

TIDA-050012 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	AlternatePartNumber	AlternateManufacturer	Description	PackageReference
IPC81	1		PSIL054	Any			Printed Circuit Board	
C1, C2	2	47uF	TAJE476M035RNJ	AVX			CAP, TA, 47 uF, 35 V, +/- 20%, 0.9 ohm, AEC-Q200 Grade 1, SMD	7343-43
C3, C4, C12, C13	4	22uF	C2012X5R1V226M125AC	TDK			CAP, CERM, 22 uF, 35 V, +/- 20%, X5R, 0805	0805
C5	1	0.1uF	C1005X7R1H104K050BB	TDK			CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C6, C9	2	1000pF	C1005X7R1H102M050BE	TDK			CAP, CERM, 1000 pF, 50 V, +/- 20%, X7R, 0402	0402
C7	1	0.1uF	GMK105BJ104KV-F	Taiyo Yuden			CAP, CERM, 0.1 uF, 35 V, +/- 10%, X5R, 0402	0402
C8	1	100pF	CC0402KRX7R9BB101	Yageo America			CAP, CERM, 100 pF, 50 V, +/- 10%, X7R, 0402	0402
C10	1	2.2uF	C1005X5R1V225K050BC	TDK			CAP, CERM, 2.2 uF, 35 V, +/- 10%, X5R, 0402	0402
C11	1	47uF	GRM21BR60J476ME15L	MuRata			CAP, CERM, 47 uF, 6.3 V, +/- 20%, X5R, 0805	0805
C14	1	0.1uF	GMK105BJ104KV-F	Taiyo Yuden			CAP, CERM, 0.1 uF, 35 V, +/- 10%, X5R, 0402	0402
C15	1	0.1uF	GRM155R71E104KE14D	MuRata			CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0402	0402
C18, C19, C211, C212	4	220pF	GRM033R71E221KA01D	MuRata			CAP, CERM, 220 pF, 25 V, +/- 10%, X7R, 0201	0201
C20	1	0.1uF	885012205037	Würth Elektronik			CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
C21	1	1uF	UMK107AB7105KA-T	Taiyo Yuden			CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0603	0603
C22, C23, C26	3	10uF	CL05A106MP5NUNC	Samsung Electro-Mechanics			CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0402	0402
C24, C25	2	10uF	GRM188R61E106MA73D	MuRata			CAP, CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	0603
C27, C28, C29, C30	4	0.01uF	GRM155R71H103KA88D	MuRata			CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0402	0402
C200, C201	2	1uF	GRM188R61H105KAALD	MuRata			CAP, CERM, 1 uF, 50 V, +/- 10%, X5R, 0603	0603
C202, C203, C204, C205	4	0.1uF	GCM155R71H104KE02D	MuRata			CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
C206, C207	2	10uF	GRM155R61A106ME44	MuRata			CAP, CERM, 10 uF, 10 V, +/- 20%, X5R, 0402	0402
C208, C213	2	0.1uF	GRM033R61E104KE14J	MuRata			CAP, CERM, 0.1 uF, 25 V, +/- 10%, X5R, 0201	0201
C209, C210, C231	3	10uF	C2012X5R1V106K085AC	TDK			CAP, CERM, 10 uF, 35 V, +/- 10%, X5R, 0805	0805
C214, C216, C217, C219, C220, C221, C222, C223, C224, C225, C230	11	0.1uF	C1005X7R1H104K050BB	TDK			CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C215, C218, C226	3	4.7uF	C1005X5R1A475M050BC	TDK			CAP, CERM, 4.7 uF, 10 V, +/- 20%, X5R, 0402	0402
C227, C229	2	27pF	CL10C270FB8NNNC	Samsung Electro-Mechanics			CAP, CERM, 27 pF, 50 V, +/- 1%, C0G/NP0, 0603	0603
C228	1	0.01uF	C0402C103J5RACTU	Kemet			CAP, CERM, 0.01 uF, 50 V, +/- 5%, X7R, 0402	0402
C232	1	10uF	293D106X9010B2TE3	Vishay-Sprague			CAP, TA, 10 uF, 10 V, +/- 10%, 2.5 ohm, SMD	3528-21
D1	1	40V	PMEG4050EP,115	Nexperia			Diode, Schottky, 40 V, 5 A, AEC-Q101, SOD-128	SOD-128
D2	1	Blue	LTST-C193TBKT-5A	Lite-On			LED, Blue, SMD	1.6x0.8mm
D3	1	Green	150060GS75000	Würth Elektronik			LED, Green, SMD	LED_0603
D4	1	24V	PESD24VS2UT,215	Nexperia			Diode, TVS, Uni, 24 V, 70 Vc, SOT-23	SOT-23
D5, D6, D7, D8, D9, D200, D201, D202, D203, D204, D205	11	White	LW QH8G-Q2S2-3K5L-1	OSRAM			LED, White, SMD	0402, White
D10	1	30V	NSR20F30NXT5G	ON Semiconductor			Diode, Schottky, 30 V, 2 A, 2-XDFN	2-XDFN
F200	1		SSQ 15	Bel Fuse			Fuse, 15 A, SMD	6.1x2.54x2.54mm
J1	1		JPD113D-LBA21-7H	Foxconn			Connector, DC Power Jack, R/A, 3 Pos, Gold, TH	Connector, DC Power Jack, R/A, 3 Pos, TH
J2, J203	2		SSQ-104-03-G-D	Samtec			Receptacle, 2.54mm, 4x2, Gold, TH	Receptacle, 2.54mm, 4x2, TH
J3, J200	2		632723300011	Würth Elektronik			Connector, Receptacle, USB Type C, R/A	Connector, Receptacle, USB Type C, R/A, THT/SMT
J201	1		ZX62RD-AB-5P8	Hirose Electric Co. Ltd.			Connector, Receptacle, Micro-USB Type AB, R/A, Bottom Mount SMT	Connector, Receptacle, Micro-USB Type AB, R/A, Bottom Mount SMT
J202	1		TSW-103-07-G-S	Samtec			Header, 100mil, 3x1, Gold, TH	3x1 Header
L1	1	10uH	ASPI-0630LR-100M-T15	Abracon Corporation	74437346100	Würth Elektronik	Inductor, Wirewound, 10 uH, 4 A, 0.068 ohm, SMD	7.2x6.65mm
L2	1	10uH	74437324100	Würth Elektronik			Inductor, Shielded Drum Core, Powdered Iron, 10 uH, 1.5 A, 0.215 ohm, SMD	4.45x1.8x4.06mm
L200	1	26 ohm	BLM18SG260TN1D	MuRata	74279228260	Würth Elektronik	Ferrite Bead, 26 ohm @ 100 MHz, 6 A, 0603	0603

Designator	Quantity	Value	PartNumber	Manufacturer	AlternatePartNumber	AlternateManufacturer	Description	PackageReference
Q1	1	-30V	AON7403	AOS			MOSFET, P-CH, -30 V, -11 A, FET, 3x0.8x3mm	FET, 3x0.8x3mm
Q2, Q3, Q4	3	20V	BSH105,215	NXP Semiconductor			MOSFET, N-CH, 20 V, 1.05 A, SOT-23	SOT-23
Q5, Q6, Q7, Q8, Q9	5	30V	NX3020NAKW,115	NXP Semiconductor			MOSFET, N-CH, 30 V, 0.18 A, SOT-323	SOT-323
Q10	1	-30V	SI7997DP-T1-GE3	Vishay-Siliconix			MOSFET, 2-CH, P-CH, -30 V, -60 A, 610x604x515mm	610x604x515mm
Q11	1	30V	NX3008NBKW.115	NXP Semiconductor			MOSFET, N-CH, 30 V, 0.35 A, AEC-Q101, SOT-323	SOT-323
Q200, Q201, Q202, Q203	4	50V	BSS138W-7-F	Diodes Inc.			MOSFET, N-CH, 50 V, 0.2 A, SOT-323	SOT-323
R1	1	0	ERJ-6GEY0R00V	Panasonic			RES, 0, 5%, 0.125 W, 0805	0805
R2, R5, R11, R12, R13, R32	6	100k	CRCW0402100KFKED	Vishay-Dale			RES, 100 k, 1%, 0.063 W, 0402	0402
R3	1	47.5k	CRCW040247K5FKED	Vishay-Dale			RES, 47.5 k, 1%, 0.063 W, 0402	0402
R4	1	30k	CRCW040230K0JNED	Vishay-Dale			RES, 30 k, 5%, 0.063 W, 0402	0402
R6	1	270	CRCW0402270RJNED	Vishay-Dale			RES, 270, 5%, 0.063 W, 0402	0402
R7	1	10k	RC0603JR-0710KL	Yageo America			RES, 10 k, 5%, 0.1 W, 0603	0603
R8, R18, R19, R20, R21, R24, R25, R27, R38, R44, R61, R225, R226, R227, R234, R235	16	10.0k	ERJ-2RKF1002X	Panasonic			RES, 10.0 k, 1%, 0.1 W, 0402	0402
R9	1	11.0k	CRCW040211K0FKED	Vishay-Dale			RES, 11.0 k, 1%, 0.063 W, 0402	0402
R10	1	9.53k	CRCW04029K53FKED	Vishay-Dale			RES, 9.53 k, 1%, 0.063 W, 0402	0402
R14	1	8.87k	CRCW04028K87FKED	Vishay-Dale			RES, 8.87 k, 1%, 0.063 W, 0402	0402
R15	1	3.65k	CRCW04023K65FKED	Vishay-Dale			RES, 3.65 k, 1%, 0.063 W, 0402	0402
R16	1	2.20k	CRCW04022K20FKED	Vishay-Dale			RES, 2.20 k, 1%, 0.063 W, 0402	0402
R17	1	100k	CRCW0402100KFKED	Vishay-Dale			RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R22, R23	2	0	CRCW20100000Z0EF	Vishay-Dale			RES, 0, 5%, 0.75 W, AEC-Q200 Grade 0, 2010	2010
R31, R232	2	1.00k	ERJ-2RKF1001X	Panasonic			RES, 1.00 k, 1%, 0.1 W, 0402	0402
R36, R37, R46	3	3.83k	CRCW04023K83FKED	Vishay-Dale			RES, 3.83 k, 1%, 0.063 W, 0402	0402
R39, R40, R41, R42	4	3.3k	CRCW04023K30JNED	Vishay-Dale			RES, 3.3 k, 5%, 0.063 W, 0402	0402
R45	1	3.83k	CRCW04023K83FKED	Vishay-Dale			RES, 3.83 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R47	1	10.0k	CRCW020110K0FKED	Vishay-Dale			RES, 10.0 k, 1%, 0.05 W, 0201	0201
R50, R51, R53, R54, R55, R56, R57	7	0	CRCW02010000Z0ED	Vishay-Dale			RES, 0, 5%, 0.05 W, 0201	0201
R52	1	100k	CRCW0201100KFKED	Vishay-Dale			RES, 100 k, 1%, 0.05 W, 0201	0201
R58, R60, R63, R65, R215, R217, R219, R223	8	0	CRCW04020000Z0EDHP	Vishay-Dale			RES, 0, 0%, 0.2 W, AEC-Q200 Grade 0, 0402	0402
R59, R62, R64, R66, R216, R218, R222, R224	8	100k	CRCW0402100KDHP	Vishay-Dale			RES, 100 k, 0.5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R200, R213, R214, R220, R221	5	10.0k	TNPW060310K0BEEA	Vishay-Dale			RES, 10.0 k, 0.1%, 0.1 W, AEC-Q200 Grade 1, 0603	0603
R201, R202, R203, R204	4	3.83k	CRCW02013K83FKED	Vishay-Dale			RES, 3.83 k, 1%, 0.05 W, 0201	0201
R205, R206, R207, R208	4	3.32k	RC0201FR-073K32L	Yageo America			RES, 3.32 k, 1%, 0.05 W, 0201	0201
R209	1	191k	RC0201FR-07191KL	Yageo America			RES, 191 k, 1%, 0.05 W, 0201	0201
R210	1	10.0k	MCR006YRTF1002	Rohm			RES, 10.0 k, 1%, 0.05 W, 0201	0201
R211, R212	2	100k	RC0201FR-7D100KL	Yageo America			RES, 100 k, 1%, 0.05 W, 0201	0201
R228	1	2.20k	RC0402FR-072K2L	Yageo America			RES, 2.20 k, 1%, 0.063 W, 0402	0402
R229	1	12k	CRCW040212K0JNED	Vishay-Dale			RES, 12 k, 5%, 0.063 W, 0402	0402
R230	1	4.70k	ERJ-2RKF4701X	Panasonic			RES, 4.70 k, 1%, 0.1 W, 0402	0402
R231, R233, R236, R237, R238, R239, R240, R241, R243, R244	10	0	CRCW04020000Z0ED	Vishay-Dale			RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R242	1	249k	CRCW0603249KFKEA	Vishay-Dale			RES, 249 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
S1, S2, S3, S4, S200, S201, S202, S203	8		434121025816	Würth Elektronik			Switch, Tactile, SPST, 12 V, SMD	SMD, 6x3.9mm
SH-J1	1		60900213421	Würth Elektronik			Shunt, 2.54mm, Gold, Black	Shunt, 2.54mm, Black

Designator	Quantity	Value	PartNumber	Manufacturer	AlternatePartNumber	AlternateManufacturer	Description	PackageReference
TP1, TP2, TP3, TP200, TP201	5		5019	Keystone			Test Point, Miniature, SMT	Test Point, Miniature, SMT
U1	1		TVS2200DRVR	Texas Instruments			22-V Precision Surge Protection Clamp, DRV0006A (WSO-6)	DRV0006A
U2	1		LM3489QMM/NOPB	Texas Instruments			Hysteretic PFET Buck Controller with Enable Pin, 8-pin MSOP, Pb-Free	MUA08A
U3	1		TPS62177DQCR	Texas Instruments			28V, 0.5A Step-Down Converter with SNOOZE Mode, DQC0010A (WSO-10)	DQC0010A
U5, U200	2		TPS65987DDHRSHR	Texas Instruments			USB Type-C and USB PD Controller with Integrated Power Switches, RSH0056E (VQFN-56)	RSH0056E
U6, U201	2		MX25L8006EM1I-12G	Macronix International Co., LTD			8Mb, 86MHz, NOR Flash, SOP-8	8-SOP
U202	1		93LC56B-I/OT	Microchip			2K Microwire Compatible Serial EEPROM, SOT-23-6	SOT-23-6
U203	1		FT4232HL	FTDI			Quad High Speed USB to Multipurpose UART/MPSSSE IC	LQFP_10x10mm
U204	1		TPD2E009DRTR	Texas Instruments			ESD Protection Array for High-Speed Data Interfaces, 2 Channels, -40 to +85 degC, 3-pin SOT (DRT), Green (RoHS & no Sb/Br)	DRT0003A
U205	1		TPS76833QD	Texas Instruments			Single Output Fast Transient Response LDO, 1 A, Fixed 3.3 V Output, 2.7 to 10 V Input, with Low IQ, 8-pin SOIC (D), -40 to 125 degC, Green (RoHS & no Sb/Br)	D0008A
Y200	1		ECS-120-20-3X-TR	ECS Inc.			CRYSTAL, 12 MHz, 20pF, SMD	7x2.3x4.1mm
C16	0	0.1uF	GRM155R71E104KE14D	MuRata			CAP, CERM, 0.1 uF, 25 V,+/- 10%, X7R, 0402	0402
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A			Fiducial mark. There is nothing to buy or mount.	N/A
R26	0	10.0k	ERJ-2RKF1002X	Panasonic			RES, 10.0 k, 1%, 0.1 W, 0402	0402
R43	0	0	RC0402JR-070RL	Yageo America			RES, 0, 5%, 0.063 W, 0402	0402
R48, R49	0	0	CRCW02010000Z0ED	Vishay-Dale			RES, 0, 5%, 0.05 W, 0201	0201

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