5	4.7uF	CGB3B1X5R1A475K055AC	TDK	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0603	0603
C4, C6, C8, C10, C11, C12, C80, C91, C93, C95	10	0.1uF	GCM188R71C104KA37J	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C13, C14	2	18pF	C1005C0G1H180J050BA	TDK	CAP, CERM, 18 pF, 50 V,+/- 5%, C0G/NP0, 0402	0402
C16, C17	2	12pF	C0603C120J5GACTU	Kemet	CAP, CERM, 12 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C18	1	1000pF	C0603X102K5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C19, C120	2	2.2uF	GRT188R61H225KE13D	MuRata	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X5R, AEC-Q200 Grade 3, 0603	0603
C20, C92, C94, C121	4	1uF	CGA3E1X7R1E105M080AC	TDK	CAP, CERM, 1 uF, 25 V,+/- 20%, X7R, AEC-Q200 Grade 1, 0603	0603
C21, C22, C23, C25, C26, C27, C28, C29, C30, C32	10	0.1uF	CGA3E2X8R1E104K080AA	TDK	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X8R, AEC-Q200 Grade 0, 0603	0603
C81	1	0.33uF	GRM188R71C334KA01D	MuRata	CAP, CERM, 0.33 uF, 16 V, +/- 10%, X7R, 0603	0603
C99, C102	2	6800pF	GRM188R72A682KA01D	MuRata	CAP, CERM, 6800 pF, 100 V, +/- 10%, X7R, 0603	0603
C105, C108	2	6800pF	CGA3EANP02A682J080AC	TDK	CAP, CERM, 6800 pF, 100 V,+/- 5%, C0G/NP0, AEC-Q200 Grade 0, 0603	0603
C122	1	1000pF	GRM1885C1H102JA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C123	1	0.47uF	C2012X6S1H474K125AB	TDK	CAP, CERM, 0.47 uF, 50 V, +/- 10%, X6S, 0805	0805
D1, D5	2	Red	SLR-342VC3F	Rohm	LED, Red, TH	Dia3.8x6.35mm
D2, D3, D4	3	Yellow	SLR-342YC3F	Rohm	LED, Yellow, TH	Dia3.8x6.35mm
D6, D7	2	75V	1N4148WT	Fairchild Semiconductor	Diode, Switching, 75 V, 0.3 A, SOD-523F	SOD-523F
D10	1	20V	B320A-13-F	Diodes Inc.	Diode, Schottky, 20 V, 3 A, SMA	SMA
H1, H2, H3, H4	4		RM3X6MM 2701	APM HEXSEAL	MACHINE SCREW PAN PHILLIPS M3	
H1_hole, H2_hole, H3_hole, H4_hole	4		5MM HOLE	Any	5 mm PCB Hole	5mm PCB Hole
H_case, H_IA1, H_IA2, H_IA3, H_IB1, H_IB2, H_IB3, H_VA1, H_VA2, H_VB1, H_VB2	11		3.5 MM HOLE	Any	3.5 mm PCB Hole	3.5mm PCB Hole
J1, J2, J5, J6, J12, J30, J31	7		PBC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Gold, TH	Sullins 100mil, 1x2, 230 mil above insulator
J3, J4, J8	3		PBC04SAAN	Sullins Connector Solutions	Header, 2.54 mm, 4x1, Gold, TH	Header, 2.54 mm, 4x1, TH
J7, J16, J17, J22, J23, J24	6		961102-6404-AR	3M	Header, 2.54mm, 2x1, TH	Header, 2.54mm, 2x1, TH
J9, J10, J11, J18	4		61300411121	Würth Elektronik	Header, 2.54 mm, 4x1, Gold, TH	Header, 2.54mm, 4x1, TH
J13	1		GRPB052VWVN-RC	Sullins Connector Solutions	Header, 50mil, 5x2, Gold, TH	Header, 5x2, 50mil
J19, J20, J21	3		GBC03SAAN	Sullins Connector Solutions	Header, 2.54 mm, 3x1, Gold, TH	Header, 2.54 mm, 3x1, TH

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
J25	1		OSTVN04A150	On-Shore Technology	Terminal Block, 2.54mm, 4x1, Brass, TH	Terminal Block, 2.54mm, 4-pole, TH
J26, J27	2		ED120/3DS	On-Shore Technology	Terminal Block, 5.08 mm, 3x1, Brass, TH	3x1 5.08 mm Terminal Block
J28, J29	2		ED120/2DS	On-Shore Technology	Terminal Block, 5.08 mm, 2x1, Brass, TH	2x1 5.08 mm Terminal Block
J32	1		PEC08SAAN	Sullins Connector Solutions	Header, 100mil, 8x1, Tin, TH	Header, 8x1, 100mil, TH
L1	1	4.7uH	LQH2MCN4R7M02L	MuRata	Inductor, Wirewound, Ferrite, 4.7 uH, 0.3 A, 1.04 ohm, SMD	2.0x0.65x1.6mm
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
LCD1	1		FH-1152P	Adkom Elektronik	160 Segment LCD Display, TH	63x30.18mm
R1	1	91.0k	RG2012P-913-B-T5	Susumu Co Ltd	RES, 91.0 k, 0.1%, 0.125 W, 0805	0805
R2, R3, R5, R11, R12	5	100k	ERJ-6ENF1003V	Panasonic	RES, 100 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R4	1	10	RC0805JR-0710RL	Yageo America	RES, 10, 5%, 0.125 W, 0805	0805
R6, R7, R8, R9, R10	5	100	RC0603FR-07100RL	Yageo America	RES, 100, 1%, 0.1 W, 0603	0603
R13	1	75k	CRCW080575K0JNEA	Vishay-Dale	RES, 75 k, 5%, 0.125 W, 0805	0805
R15	1	47.0k	RC0402FR-0747KL	Yageo America	RES, 47.0 k, 1%, 0.0625 W, 0402	0402
R17	1	1.0k	RC0603JR-0711KL	Yageo America	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R70, R71, R80, R81, R82, R83, R84, R85, R86	9	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R77, R78	2	100k	RG1005P-104-B-T5	Susumu Co Ltd	RES, 100 k, 0.1%, 0.063 W, 0402	0402
R87, R88	2	275VAC	B72220S0271K101	TDK	Varistor 275 VAC, 100 A, TH	Disc 21.5mm
R89, R90, R96, R97, R103, R104, R111, R112	8	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R91, R92, R98, R99	4	6.49	CRCW06036R49FKEA	Vishay-Dale	RES, 6.49, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R94, R95, R101, R102	4	2.00k	RT0603DRD072KL	Yageo America	RES, 2.00 k, 0.5%, 0.1 W, 0603	0603
R105, R106, R107, R113, R114, R115	6	330k	RG1608P-334-B-T5	Susumu Co Ltd	RES, 330 k, 0.1%, 0.1 W, 0603	0603
R108, R116	2	750	RT0603DRE07750RL	Yageo America	RES, 750, 0.5%, 0.1 W, 0603	0603
R109, R110, R117, R118	4	1.00k	RT0603DRD071KL	Yageo	RES, 1.00 k, 0.5%, 0.1 W, 0603	0603
R119	1	0	MCT06030Z0000ZP500	Vishay/Beyschlag	RES, 0, 5%, 0.125 W, 0603	0603
R120	1	430k	RC0402FR-07430KL	Yageo America	RES, 430 k, 1%, 0.063 W, 0402	0402
R121	1	75.0k	CRCW040275K0FKED	Vishay-Dale	RES, 75.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R122	1	160k	CRCW0402160KFKED	Vishay-Dale	RES, 160 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R123	1	150k	CRCW0402150KFKED	Vishay-Dale	RES, 150 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R127	1	120	RT0603DRE07120RL	Yageo America	RES, 120, 0.5%, 0.1 W, 0603	0603
RS1	1		2-5747706-0	TE Connectivity	Receptacle, D-SUB-9, 2.74mm, Gold, TH	Receptacle, D-SUB-9, 2.74mm, TH
S1, S2, S3	3		MJTSPMWBTR	APEM	Switch, Tactile, SPST-NO, 12 V, SMD	Switch, Body 6.2x6.3mm
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5, SH-J6, SH-J7, SH-J8, SH-J9, SH-J10	10	1x2	SPC02SYAN	Sullins Connector Solutions	Shunt, 100mil, Flash Gold, Black	Closed Top 100mil Shunt

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
U1	1		MSP432P4111PZR	Texas Instruments	SimpleLink™ Mixed-Signal Microcontroller, PZ0100A (LQFP-100)	PZ0100A
U2, U40	2		TPS70933DBVR	Texas Instruments	150-mA, 30-V, Ultra-Low IQ, Wide Input Low-Dropout Regulator with Reverse Current Protection, DBV0005A (SOT-23-5)	DBV0005A
U3	1		TRS3232ECPW	Texas Instruments	3-V to 5.5-V Multichannel RS-232 Line Driver / Receiver with ±15-kV IEC ESD Protection, 0 to 70 degC, 16-Pin TSSOP (PW), Green (RoHS & no Sb/Br)	PW0016A
U4	1		ISO7731BDWR	Texas Instruments	High-Speed Basic Insulation Triple-Channel Digital Isolator, DW0016B (SOIC-16)	DW0016B
U5	1		ISO7720DR	Texas Instruments	High Speed, Robust EMC Dual-Channel Digital Isolator, D0008B (SOIC-8)	D0008B
U6	1		THVD1500DR	Texas Instruments	250 kbps RS-485 Transceivers With +/-12-kV IEC ESD Protection, D0008A (SOIC-8)	D0008A
U18	1		TPS3840DL20DBVR	Texas Instruments	Nano Power, Wide VIN Voltage Detector with Programmable Delay, DBV0005A (SOT-23-5)	DBV0005A
U20	1		ADS131M04IPWR	Texas Instruments	4-Channel, 24-Bit, Simultaneously-Sampling, Delta-Sigma ADC, PW0020A (TSSOP-20)	PW0020A
U41	1		TVS1800DRVR	Texas Instruments	18-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
U42	1		TPS25921LDR	Texas Instruments	18V, 1.6A, 90mΩ eFuse with Adjustable +/-2% Accurate Current Limit, D0008A (SOIC-8)	D0008A
Y1	1		FA-238 16.3840MB-K	Epson	Crystal, 16.384 MHz, 50 ppm, 10 pF, SMD	3.2x2.5mm
Y2	1		CMR200T-32.768KDZY-UT	Citizen Finetech Miyota	Crystal, 32.768 MHz, SMD	D1.9xL6mm
C2	0	4.7uF	CC0805ZRY5V6BB475	Yageo America	CAP, CERM, 4.7 uF, 10 V, +80/-20%, Y5V, 0805	0805
C31	0	0.01uF	GCM155R71H103KA55D	MuRata	CAP, CERM, 0.01 uF, 50 V, +/- 10%, C0G/NP0, 0402	0402
C33, C34	0	10pF	CGA3E2C0G1H100D080AA	TDK	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C90	0	10pF	C0402C100K4GACTU	Kemet	CAP, CERM, 10 pF, 16 V, +/- 10%, C0G, 0402	0402
C97, C98, C100, C101, C103, C104, C106, C107	0	10pF	GCM1885C2A100JA16D	MuRata	CAP, CERM, 10 pF, 100 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C124	0	0.1uF	GCM188R71C104KA37J	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J14	0		PBC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Gold, TH	Sullins 100mil, 1x2, 230 mil above insulator
J15	0		961102-6404-AR	3M	Header, 2.54mm, 2x1, TH	Header, 2.54mm, 2x1, TH
R18, R128, R129	0	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R79	0	100k	RG1005P-104-B-T5	Susumu Co Ltd	RES, 100 k, 0.1%, 0.063 W, 0402	0402
R93, R100	0	13.0	RT0603DRE0713RL	Yageo America	RES, 13.0, 0.5%, 0.1 W, 0603	0603
R124	0	100k	RC1005F104CS	Samsung Electro-Mechanics	RES, 100 k, 1%, 0.063 W, 0402	0402
R125, R126	0	0	RC0402JR-070RL	Yageo America	RES, 0, 5%, 0.063 W, 0402	0402
R130, R131	0	50	FC0603E50R0BTBST1	Vishay Thin Film	RES, 50, 0.1%, 0.125 W, 0603	0603
U21, U22, U23, U24	0		TVS0500DRVR	Texas Instruments	5-V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
Y3	0		SIT8924BA-22-33E-8.192000G	SiTime	Oscillator, 8.192 MHz, 15 pF, AEC-Q200 Grade 1, SMD	3.2x2.5mm

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
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