

TIDA-010978 REV C0 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB	1		TIDA-010978	Any	Printed Circuit Board	
AVDD_LED1_A1, AVDD_LED1_A2, DVDD_LED1_A1, DVDD_LED1_A2, LDOIN_LED1_A1, LDOIN_LED1_A2, TSREF_LED1_A1, TSREF_LED1_A2	8	Green	150060GS75000	Würth Elektronik	LED, Green, SMD	LED_0603
C3, C4, C5, C8	4	100pF	GCM1885C1H101JA16J	MuRata	CAP, CERM, 100 pF, 50 V,+/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C9_A1, C9_A2	2	0.01uF	C0603C103K2RACTU	Kemet	CAP, CERM, 0.01 uF, 200 V, +/- 10%, X7R, 0603	0603
C10_A1, C10_A2	2	1uF	CGA9N3X7R2E105K230KE	TDK	CAP, CERM, 1 uF, 250 V,+/- 10%, X7R, AEC-Q200 Grade 1, 2220	2220
C11_A1, C11_A2, C22_A1, C22_A2, C30_A1, C30_A2	6	470nF	8.85012E+11	Würth Electronics	0.47 uF ±10% 16V Ceramic Capacitor X7R 0603 (1608 Metric)	0603
C12_A1, C12_A2, C13_A1, C13_A2, C14_A1, C14_A2, C15_A1, C15_A2, C25_A1, C25_A2, C26_A1, C26_A2, C27_A1, C27_A2, C28_A1, C28_A2, C34_A1, C34_A2, C35_A1, C35_A2, C36_A1, C36_A2, C37_A1, C37_A2, C41_A1, C41_A2, C42_A1, C42_A2, C43_A1, C43_A2, C44_A1, C44_A2, C45_A1, C45_A2, C46_A1, C46_A2, C47_A1, C47_A2, C48_A1, C48_A2, C49_A1, C49_A2, C50_A1, C50_A2, C53_A1, C53_A2, C54_A1, C54_A2, C55_A1, C55_A2, C56_A1, C56_A2, C57_A1, C57_A2, C58_A1, C58_A2, C158_A1, C159_A1	58	1uF	GRM155C81C105KE11D	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 1.0uF, X6S, 22%, 10%, 16V	0402
C16_A1, C16_A2, C17_A1, C17_A2	4		8.85012E+11	Würth Elektronik	885012107014 Ceramic Capacitor, Multilayer, Ceramic, 16V, 20% +Tol, 20% -Tol, X5R, 15% TC, 10uF, Surface Mount, 0805	

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C19_A1, C19_A2	2	0.15 µF	C1206C154KARACAUTO	KEMET	C1206 0.15 µF X7R 10.00% 250 V	
C21_A1, C21_A2, C23_A1, C23_A2	4	1uF	8.85012E+11	Würth Elektronik	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603
C24_A1, C24_A2	2		8.85012E+11	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 10nF, 50VDC	
C29_A1, C29_A2, C33_A1, C40_A1, C155_A1	5		8.85012E+11	Würth Elektronik	885012205092 Cap, 0.1Uf, 50V, Mlcc, 0402 Rohs Compliant: Yes	
C31_A1, C31_A2	2		8.85012E+11	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, X7R, 10nF, 50VDC	
C38_A1	1		8.85012E+11	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 150nF, 25VDC	
C59_A1, C59_A2, C60_A1, C60_A2, C61_A1, C61_A2, C62_A1, C62_A2, C63_A1, C63_A2, C64_A1, C64_A2, C65_A1, C65_A2, C66_A1, C66_A2, C68_A1, C68_A2, C69_A1, C69_A2, C72_A1, C72_A2, C73_A1, C73_A2, C76_A1, C76_A2, C77_A1, C77_A2, C80_A1, C80_A2, C81_A1, C81_A2	32		8.85012E+11	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, X7R, 100nF, 50VDC	
C67_A1, C67_A2, C88_A1, C88_A2, C94_A1, C94_A2, C142_A1, C142_A2, C143_A1, C143_A2, C160_A1, C161_A1	12	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C70_A1, C70_A2, C71_A1, C71_A2, C75_A1, C75_A2, C79_A1, C79_A2, C83_A1, C83_A2, C85_A1, C85_A2, C87_A1, C87_A2, C90_A1, C90_A2, C93_A1, C93_A2, C96_A1, C96_A2, C99_A1, C99_A2, C103_A1, C103_A2, C105_A1, C105_A2, C109_A1, C109_A2, C113_A1, C113_A2, C115_A1, C115_A2, C119_A1, C119_A2, C123_A1, C123_A2, C125_A1, C125_A2, C129_A1, C129_A2, C132_A1, C132_A2, C133_A1,	54		8.85342E+11	Wurth Elektronik	WCAP-CSMH Multilayer Ceramic Chip Capacitor, Mid and High Voltage, size 0603, X7R Class II, 10nF, 250VDC	
C74_A1, C74_A2, C78_A1, C78_A2, C82_A1, C82_A2, C84_A1, C84_A2, C86_A1, C86_A2, C89_A1, C89_A2, C92_A1, C92_A2, C95_A1, C95_A2, C98_A1, C98_A2, C102_A1, C102_A2, C104_A1, C104_A2, C108_A1, C108_A2, C112_A1, C112_A2, C114_A1, C114_A2, C118_A1, C118_A2	30		885012205085R	Wurth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, X7R, 100nF, 25VDC	

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C91_A1, C91_A2, C97_A1, C97_A2, C100_A1, C100_A2, C101_A1, C101_A2, C106_A1, C106_A2, C107_A1, C107_A2, C110_A1, C110_A2, C111_A1, C111_A2, C116_A1, C116_A2, C117_A1, C117_A2, C120_A1, C120_A2, C121_A1, C121_A2, C126_A1, C126_A2, C127_A1, C127_A2, C130_A1, C130_A2, C131_A1, C131_A2, C136_A1, C136_A2,	54		885012205085R	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, X7R, 1.5nF, 50VDC	
C138_A1, C138_A2, C139_A1, C139_A2, C147_A1, C147_A2, C148_A1, C148_A2, C149_A1, C149_A2, C150_A1, C150_A2, C151_A1, C151_A2, C154_A1, C154_A2	16		8.85012E+11	Würth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, NP0, 47pF, 50VDC	
D1_A1, D1_A2	2	120V	SMAJ120A	Littelfuse	Diode, TVS, Uni, 120 V, 193 Vc, 400 W, 2.1 A, SMA	SMA
D2_A1, D2_A2	2		MSP3V3-M3/89A	Vishay	11.5V Clamp 87A (8/20µs) Ipp Tvs Diode Surface Mount DO-219AD (MicroSMP)	DO-219AD
D3_A1, D3_A2	2		DFLS1200Q-7	Diodes	DIODE SCHOTTKY 200V POWERDI123	PowerDI123
D4_A1, D4_A2, D8_A1, D8_A2	4		TSD03DYFR	Texas Instruments	7.7V (Typ) Clamp 25A (8/20µs) Ipp Tvs Diode Surface Mount SOD-323	SOD323
D5_A1, D5_A2, D6_A1, D6_A2	4		ESD652DBZRQ1	Texas Instruments	2-Channel ESD Protection Diode	SOT23-3
D7_A1, D7_A2	2		SMD16PL-TP	Micro Commercial Co	SMD16PL Series 60 V 1 A Surface Mount Schottky Rectifier - SOD-123FL	SOD123FL
FID1	1		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J1, J2	2		70551-0038	Molex	Header(shrouded), 2.54mm, 4x1, R/A, Gold, TH	Header(shrouded), 2.54mm, 4x1, R/A, TH
J1_A1, J1_A2	2		61301211121	Würth Elektronik	THT Vertical Pin Header WR-PHD, Pitch 2.54 mm, Single Row, 12 pins	

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
J2_A1, J2_A2, J3_A1, J3_A2	4		61301011121	Wurth Elektronik	Header, 2.54mm, 10x1, Gold, TH	Header, 2.54mm, 10x1, TH
J4_A1, J4_A2, J5_A1, J5_A2	4		141114-214010	BEIJIDA ELECTRONICS TECH	2.00mm Wafer, Right Angle Connector, 40pins, Key-A With CPA Feature	HDR40
J6_A1, J6_A2, J9_A1, J9_A2, J10_A1, J10_A2	6		PEC03SAAN	Sullins Connector Solutions	Header, 100mil, 3x1, Tin, TH	Header, 3 PIN, 100mil, Tin
J7_A1	1		FTSH-105-01-L-DV-K	Samtec	Header(Shrouded), 1.27mm, 5x2, Gold, SMT	Header(Shrouded), 1.27mm, 5x2, SMT
J8_A1, J8_A2	2		PRPC010DAAN-RC	Sullins Connector Solutions	Header, 2.54mm, 10x2, Gold, TH	Header, 2.54mm, 10x2, TH
J11_A1	1		B2B-PH-K-S(LF)(SN)	JST Manufacturing	Header(shrouded), 2mm, 2x1, Tin, TH	Header(shrouded), 2mm, 2x1, TH
J13	1		63824-1	TE Connectivity	0.250" (6.35mm) Quick Connect Male Solder Connector Non-Insulated	CONN_7MM92_3MM1 1
L2_A1, L2_A2	2		74404042101	Wurth Elektronik	74404042101 WE-LQS SMD Power Inductor 100uH	
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
NFAULT_LED1_A 1, NFAULT_LED1_A 2	2	Red	150060RS75000	Wurth Elektronik	LED, Red, SMD	LED_0603
Q1_A1, Q1_A2	2		SSM6L56FE,LM	Toshiba Semiconductor and S	Trans MOSFET N/P-CH Si 20V 0.8A 6-Pin ES T/R	SOT563
R1_A1, R1_A2	2	28	CRCW080528R0FKEA	Vishay-Dale	RES, 28.0, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R2_A1, R2_A2, R3_A1, R3_A2, R4_A1, R4_A2, R5_A1, R5_A2, R8_A1, R8_A2, R9_A1, R9_A2, R10_A1, R10_A2, R11_A1, R11_A2, R12_A1, R12_A2, R13_A1, R13_A2, R14_A1, R14_A2, R15_A1, R15_A2, R16_A1, R16_A2, R17_A1, R17_A2, R18_A1, R18_A2, R19_A1, R19_A2, R21_A1, R21_A2, R22_A1, R22_A2, R23_A1, R23_A2, R24_A1, R24_A2, R25_A1, R25_A2, R26_A1, R26_A2, R27_A1, R27_A2, R28_A1, R28_A2, R29_A1, R29_A2, R30_A1, R30_A2, R31_A1, R31_A2, R32_A1, R32_A2, R33_A1, R33_A2, R34_A1, R34_A2, R35_A1, R35_A2, R36_A1, R36_A2,	216	68	HPCR0805J68R0KT	RESI	RES, 68, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R6_A1, R6_A2	2	62	CRCW120662R0JNEAHP	Vishay Dale	RES Thick Film, 62Ω, 5%, 0.75W, 200ppm/°C, 1206	1206
R7_A1, R7_A2	2	51	CRCW080551R0JNEA	Vishay-Dale	RES, 51, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R37_A1, R37_A2	2	120	RC0603FR-07120RL	Yageo	RES, 120, 1%, 0.1 W, 0603	0603
R50_A1, R50_A2	2	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R55_A1, R57_A1	2		ERJ-2RKF10R0X	Panasonic	Res Thick Film 0402 10 Ohm 1% 0.1W(1/10W) ±100ppm/C Molded SMD Automotive Punched T/R	0402
R56_A1, R76_A1	2	10.2k	CRCW040210K2FKED	Vishay-Dale	RES, 10.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

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R70_A1, R71_A1, R71_A2, R77_A1, R77_A2, R78_A1, R78_A2, R79_A1, R105_A1, R105_A2, R209_A1, R209_A2, R211_A1, R211_A2, R226_A1, R226_A2, R227_A1, R227_A2	18	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R126_A1, R126_A2, R129_A1, R129_A2, R153_A1, R153_A2, R185_A1, R185_A2	8	4.70k	RC0402FR-074K7L	Yageo America	RES, 4.70 k, 1%, 0.0625 W, 0402	0402
R127_A1, R127_A2, R128_A1, R128_A2, R130_A1, R130_A2	6	1.0k	ESR03EZPJ102	Rohm	RES, 1.0 k, 5%, 0.25 W, AEC-Q200 Grade 0, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R131_A1, R131_A2, R132_A1, R132_A2, R133_A1, R133_A2, R134_A1, R134_A2, R135_A1, R135_A2, R136_A1, R136_A2, R137_A1, R137_A2, R138_A1, R138_A2, R168_A1, R168_A2, R169_A1, R169_A2, R170_A1, R170_A2, R171_A1, R171_A2, R172_A1, R172_A2, R173_A1, R173_A2, R174_A1, R174_A2, R175_A1, R175_A2,	34	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R140_A1, R140_A2, R141_A1, R141_A2, R143_A1, R143_A2, R146_A1, R146_A2, R147_A1, R147_A2, R149_A1, R149_A2, R152_A1, R152_A2, R156_A1, R156_A2, R159_A1, R159_A2, R160_A1, R160_A2, R163_A1, R163_A2, R176_A1, R176_A2, R177_A1, R177_A2, R178_A1, R178_A2, R180_A1, R180_A2, R181_A1, R181_A2,	46	1.0k	CRCW04021K00JNED	Vishay-Dale	RES, 1.0 k, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R144_A1, R144_A2, R150_A1, R150_A2, R155_A1, R157_A1, R157_A2, R162_A1, R164_A1, R164_A2, R165_A1, R166_A1, R167_A1, R179_A1, R179_A2, R183_A1, R183_A2, R187_A1, R187_A2, R191_A1, R191_A2	21	100k	AC0402FR-07100KL	Yageo America	RES, 100 k, 1%, 0.0625 W, AEC-Q200 Grade 0, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R192_A1, R192_A2, R194_A1, R194_A2, R195_A1, R195_A2, R197_A1, R197_A2, R198_A1, R198_A2, R199_A1, R199_A2, R200_A1, R200_A2, R201_A1, R201_A2, R202_A1, R202_A2, R203_A1, R203_A2, R204_A1, R204_A2, R205_A1, R205_A2, R206_A1, R206_A2, R207_A1, R207_A2, R208_A1, R208_A2, R213_A1, R213_A2,	54	1.00k	CRCW04021K00FKED	Vishay-Dale	RES, 1.00 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R210_A1, R210_A2, R212_A1, R212_A2, R225_A1, R225_A2, R228_A1, R228_A2	8	10	ERJ-6GEYJ100V	Panasonic	RES, 10, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R215_A1, R215_A2, R218_A1, R218_A2, R221_A1, R221_A2, R222_A1, R222_A2	8	80.6	ERJ-8ENF80R6V	Panasonic	RES, 80.6, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
RT1_A1, RT1_A2	2	10k	TMP6131DYAT	Texas Instruments	±1% tolerance 10kΩ linear thermistor available in 0402 and 0603 package options 2-SOT-5X3 -40 to 125	SOD-523
T1	1		74942402	Würth Elektronik	SMD BMS Transformer	SMT_XFRMR_27MM9 12MM5
T2	1		74941301	Würth Elektronik	BMS TRANSFORMER	SMT_TRANSFORME R_8MM89_10MM09
T3	1		LKBMT10B	LineKey Technology	SMD BMS Transformer	SMT_XFRMR_27MM9 12MM5
U1_A1, U1_A2	2		BQ79826ZQPZSRQ1	Texas Instruments	Automotive 26S/24S Battery Monitor with Smart EIS Engine	TQFP100
U2_A2, U3_A2	2		TMUX1308PWR	Texas Instruments	5-V, 8: 1, 1-channel general-purpose multiplexer with 1.8-V logic control 16- TSSOP -40 to 125	TSSOP16
U4_A1	1		TLV74315PDBVR	Texas Instruments	Low-Dropout Regulator, DBV0005A (SOT-23-5)	DBV0005A
U5_A1	1		SN74LXC1T14DCKR	Texas Instruments	Dual-Supply Inverting Translator with Schmitt-Trigger Input	SC70-5
C1, C2, C6, C7	0		8.85342E+11	Würth Elektronik	885342207006 Cap Cer 0.022UF 200V X7R 0805	
C18_A1, C18_A2	0	10uF	CGA4J1X7S1C106K125AC	TDK	CAP, CERM, 10 uF, 16 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0805	0805

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C20_A1, C20_A2	0		8.85342E+11	Wurth Elektronik	WCAP-CSMH Multilayer Ceramic Chip Capacitor, Mid and High Voltage, size 0603, NP0 Class I, 220pF, 250VDC	
C32_A1, C32_A2	0	47pF	GRM1555C1H470FA01D	MuRata	CAP, CERM, 47 pF, 50 V, +/- 1%, C0G/NP0, 0402	0402
C33_A2, C40_A2, C51_A1, C51_A2, C52_A1, C52_A2, C155_A2	0		8.85012E+11	Wurth Elektronik	885012205092 Cap, 0.1Uf, 50V, Mlcc, 0402 Rohs Compliant: Yes	
C38_A2	0		8.85012E+11	Wurth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0603, X7R, 150nF, 25VDC	
C39_A1, C39_A2	0	1uF	GCM188R71C105KA64D	MuRata	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C122_A1, C122_A2	0		885012205085R	Wurth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, X7R, 1.5nF, 50VDC	
C124_A1, C124_A2, C128_A1, C128_A2	0		8.85012E+11	Wurth Elektronik	WCAP-CSGP Multilayer Ceramic Chip Capacitor, General Purpose, size 0402, NP0, 22pF, 50VDC	
C158_A2, C159_A2	0	1µF	GRM155C81C105KE11D	Murata	Chip Multilayer Ceramic Capacitors for General Purpose, 0402, 1.0uF, X6S, 22%, 10%, 16V	0402
C160_A2, C161_A2	0	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
J7_A2	0		FTSH-105-01-L-DV-K	Samtec	Header(Shrouded), 1.27mm, 5x2, Gold, SMT	Header(Shrouded), 1.27mm, 5x2, SMT
J11_A2	0		B2B-PH-K-S(LF)(SN)	JST Manufacturing	Header(shrouded), 2mm, 2x1, Tin, TH	Header(shrouded), 2mm, 2x1, TH
J12_A1, J12_A2	0		FTSH-103-01-F-DV-TR	Samtec	Conn Unshrouded Header HDR 6 POS 1.27mm Solder ST SMD Automotive T/R	HDR6
R20_A1, R20_A2	0	10	CRCW060310R0JNEA	Vishay-Dale	RES, 10, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R55_A2, R57_A2	0		ERJ-2RKF10R0X	Panasonic	Res Thick Film 0402 10 Ohm 1% 0.1W(1/10W) ±100ppm/C Molded SMD Automotive Punched T/R	0402
R56_A2, R76_A2	0	10.2k	CRCW040210K2FKED	Vishay-Dale	RES, 10.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R70_A2, R79_A2	0	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.1 W, AEC-Q200 Grade 0, 0402	0402
R155_A2, R162_A2, R165_A2, R166_A2, R167_A2, R233_A1, R233_A2, R234_A1, R234_A2, R235_A1, R235_A2, R236_A1, R236_A2	0	100k	AC0402FR-07100KL	Yageo America	RES, 100 k, 1%, 0.0625 W, AEC-Q200 Grade 0, 0402	0402
U2_A1, U3_A1	0		TMUX1308PWR	Texas Instruments	5-V, 8: 1, 1-channel general-purpose multiplexer with 1.8-V logic control 16-TSSOP -40 to 125	TSSOP16
U4_A2	0		TLV74315PDBVR	Texas Instruments	Low-Dropout Regulator, DBV0005A (SOT-23-5)	DBV0005A
U5_A2	0		SN74LXC1T14DCKR	Texas Instruments	Dual-Supply Inverting Translator with Schmitt-Trigger Input	SC70-5
Y2_A1, Y2_A2	0		830055663	Wurth	8 MHz ±20ppm Crystal 18pF 150 Ohms 4-SMD, No Lead	SMT_CRYSTAL_5MM 0_3MM2

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