

TIDA-010240 REV A Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPC81	1		PMP23095	Any	Printed Circuit Board	
3.3V, 3.3V Buck, BAT_A, BAT_B, BattORR, MUX_PWR, VBAT_A, VBAT_B, VDDA_A, VDDA_B, Vin, VIN_FLT, VIN_PROT, VSYS	14		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
C1, C2, C3, C4, C5, C6, C34, C35, C36, C37, C38, C39, C49, C50, C51, C52, C66, C67, C68, C88, C89, C90, C91, C92, C93, C103, C104, C105, C106, C120, C121, C122	32	10uF	GRM21BR6YA106KE43L	MuRata	CAP, CERM, 10 uF, 35 V, +/- 10%, X5R, 0805	805
C7, C29	2	47uF	EMVA630ADA470MHA0G	Chemi-Con	CAP, AL, 47 uF, 63 V, +/- 20%, SMD	HA0
C8, C28	2	0.1uF	GRM188R72A104KA35J	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0603	603
C9	1	1500pF	GRM188R71H152KA01D	MuRata	CAP, CERM, 1500 pF, 50 V, +/- 10%, X7R, 0603	603
C10, C11	2	22uF	NMC0805X5R226M35TRPLPF	Arrow	CAP, CERM, 22 uF, 35 V, +/- 20%, X5R, 0805	805
C12, C15, C24, C27, C31	5	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C13, C16, C18, C19, C21, C25, C30, C157	8	0.1uF	C0603C104K9RAC7867	Kemet	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X7R, 0603	603
C14, C20, C33, C53, C64, C87, C107, C118	8	0.01uF	C0603C103J5RACTU	Kemet	CAP, CERM, 0.01 uF, 50 V, +/- 5%, X7R, 0603	603
C22	1	33uF	KCM55WR7YA336MH01K	MuRata	CAP, CERM, 33 uF, 35 V, +/- 20%, X7R, Stacked 2220	Stacked 2220
C23	1	0.01uF	GRM155R70J103KA01D	MuRata	CAP, CERM, 0.01 uF, 6.3 V, +/- 10%, X7R, 0402	402
C26	1	0.01uF	C0603C103K4RACTU	Kemet	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0603	603
C32	1	10uF	GRM188R60J106ME84	MuRata	CAP, CERM, 10 uF, 6.3 V, +/- 20%, X5R, 0603	603
C41, C45, C81, C95, C99, C135	6	33uF	T521D336M035ATE065	Kemet	CAP, TA, 33 uF, 35 V, +/- 20%, 0.065 ohm, SMD	7343-31
C44, C98	2	0.1uF	CGA3E2X7R1H104K080AA	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C54, C108	2	1000pF	C1005NP01H102J050BA	TDK	CAP, CERM, 1000 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C55, C61, C109, C115	4	330pF	GRM188R71H331KA01D	MuRata	CAP, CERM, 330 pF, 50 V, +/- 10%, X7R, 0603	603

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C56, C60, C110, C114	4	0.047uF	GRM188R71E473KA01D	MuRata	CAP, CERM, 0.047 uF, 25 V, +/- 10%, X7R, 0603	603
C59, C79, C113, C133	4	1uF	CGA3E1X7R1V105K080AC	TDK	CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C62, C63, C116, C117	4	150pF	C0603C151J5GACTU	Kemet	CAP, CERM, 150 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
C70, C71, C124, C125	4	0.033uF	GRM188R71H333KA61D	MuRata	CAP, CERM, 0.033 uF, 50 V, +/- 10%, X7R, 0603	603
C74, C128	2	0.47uF	C2012X7R1H474K125AB	TDK	CAP, CERM, 0.47 uF, 50 V, +/- 10%, X7R, 0805	805
C75, C129	2	33pF	GRM1555C1H330JA01D	MuRata	CAP, CERM, 33 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C76, C130	2	2.2uF	GRM188R6YA225KA12D	MuRata	CAP, CERM, 2.2 uF, 35 V, +/- 10%, X5R, 0603	603
C77, C131	2	4700pF	GRM155R71H472KA01D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0402	402
C78, C132	2	680pF	GRM1555C1H681JA01D	MuRata	CAP, CERM, 680 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C80, C134	2	15pF	GRM1555C1H150JA01D	MuRata	CAP, CERM, 15 pF, 50 V, +/- 5%, C0G/NP0, 0402	402
C82, C83, C136, C137	4	10uF	GRM31CR71E106KA12L	MuRata	CAP, CERM, 10 uF, 25 V, +/- 10%, X7R, 1206	1206
C84, C86, C138, C140	4	100pF	C0603C101J5GAC	Kemet	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	603
C142	1	10uF	GRM188Z71A106MA73D	MuRata	CAP, CERM, 10 uF, 10 V, +/- 20%, X7R, 0603	603
C143	1	0.1uF	C0603X104K8RACTU	Kemet	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0603	603
C144	1	1uF	8.85012E+11	Würth Elektronik	CAP, CERM, 1 uF, 16 V, +/- 20%, X5R, 0603	603
C145	1	0.1uF	GCM188R71C104KA37J	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C148, C149, C151, C152	4	10uF	C1608X5R1E106M080AC	TDK	CAP, CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	603
C150, C153	2	1uF	C0603C105K3RACTU	Kemet	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	603
D1	1	22V	SMCJ22CA-TR	STMicroelectronics	Diode, TVS, Bi, 22 V, 35.5 Vc, 1500 W, 44 A, SMC (No Polarity Mark)	SMC (No Polarity Mark)
D2, D3, D4	3	40V	BAS40-04-7-F	Diodes Inc.	Diode, Schottky, 40 V, 0.2 A, SOT-23	SOT-23
D6, D8, D9, D11	4	Green	150060VS75000	Würth Elektronik	LED, Green, SMD	LED_0603
D10	1	50V	B150-13-F	Diodes Inc.	Diode, Schottky, 50 V, 1 A, SMA	SMA
GND	1		5015	Keystone	Test Point, Miniature, SMT	Testpoint_Keystone_Miniature
ILIM, IN_ISNS, SYS_Iavg, SYS_IFLT, SYS_ISNS, TP1, TP2, TP3, TP4	9		5012	Keystone	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
J1, J2, J3, J10	4		ED120/2DS	On-Shore Technology	Terminal Block, 5.08 mm, 2x1, Brass, TH	2x1 5.08 mm Terminal Block
J4	1		SBH11-PBPC-D07-ST-BK	Sullins Connector Solutions	Header (shrouded), 100 mil, 7x2, Gold, TH	7x2 Shrouded Header
J5, J7, J8	3		PEC03SAAN	Sullins Connector Solutions	Header, 100mil, 3x1, Tin, TH	Header, 3 PIN, 100mil, Tin
J6	1		TSW-106-07-G-D	Samtec	Header, 100mil, 6x2, Gold, TH	6x2 Header
J9	1		TSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	2x1 Header
J11	1		HTSW-102-07-G-D	Samtec		HDR4
J12	1		PJ-098H	CUI Devices		PTH_CONN_8MM0_12MM0
L1	1	160nH	744307016	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 160 nH, 29 A, 0.00033 ohm, SMD	7.4x7x7.2mm
L2, L3	2		BMRHDY1010302R2MA1	Chilisin Electronics	2.2uH Shielded Wirewound Inductor 13A 9mOhm Max 10x10x3mm	SMT_IND_11MM2_10MM1
L4	1	10uH	LPS4012-103MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 10 uH, 0.75 A, 0.35 ohm, SMD	LPS4012

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
Q1, Q3, Q4	3	30V	CSD17581Q3A	Texas Instruments	MOSFET, N-CH, 30 V, 60 A, DNH0008A (VSONP-8)	DNH0008A
Q2, Q5, Q6, Q7, Q8, Q9, Q11, Q13, Q14, Q15, Q16	11	30V	CSD17578Q3A	Texas Instruments	MOSFET, N-CH, 30 V, 14 A, DNH0008A (VSONP-8)	DNH0008A
Q12, Q18, Q19, Q20	4	30V	NX3020NAKW,115	Nexperia	MOSFET, N-CH, 30 V, 0.18 A, SOT-323	SOT-323
Q21	1	45 V	BC817-16LT1G	ON Semiconductor	Transistor, NPN, 45 V, 0.5 A, SOT-23	SOT-23
R1, R2	2	0.002	PMR18EZPFV2L00	Rohm	RES, 0.002, 1%, 1 W, AEC-Q200 Grade 0, 1206	1206
R3, R4, R10, R11, R26, R30, R50, R54	8	4.99	CRCW06034R99FKEA	Vishay-Dale	RES, 4.99, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R6	1	1.15k	RT0603BRD071K15L	Yageo America	RES, 1.15 k, 0.1%, 0.1 W, 0603	603
R7	1	280k	RC0603FR-07280KL	Yageo	RES, 280 k, 1%, 0.1 W, 0603	603
R8	1	68.1	CRCW060368R1FKEA	Vishay-Dale	RES, 68.1, 1%, 0.1 W, 0603	603
R9, R12, R13, R14, R16, R19, R40, R64, R96, R97	10	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	603
R15	1	22.6k	RC0603FR-0722K6L	Yageo	RES, 22.6 k, 1%, 0.1 W, 0603	603
R17	1	2.70k	RC0603FR-072K7L	Yageo	RES, 2.70 k, 1%, 0.1 W, 0603	603
R22, R41	2	1.13k	RT0603BRD071K13L	Yageo America	RES, 1.13 k, 0.1%, 0.1 W, 0603	603
R23, R24, R47, R48	4	0.005	WSP12065L000FEA	Vishay-Dale	RES, 0.005, 1%, 1 W, AEC-Q200 Grade 0, 1206	1206
R25, R49	2	0	5106	Keystone	RES, 0, 1%, 0.5 W, 0805	805
R27, R31, R51, R55	4	56	CRCW060356R0JNEA	Vishay-Dale	RES, 56, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R28, R29, R35, R52, R53, R59	6	10	CRCW060310R0JNEA	Vishay-Dale	RES, 10, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R32, R56	2	1	CRCW08051R00JNEA	Vishay-Dale	RES, 1.0, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	805
R33, R57	2	15.0k	CRCW040215K0FKED	Vishay-Dale	RES, 15.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R34, R58	2	40.2k	CRCW040240K2FKED	Vishay-Dale	RES, 40.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	402
R36, R60	2	0	CRCW20100000Z0EF	Vishay-Dale	RES, 0, 5%, 0.75 W, AEC-Q200 Grade 0, 2010	2010
R37, R61	2	33k	CRCW060333K0JNEA	Vishay-Dale	RES, 33 k, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R38, R39, R62, R63	4	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R42, R66	2	191k	CRCW0603191KFKEA	Vishay-Dale	RES, 191 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R44, R68	2	30.1k	CRCW060330K1FKEA	Vishay-Dale	RES, 30.1 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R45, R65, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83	13	4.30k	RC0603FR-074K3L	Yageo	RES, 4.30 k, 1%, 0.1 W, 0603	603
R46, R70, R86, R90	4	220	RC0603FR-07220RL	Yageo	RES, 220, 1%, 0.1 W, 0603	603
R69, R71, R93, R94, R103, R104	6	0	RMCF0603ZTOR00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R72	1	47.0k	RC0603FR-0747KL	Yageo	RES, 47.0 k, 1%, 0.1 W, 0603	603
R84	1	50.0k	RT0603DRE0753KL	Yageo America	RES, 53.0 k, 0.5%, 0.1 W, 0603	603
R87	1	5.97k	RT0603DRE075K97L	Yageo America	RES, 5.97 k, 0.5%, 0.1 W, 0603	603
R88	1	715	RC0603FR-07715RL	Yageo	RES, 715, 1%, 0.1 W, 0603	603
R89, R100	2	82.5k	RC0603FR-0782K5L	Yageo	RES, 82.5 k, 1%, 0.1 W, 0603	603
R91, R92	2	54.9k	RT0603BRD0754K9L	Yageo America	RES, 54.9 k, 0.1%, 0.1 W, 0603	603

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R95, R101	2	3.57Meg	CRCW06033M57FKEA	Vishay-Dale	RES, 3.57 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R99	1	17.8k	CRCW060317K8FKEA	Vishay-Dale	RES, 17.8 k, 1%, 0.1 W, 0603	603
TP12, TP13, TP14, TP15, TP17	5		5011	Keystone Electronics	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
U1, U7	2		LM74800	Texas Instruments	Ideal Diode Controller with Load Dump Protection	WS0N12
U2, U4	2		INA213BIDCKR	Texas Instruments	26-V, Bi-Directional, Zero-Drift, High Accuracy, Low-/High-Side, Voltage Out Current Shunt Monitor, DCK0006A (SOT-SC70-6)	DCK0006A
U3, U6, U8	3		TLV9051IDBVR	Texas Instruments	General Purpose Amplifier 1 Circuit Rail-to-Rail SOT-23-5	SOT23-5
U5	1		LM74700QDBVRQ1	Texas Instruments	Low Iq Always ON Smart Diode Controller, DBV0006A (SOT-23-6)	DBV0006A
U9, U10	2		BQ25731RSN	Texas Instruments	No Description	WQFN32
U11	1		MSP430FR2475TRHBR	Texas Instruments	Mixed-Signal Microcontroller, RHB0032E (VQFN-32)	RHB0032E
U12	1		PCA9546ARGVR	Texas Instruments	4-Channel I2C and SMBus Multiplexer with Reset Functions, 2.3 to 5.5 V, - 40 to 85 degC, 16-pin VQFN (RGV), Green (RoHS & no Sb/Br)	RGV0016A
U13	1		TPS62177DQCR	Texas Instruments	28V, 0.5A Step-Down Converter with SNOOZE Mode, DQC0010A (WS0N-10)	DQC0010A
U14, U15	2		TLV7031DCKR	Texas Instruments	Small-Size Nanopower Low-Voltage Comparator, DCK0005A (SOT-SC70- 5)	DCK0005A
C17, C40, C46, C47, C94, C100, C101, C155, C156	0	33uF	T521D336M035ATE065	Kemet	CAP, TA, 33 uF, 35 V, +/- 20%, 0.065 ohm, SMD	7343-31
C42, C43, C57, C58, C69, C96, C97, C111, C112, C123	0	10uF	GRM21BR6YA106KE43L	MuRata	CAP, CERM, 10 uF, 35 V, +/- 10%, X5R, 0805	805
C48, C102	0	47uF	25SVPF47M	Panasonic	CAP, Aluminum Polymer, 47 uF, 25 V, +/- 20%, 0.03 ohm, F61 SMD	F61
C65, C119	0	0.068uF	CGA2B3X7R1H683K050BB	TDK	CAP, CERM, 0.068 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C72, C73, C126, C127	0	0.018uF	GRM188R71H183KA01D	MuRata	CAP, CERM, 0.018 uF, 50 V, +/- 10%, X7R, 0603	603
C85	0	1uF	CGA3E1X7R1V105K080AC	TDK	CAP, CERM, 1 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	603
C139, C154	0	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	402
C141	0	1100pF	GRM1885C1E112JA01D	MuRata	CAP, CERM, 1100 pF, 25 V, +/- 5%, C0G/NP0, 0603	603
D5, D7	0	20V	B220A-13-F	Diodes Inc.	Diode, Schottky, 20 V, 2 A, SMA	SMA
Q10, Q17	0		SISS27ADN-T1-GE3	Vishay	P-Channel 30 V 5.1 mOhm 57 W TrenchFET Gen III Mosfet - PowerPAK 1212-8S	PowerPAK1212-8S
R5	0	100k	RC0603FR-07100KL	Yageo	RES, 100 k, 1%, 0.1 W, 0603	603
R20	0	5.97k	RT0603DRE075K97L	Yageo America	RES, 5.97 k, 0.5%, 0.1 W, 0603	603
R21	0	715	RC0603FR-07715RL	Yageo	RES, 715, 1%, 0.1 W, 0603	603
R43, R67	0	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603
R85	0	17.8k	CRCW060317K8FKEA	Vishay-Dale	RES, 17.8 k, 1%, 0.1 W, 0603	603
R105, R106, R107, R108, R109	0	0	RMCF0603ZT0R00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	603

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