

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

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2020, Texas Instruments Incorporated