

**TIDA-01168 REV E2 Bill of Materials**

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		TIDA-01168	Any	Printed Circuit Board	
C100, C103, C401, C403	4	0.47uF	CGA6M2X7R2A474K200AA	TDK	CAP, CERM, 0.47 µF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1210	1210
C101, C102, C104, C105, C400, C402	6	10uF	CGA6P3X7S1H106K250AB	TDK	CAP, CERM, 10 µF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
C107, C507	2	0.01uF	GRM21BR72A103KA01L	MuRata	CAP, CERM, 0.01 µF, 100 V, +/- 10%, X7R, 0805	0805
C108, C505, C903_LM1, C903_LM2, C915_LM1, C915_LM2	6	0.047uF	GCM188R71E473KA37D	MuRata	CAP, CERM, 0.047 µF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C200, C201, C202, C203, C204	5	150uF	UCZ1K151MNQ1MS	Nichicon	CAP, AL, 150 µF, 80 V, +/- 20%, 0.2 ohm, AEC-Q200 Grade 1, SMD	D12.5xL13.5mm
C300_PS1, C300_PS2, C300_PS3, C300_PS4, C311_PS1, C311_PS2, C311_PS3, C311_PS4, C312_PS1, C312_PS2, C312_PS3, C312_PS4, C313_PS1, C313_PS2, C313_PS3, C313_PS4, C314_PS1, C314_PS2, C314_PS3, C314_PS4, C315_PS1, C315_PS2, C315_PS3, C315_PS4, C316_PS1, C316_PS2, C316_PS3, C316_PS4, C317_PS1, C317_PS2, C317_PS3,	40	39uF	PCV1J390MCL2GS	Nichicon	CAP, Aluminum Polymer, 39 µF, 63 V, +/- 20%, 0.029 ohm, AEC-Q200 Grade 2, D8xL12mm SMD	D8xL12mm

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C301_PS1, C301_PS2, C301_PS3, C301_PS4, C302_PS1, C302_PS2, C302_PS3, C302_PS4, C303_PS1, C303_PS2, C303_PS3, C303_PS4, C304_PS1, C304_PS2, C304_PS3, C304_PS4, C305_PS1, C305_PS2, C305_PS3, C305_PS4, C306_PS1, C306_PS2, C306_PS3, C306_PS4, C307_PS1, C307_PS2, C307_PS3, C307_PS4, C308_PS1, C308_PS2, C308_PS3,	32	4.7uF	CGA9N2X7R2A475M230KA	TDK	CAP, CERM, 4.7 $\mu$ F, 100 V, +/- 20%, X7R, AEC-Q200 Grade 1,	
C309_PS1, C309_PS2, C309_PS3, C309_PS4, C501	5	180uF	UCZ1J181MNQ1MS	Nichicon	CAP, AL, 180 $\mu$ F, 63 V, +/- 20%, 0.2 ohm, AEC-Q200 Grade 1, SMD	D12.5xL13.5mm
C500, C502, C506	3	4.7uF	CGA6M3X7S2A475K200AB	TDK	CAP, CERM, 4.7 $\mu$ F, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210
C503	1	390pF	GRM1885C1H391JA01D	MuRata	CAP, CERM, 390 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C504, C510, C801, C802, C909_LM1, C909_LM2	6	1uF	GCM188R71E105KA64D	MuRata	CAP, CERM, 1 $\mu$ F, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C508, C912_LM1, C912_LM2	3	3300pF	GCM188R72A332KA37D	MuRata	CAP, CERM, 3300 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C509, C600, C601, C602, C603, C800, C913_LM1, C913_LM2	8	0.01uF	GCM188R71H103KA37D	MuRata	CAP, CERM, 0.01 $\mu$ F, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C511, C910_LM1, C910_LM2	3	4.7uF	GCM21BR71C475KA73K	MuRata	CAP, CERM, 4.7 $\mu$ F, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
C512, C515, C517, C518	4	10uF	GCM21BC71C106KE36L	MuRata	CAP, CERM, 10 $\mu$ F, 16 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0805	0805

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
C513, C516, C604, C805, C807, C811, C812	7	0.1uF	GCM188R71H104KA57D	MuRata	CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0603	0603
C514	1	15pF	GCM1885C1H150JA16D	MuRata	CAP, CERM, 15 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C803, C804	2	2.2uF	GCM188R70J225KE22D	MuRata	CAP, CERM, 2.2 µF, 6.3 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C806, C808, C809, C810	4	330pF	C1608C0G2A331J080AA	TDK	CAP, CERM, 330 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C900_LM1, C900_LM2, C905_LM1, C905_LM2, C906_LM1, C906_LM2, C920_LM1, C920_LM2	8	1000pF	GCM1885C2A102JA16D	MuRata	CAP, CERM, 1000 pF, 100 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C901_LM1, C901_LM2, C917_LM1, C917_LM2	4	0.15uF	GRM188R71E154KA01D	MuRata	CAP, CERM, 0.15 µF, 25 V, +/- 10%, X7R, 0603	0603
C907_LM1, C907_LM2	2	1uF	GRM31CR72A105KA01L	MuRata	CAP, CERM, 1 µF, 100 V, +/- 10%, X7R, 1206	1206
C908_LM1, C908_LM2, C911_LM1, C911_LM2	4	0.47uF	GCM188R71E474KA64D	MuRata	CAP, CERM, 0.47 µF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C918_LM1, C918_LM2, C919_LM1, C919_LM2	4	100pF	GCM1885C2A101JA16D	MuRata	CAP, CERM, 100 pF, 100 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
D100, D102	2	100V	1N4148W-7-F	Diodes Inc.	Diode, Ultrafast, 100 V, 0.15 A, SOD-123	SOD-123
D101, D105	2	68V	BZX84C68LT1G	ON Semiconductor	Diode, Zener, 68 V, 225 mW, SOT-23	SOT-23
D103	1	78V	SMAJ78CA	Littelfuse	Diode, TVS, Bi, 78 V, SMA	SMA
D106, D107	2	100V	BAS516,115	NXP Semiconductor	Diode, Switching, 100 V, 0.25 A, SOD-523	SOD-523
D400, D500, D501, D502, D900_LM1, D900_LM2, D901_LM1, D901_LM2	8	60V	PMEG6010CEH,115	NXP Semiconductor	Diode, Schottky, 60 V, 1 A, SOD-123F	SOD-123F
D401	1	15V	BZX384-C15,115	NXP Semiconductor	Diode, Zener, 15 V, 300 mW, SOD-323	SOD-323
D402	1	28V	SMBJ28A-13-F	Diodes Inc.	Diode, TVS, Uni, 28 V, 600 W, SMB	SMB
D403	1	24V	SMBJ24A-13-F	Diodes Inc.	Diode, TVS, Uni, 24 V, 600 W, SMB	SMB
D600, D601, D602, D603, D604	5	70V	1PS79SB70,115	NXP Semiconductor	Diode, Schottky, 70 V, 0.07 A, SOD-523	SOD-523
D700, D701, D800	3	Green	150060GS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D801, D902_LM1, D902_LM2, D903_LM1, D903_LM2	5	Yellow	150060YS75000	Würth Elektronik	LED, Yellow, SMD	LED_0603
D802, D803, D804	3	Super Red	150060SS75000	Würth Elektronik	LED, Super Red, SMD	LED_0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
J1, J2, J3, J4	4		6095	Keystone	Standard Banana Jack, Uninsulated	Keystone_6095
J700, J701, J702	3		PRPC008DAAN-RC	Sullins Connector Solutions	Header, 2.54mm, 8x2, Gold, TH	Header, 2.54mm, 8x2, TH
J800	1		TSM-107-01-L-DV	Samtec	Header, 2.54mm, 7x2, Gold, SMT	Header, 2.54mm, 7x2, SMT
L200	1	400nH	XAL1060-401MEB	Coilcraft	Inductor, Shielded, Composite, 400 nH, 36.8 A, 0.0008 ohm, AEC-Q200 Grade 1, SMD	Inductor, 10x6x11.3mm
L300_PS1, L300_PS2, L300_PS3, L300_PS4	4	4.7uH	IHTH1125KZEB4R7M5A	Vishay-Dale	Inductor, Shielded, 4.7 µH, 50 A, 0.00143 ohm, AEC-Q200 Grade 0, TH	D28.575xH10.744mm
L500	1	220uH	MSS7341T-224MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 220 µH, 0.51 A, 0.65 ohm, AEC-Q200 Grade 1, SMD	MSS7341
L501	1	180uH	MSS1048-184KLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 180 µH, 1.02 A, 0.45 ohm, SMD	MSS1048
L502	1	33uH	MSS5121-333MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 33 µH, 0.67 A, 0.48 ohm, SMD	MSS5121
L800	1	120 ohm	BLM18AG121SN1D	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 0.5 A, 0603	0603
Q100, Q101, Q102, Q103	4	100V	IPB180N10S402ATMA1	Infineon Technologies	MOSFET, N-CH, 100 V, 180 A, AEC-Q101, DDPAK-7	DDPAK-7
Q104	1	80 V	MMBTA06-7-F	Diodes Inc.	Transistor, NPN, 80 V, 0.5 A, SOT-23	SOT-23
Q300_PS1, Q300_PS2, Q300_PS3, Q300_PS4, Q301_PS1, Q301_PS2, Q301_PS3, Q301_PS4, Q302_PS1, Q302_PS2, Q302_PS3, Q302_PS4, Q303_PS1, Q303_PS2, Q303_PS3, Q303_PS4	16	100V	TK65G10N1,RQ	Toshiba	MOSFET, N-CH, 100 V, 65 A, DDPAK	DDPAK
Q400	1	-40V	SI2319DS-T1-E3	Vishay-Siliconix	MOSFET, P-CH, -40 V, -2.3 A, SOT-23	SOT-23
Q401	1	65 V	BC846B,215	NXP Semiconductor	Transistor, NPN, 65 V, 0.1 A, SOT-23	SOT-23
Q402, Q403, Q404, Q405, Q406, Q407	6	40V	AUIRFS8409-7P	Infineon Technologies	MOSFET, N-CH, 40 V, 240 A, AEC-Q101, DDPAK-7	DDPAK-7
R100, R400, R508, R606	4	100k	RC0603FR-07100KL	Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R101	1	1.00k	RC0603FR-071KL	Yageo America	RES, 1.00 k, 1%, 0.1 W, 0603	0603
R103	1	2.87k	RC0603FR-072K87L	Yageo America	RES, 2.87 k, 1%, 0.1 W, 0603	0603
R104	1	20.5k	RC0603FR-0720K5L	Yageo America	RES, 20.5 k, 1%, 0.1 W, 0603	0603
R105	1	2.00k	RC0603FR-072KL	Yageo America	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R106	1	330k	RC0603FR-07330KL	Yageo America	RES, 330 k, 1%, 0.1 W, 0603	0603
R107	1	2.70k	RC0603FR-072K7L	Yageo America	RES, 2.70 k, 1%, 0.1 W, 0603	0603
R109, R110, R405, R406, R603	5	0	RC0603JR-070RL	Yageo America	RES, 0, 5%, 0.1 W, 0603	0603
R300_PS1, R300_PS2, R300_PS3, R300_PS4	4	0.001	PSR400ITQFH1L00	Rohm	RES, 0.001, 1%, 4 W, AEC-Q200 Grade 0, 10x5.2mm	10x5.2mm

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R301_PS1, R301_PS2, R301_PS3, R301_PS4, R304_PS1, R304_PS2, R304_PS3, R304_PS4, R308_PS1, R308_PS2, R308_PS3, R308_PS4, R309_PS1, R309_PS2, R309_PS3, R309_PS4	16	51.0k	RC0603FR-0751KL	Yageo America	RES, 51.0 k, 1%, 0.1 W, 0603	0603
R302_PS1, R302_PS2, R302_PS3, R302_PS4, R305_PS1, R305_PS2, R305_PS3, R305_PS4, R306_PS1, R306_PS2, R306_PS3, R306_PS4, R307_PS1, R307_PS2, R307_PS3, R307_PS4	16	1.00	RC0603FR-071RL	Yageo America	RES, 1.00, 1%, 0.1 W, 0603	0603
R401, R402, R403, R507, R511, R600, R601, R608, R808, R809, R817, R818, R835, R836, R905_LM1, R905_LM2, R908_LM1, R908_LM2, R911_LM1, R911_LM2	20	10.0k	RC0603FR-0710KL	Yageo America	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R404	1	220k	RC0603FR-07220KL	Yageo America	RES, 220 k, 1%, 0.1 W, 0603	0603
R500	1	0.5	CSR1206FKR500	Stackpole Electronics Inc	RES, 0.5, 1%, 0.5 W, 1206	1206
R501, R506, R510	3	0	5106	Keystone	RES, 0, 1%, 0.5 W, 0805	0805
R502	1	180	CRCW0603180RJNEA	Vishay-Dale	RES, 180, 5%, 0.1 W, 0603	0603
R503	1	47.0k	RC0603FR-0747KL	Yageo America	RES, 47.0 k, 1%, 0.1 W, 0603	0603
R504	1	2.20k	RC0603FR-072K2L	Yageo America	RES, 2.20 k, 1%, 0.1 W, 0603	0603
R505	1	169k	RC0603FR-07169KL	Yageo America	RES, 169 k, 1%, 0.1 W, 0603	0603
R509	1	3.32k	RC0603FR-073K32L	Yageo America	RES, 3.32 k, 1%, 0.1 W, 0603	0603
R512	1	3.16k	RC0603FR-073K16L	Yageo America	RES, 3.16 k, 1%, 0.1 W, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R602	1	8.20k	RC0603FR-078K2L	Yageo America	RES, 8.20 k, 1%, 0.1 W, 0603	0603
R604	1	7.50k	RC0603FR-077K5L	Yageo America	RES, 7.50 k, 1%, 0.1 W, 0603	0603
R605, R700, R701, R801, R807	5	680	RC0603FR-07680RL	Yageo America	RES, 680, 1%, 0.1 W, 0603	0603
R607	1	102k	RC0603FR-07102KL	Yageo America	RES, 102 k, 1%, 0.1 W, 0603	0603
R800, R803, R805	3	4.70k	RC0603FR-074K7L	Yageo America	RES, 4.70 k, 1%, 0.1 W, 0603	0603
R802, R806, R833, R834, R916_LM1, R916_LM2, R917_LM1, R917_LM2	8	1.50k	RC0603FR-071K5L	Yageo America	RES, 1.50 k, 1%, 0.1 W, 0603	0603
R804	1	2.55k	RC0603FR-072K55L	Yageo America	RES, 2.55 k, 1%, 0.1 W, 0603	0603
R810, R811, R814, R815, R816, R820, R821, R823, R824, R825, R826, R827, R828	13	22.0	RC0603FR-0722RL	Yageo America	RES, 22.0, 1%, 0.1 W, 0603	0603
R812, R819	2	30.1k	RT0603DRE0730K1L	Yageo America	RES, 30.1 k, 0.5%, 0.1 W, 0603	0603
R813, R822, R830, R832	4	1.00k	RT0603DRE071KL	Yageo America	RES, 1.00 k, 0.5%, 0.1 W, 0603	0603
R829, R831	2	10.0k	RT0603DRE0710KL	Yageo America	RES, 10.0 k, 0.5%, 0.1 W, 0603	0603
R900_LM1, R900_LM2, R920_LM1, R920_LM2	4	634	RC0603FR-07634RL	Yageo America	RES, 634, 1%, 0.1 W, 0603	0603
R901_LM1, R901_LM2, R904_LM1, R904_LM2, R914_LM1, R914_LM2, R915_LM1, R915_LM2	8	10.0	RC0603FR-0710RL	Yageo America	RES, 10.0, 1%, 0.1 W, 0603	0603
R902_LM1, R902_LM2, R903_LM1, R903_LM2	4	95.3k	RC0603FR-0795K3L	Yageo America	RES, 95.3 k, 1%, 0.1 W, 0603	0603
R907_LM1, R907_LM2, R913_LM1, R913_LM2	4	2.00	RC0603FR-072RL	Yageo America	RES, 2.00, 1%, 0.1 W, 0603	0603
R909_LM1, R909_LM2, R912_LM1, R912_LM2	4	40.2k	RC0603FR-0740K2L	Yageo America	RES, 40.2 k, 1%, 0.1 W, 0603	0603
R910_LM1, R910_LM2	2	24.0	RC0603FR-0724RL	Yageo America	RES, 24.0, 1%, 0.1 W, 0603	0603

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R918_LM1, R918_LM2, R919_LM1, R919_LM2	4	64.9k	RC0603FR-0764K9L	Yageo America	RES, 64.9 k, 1%, 0.1 W, 0603	0603
S800	1		218-2LPST	CTS Electrocomponents	Switch, SPST, 2 Pos, 25mA, 24VDC, SMD	3.71x5.8mm
U100	1		LM5060Q1MMX/NOPB	Texas Instruments	High-Side Protection Controller with Low Quiescent Current, 10-pin MSOP, Pb-Free	MUB10A
U500	1		MC33063AQDRQ1	Texas Instruments	1.5-A PEAK BOOST / BUCK / INVERTING SWITCHING REGULATOR, D0008A	D0008A
U501	1		LM5010AQ1MH/NOPB	Texas Instruments	High Voltage 1A Step Down Switching Regulator, 14-pin TSSOP-EP, Pb-Free	MXA14A
U502	1		TPS560200QDGKRQ1	Texas Instruments	4.5V to 18V Input, 500mA Synchronous Step Down SWIFT Converter with Advanced Eco-mode, DGK0008A	DGK0008A
U600, U602, U603, U605	4		TMP102AQDRLRQ1	Texas Instruments	Low-Power Digital Temperature Sensor With SMBus and Two-Wire Serial Interface in SOT563, DRL0006A	DRL0006A
U601	1		TPS3306-33QDRQ1	Texas Instruments	Dual Processor Supervisory Circuits with power Fail, D0008A	D0008A
U604, U802	2		TL431AQDBZRQ1	Texas Instruments	Automotive Catalog Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A
U800, U804	2		SN74LVC2G17QDCKRQ1	Texas Instruments	Dual Schmitt Trigger Buffer, DCK0006A (SOT-6)	DCK0006A
U801	1		TMS320F28027FPTQ	Texas Instruments	Piccolo Microcontroller, PT0048A (LQFP-48)	PT0048A
U803	1		TLC2272AQDRQ1A	Texas Instruments	Automotive Catalog Advanced LinCMOS(TM) Rail-to-Rail Operational Amplifier, 4.4 to 16 V, -40 to 125 degC, 8-pin SOIC (D0008A), Green (RoHS & no Sb/Br)	D0008A
U900_LM1, U900_LM2	2		LM5170QPHPRQ1	Texas Instruments	Dual Channel 48V-12V Bidirectional Current Controller, PHP0048D	PHP0048D
C106	0	0.01uF	GRM21BR72A103KA01L	MuRata	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, 0805	0805
C310_PS1, C310_PS2, C310_PS3, C310_PS4	0	100pF	GCM2165C2A101JA16D	MuRata	CAP, CERM, 100 pF, 100 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0805	0805
C404	0	68pF	GCM1885C1H680JA16D	MuRata	CAP, CERM, 68 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
C519, C520	0	1uF	GCM188R71E105KA64D	MuRata	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C902_LM1, C902_LM2, C904_LM1, C904_LM2, C914_LM1, C914_LM2, C916_LM1, C916_LM2	0	100pF	GCM1885C2A101JA16D	MuRata	CAP, CERM, 100 pF, 100 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0603	0603
D104	0	78V	5.0SMDJ78A	Littelfuse	Diode, TVS, Uni, 78 V, 126 Vc, SMC	SMC
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
L201	0	400nH	XAL1060-401MEB	Coilcraft	Inductor, Shielded, Composite, 400 nH, 36.8 A, 0.0008 ohm, AEC-Q200 Grade 1, SMD	Inductor, 10x6x11.3mm
R108	0	100k	RC0603FR-07100KL	Yageo America	RES, 100 k, 1%, 0.1 W, 0603	0603
R303_PS1, R303_PS2, R303_PS3, R303_PS4	0	10.0	CRCW121810R0FKEK	Vishay-Dale	RES, 10.0, 1%, 1 W, 1218	1218
R906_LM1, R906_LM2	0	10.0k	RC0603FR-0710KL	Yageo America	RES, 10.0 k, 1%, 0.1 W, 0603	0603
RV400	0	27V	V20P17AUTO	Littelfuse	VARISTOR 27V, TH	D20xT5mm
U503	0		LP5912Q3.3DRVRQ1	Texas Instruments	Ultra Low-Noise, 500-mA Linear Regulator for RF and Analog Circuits - Requires No Bypass Capacitor, DRV0006A	DRV0006A

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