

TIDA-050020 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
!PCB1	1		BMC002	Any	Printed Circuit Board	
C1, C3, C4, C8, C172	5	10uF	C2012X5R1E106K125AB	TDK	CAP, CERM, 10 uF, 25 V, +/- 10%, X5R, 0805	0805
C2, C29, C173	3	0.1uF	06035C104KAT2A	AVX	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
C5, C9, C18, C26, C28, C30	6	1uF	C1608X7R1C105K080AC	TDK	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603
C6	1	10uF	C1608X5R1E106M080AC	TDK	CAP, CERM, 10 uF, 25 V, +/- 20%, X5R, 0603	0603
C7	1	22uF	C2012X5R0J226M085AB	TDK	CAP, CERM, 22 uF, 6.3 V, +/- 20%, X5R, 0805	0805
C10	1	0.082uF	0603YC823KAT2A	AVX	CAP, CERM, 0.082 uF, 16 V, +/- 10%, X7R, 0603	0603
C11, C12	2	22uF	GRM31CR61C226KE15L	MuRata	CAP, CERM, 22 uF, 16 V, +/- 10%, X5R, 1206	1206
C13, C14, C15	3	270uF	EEHZA1V271P	Panasonic	CAP, Polymer Hybrid, 270 uF, 35 V, +/- 20%, 20 ohm, 10x10 SMD	10x10
C16	1	4.7uF	C0603C475K8PACTU	Kemet	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0603	0603
C19, C20	2	1000pF	C0603C102J5RACTU	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 5%, X7R, 0603	0603
C21, C24	2	100pF	C0402C101J3GACTU	Kemet	CAP, CERM, 100 pF, 25 V, +/- 5%, C0G/NP0, 0402	0402
C31, C32, C33, C46, C47, C48, C61, C62, C63, C76, C77, C78, C91, C92, C93, C106, C107, C108, C184, C185, C186	21	22uF	C2012X5R1C226M125AC	TDK	CAP, CERM, 22 uF, 16 V, +/- 20%, X5R, 0805	0805
C34, C49, C64, C79, C94, C109, C187	7	4700pF	GRM155R71H472KA01D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0402	0402
C35, C40, C50, C55, C65, C70, C80, C85, C95, C100, C110, C115, C121, C122, C123, C139, C140, C157, C158, C159, C188, C193	22	470uF	EEF-GX0E471R	Panasonic	CAP, Aluminum Polymer, 470 uF, 2.5 V, +/- 20%, 0.003 ohm, SMD_7.3x1.9x4.3mm SMD	SMD_7.3x1.9x4.3mm
C36, C37, C39, C51, C52, C54, C66, C67, C69, C81, C82, C84, C96, C97, C99, C111, C112, C114, C126, C128, C131, C133, C136, C138, C143, C146, C148, C151, C153, C156, C160, C161, C162, C163, C164, C165, C166, C167, C168, C169	40	100uF	GRM31CR60G107ME39L	MuRata	CAP, CERM, 100 uF, 4 V, +/- 20%, X5R, 1206	1206
C42, C57, C72, C87, C102, C117, C195	7	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C43, C58, C73, C88, C103, C118, C196	7	2.2uF	C1005X5R1A225K050BC	TDK	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, 0402	0402
C170, C171	2	1000pF	C1608X7R2A102K080AA	TDK	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, 0603	0603
C174, C179	2	0.1uF	08053C104KAT2A	AVX	CAP, CERM, 0.1 uF, 25 V, +/- 10%, X7R, 0805	0805
C175, C178, C180	3	1uF	C0603C105K4PACTU	Kemet	CAP, CERM, 1 uF, 16 V, +/- 10%, X5R, 0603	0603
C176, C181	2	0.01uF	08051C103JAT2A	AVX	CAP, CERM, 0.01 uF, 100 V, +/- 5%, X7R, 0805	0805
C177, C182	2	0.01uF	08055C103JAT2A	AVX	CAP, CERM, 0.01 uF, 50 V, +/- 5%, X7R, 0805	0805
D1, D2, D3, D4	4	Green	LTST-C170KGKT	Lite-On	LED, Green, SMD	LED_0805
D5, D6, D9, D12, D16, D19, D24, D25	8	Red	LTST-C170KRKT	Lite-On	LED, Red, SMD	Red 0805 LED
D7, D8, D10, D11, D14, D15, D17, D18, D20, D21, D22, D23	12	30V	MBR0530T1G	ON Semiconductor	Diode, Schottky, 30 V, 0.5 A, SOD-123	SOD-123
D13, D28	2	30V	BAT54-7-F	Diodes Inc.	Diode, Schottky, 30 V, 0.2 A, SOT-23	SOT-23
H1, H2, H3, H4	4		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16	12		PMS 102 0050 SL	B&F Fastener Supply	Machine Screw Pan Slotted 10-32	
H17, H18, H19, H20, H21, H22, H23, H24, H25, H26, H27, H28	12		HNSS 102	B&F Fastener Supply	Machine Screw Nut, Hex, 3/8", Stn, Steel, 10-32	
H29, H30, H31, H32, H33, H34, H35, H36, H37, H38, H39, H40	12		1477	Keystone	Washer, Split Lock, #10	
J1	1		39357-0002	Molex	Terminal Block, 3.5 mm, 2x1, Tin, TH	Terminal Block, 3.5 mm, 2x1, TH
J2, J4, J9, J11, J13, J14, J15, J16, J17	9		TSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	2x1 Header
J6, J7, T7, T8, T9, T10	6		CB70-14-CY	Panduit	Terminal 90A Lug	CB70-14-CY
J8, J10	2		TSW-103-07-G-S	Samtec	Header, 100mil, 3x1, Gold, TH	3x1 Header
J12	1		TSW-105-07-G-D	Samtec	Header, 100mil, 5x2, Gold, TH	5x2 Header
L1	1	2.2uH	XPL2010-222MLB	Coilcraft	Inductor, Shielded, Composite, 2.2 uH, 1.3 A, 0.16 ohm, SMD	XPL2010
L2	1	55nH	HCB65-550X	Delta Electronics Inc.	Inductor, 55 nH, 30 A, 0.0002 ohm, SMD	5.5x5.7mm
L3, L4, L5, L6, L7, L8, L9	7	150nH	PA4390.151HLT	Pulse Engineering	Inductor, 150 nH, 68 A, 0.0002035 ohm, SMD	10x7x10mm
Q1, Q2	2	-20V	BSS223PWH6327	Infineon Technologies	MOSFET, P-CH, -20 V, -0.39 A, SOT-323	SOT-323
Q3, Q4, Q5, Q6	4	100V	BSS123	Fairchild Semiconductor	MOSFET, N-CH, 100 V, 0.17 A, SOT-23	SOT-23
Q7, Q8, Q9, Q10, Q11, Q12	6	30V	CSD17303Q5	Texas Instruments	MOSFET, N-CH, 30 V, 100 A, DQH0008A (VSON-CLIP-8)	DQH0008A

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R1, R2, R5, R10	4	1.00	RC0603FR-071RL	Yageo America	RES, 1.00, 1%, 0.1 W, 0603	0603
R3, R12, R178, R217	4	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R4	1	15.0k	CRCW060315K0FKEA	Vishay-Dale	RES, 15.0 k, 1%, 0.1 W, 0603	0603
R6, R9	2	30.1k	CRCW060330K1FKEA	Vishay-Dale	RES, 30.1 k, 1%, 0.1 W, 0603	0603
R7, R97, R98	3	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R8	1	51k	CRCW060351K0JNEA	Vishay-Dale	RES, 51 k, 5%, 0.1 W, 0603	0603
R11, R23, R24, R25, R34, R37, R38, R39, R40, R46, R48, R95, R96, R99, R100	15	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R13, R22, R101	3	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, 0603	0603
R14	1	6.04k	CRCW06036K04FKEA	Vishay-Dale	RES, 6.04 k, 1%, 0.1 W, 0603	0603
R15	1	499	CRCW0603499RFKEA	Vishay-Dale	RES, 499, 1%, 0.1 W, 0603	0603
R16	1	10.0	CRCW040210R0FKED	Vishay-Dale	RES, 10.0, 1%, 0.063 W, 0402	0402
R17	1	1.0	CRCW20101R00JNEFHP	Vishay-Dale	RES, 1.0, 5%, 1 W, 2010	2010
R18	1	475k	CRCW0603475KFKEA	Vishay-Dale	RES, 475 k, 1%, 0.1 W, 0603	0603
R19	1	154k	CRCW0603154KFKEA	Vishay-Dale	RES, 154 k, 1%, 0.1 W, 0603	0603
R42, R43, R44, R90, R92, R93, R94, R104, R105	9	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, 0603	0603
R49, R53, R54, R55, R59, R60, R61, R65, R66, R67, R71, R72, R73, R77, R78, R79, R83, R84, R224, R228, R229	21	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R50, R56, R62, R68, R74, R80, R225	7	2.2	CRCW04022R20JNED	Vishay-Dale	RES, 2.2, 5%, 0.063 W, 0402	0402
R52, R58, R64, R70, R76, R82, R227	7	110k	CRCW0402110KFKEA	Vishay-Dale	RES, 110 k, 1%, 0.063 W, 0402	0402
R85, R86	2	1.0k	CRCW06031K00JNEA	Vishay-Dale	RES, 1.0 k, 5%, 0.1 W, 0603	0603
R87, R88, R89, R91, R102, R103	6	180	CRCW0603180RJNEA	Vishay-Dale	RES, 180, 5%, 0.1 W, 0603	0603
R106, R187	2	10k	TC164-JR-0710KL	Yageo America	RES, 10 k, 5%, 0.0625 W, 3.2x1.6mm	3.2x1.6mm
R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R147, R148, R149, R150, R151, R152, R153, R154, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176	53	0.3	CSRN2512FKR300	Stackpole Electronics Inc	RES, 0.3, 1%, 2 W, 2512	2512
R137, R138, R179, R180, R196, R197	6	20.0	CRCW060320R0FKEA	Vishay-Dale	RES, 20.0, 1%, 0.1 W, 0603	0603
R139, R144, R181, R186, R200, R205	6	330	CRCW0805330RJNEA	Vishay-Dale	RES, 330, 5%, 0.125 W, 0805	0805
R140, R141, R182, R183, R198, R199	6	249	CRCW0603249RFKEA	Vishay-Dale	RES, 249, 1%, 0.1 W, 0603	0603
R142, R143, R146, R184, R185, R201, R202, R204	8	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
R145, R177, R203, R214	4	8.06k	CRCW06038K06FKEA	Vishay-Dale	RES, 8.06 k, 1%, 0.1 W, 0603	0603
R188, R189, R190, R191, R192, R193, R194, R195, R206, R207, R208, R209, R210, R211, R212, R213	16	0.25	CSRN2512FKR250	Stackpole Electronics Inc	RES, 0.25, 1%, 2 W, 2512	2512
RT1	1	1k	NCP18XQ102J03RB	MuRata	Thermistor NTC, 1.0k ohm, 5%, 0603	0603
S1, S2	2		EG1218	E-Switch	Switch, SPDT, Slide, On-On, 2 Pos, TH	4x11.6mm
S3, S4	2		78B04ST	Grayhill	DIP Switch, SPST 4Pos, Slide, TH	DIP Switch, 4 Pos
SH-J1, SH-J2, SH-J3, SH-J4, SH-J5, SH-J7, SH-J8	7	1x2	SPC02SYAN	Sullins Connector Solutions	Shunt, 100mil, Flash Gold, Black	Closed Top 100mil Shunt
SR 1	1	0.0005	WSL4026L5000FEB	Vishay-Dale	RES, 0.0005, 1%, 3 W, 4026	4026
T1, T2, T3, T4, T5, T6	6		CB125-14-QY	Panduit	Terminal 125A Lug	Terminal Lug
TP4, TP5, TP6, TP7, TP8, TP10, TP11, TP15, TP26, TP37, TP38	11		5005	Keystone	Test Point, Compact, Red, TH	Red Compact Testpoint
TP12, TP17, TP45, TP47, TP48, TP50, TP51	7		5006	Keystone	Test Point, Compact, Black, TH	Black Compact Testpoint

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
TP18, TP19, TP20, TP21, TP22, TP23, TP24, TP25, TP27, TP28, TP29, TP30, TP31, TP32, TP33, TP34, TP35, TP36, TP39, TP40, TP41, TP42, TP43, TP44, TP52, TP53, TP57	27		5007	Keystone	Test Point, Compact, White, TH	White Compact Testpoint
U1	1		TPS70102PWPR	Texas Instruments	Dual-Output Low Dropout Voltage Regulators with Power-Up Sequencing for Split-Voltage DSP Systems, PWP0020D (TSSOP-20)	PWP0020D
U2	1		TPS62173DSGR	Texas Instruments	Buck Step Down Regulator with 3 to 17 V Input and 5 V Output, -40 to 85 degC, 8-Pin WSON (DSG), Green (RoHS & no Sb/Br)	DSG0008A
U3	1		TPS53681RSBR	Texas Instruments	TPS53681RSBR, RSB0040E (WQFN-40)	RSB0040E
U4, U5, U6, U7, U8, U9, U19	7		CSD95490Q5MC	Texas Instruments	Synchronous Buck NexFET Power Stage, DMC0012A (VSON-CLIP-12)	DMC0012A
U10	1		TLV3404IPWR	Texas Instruments	Quad Nanopower Open Drain Output Comparator, PW0014A (TSSOP-14)	PW0014A
U11, U15	2			Texas Instruments	High Speed CMOS Logic Quad 2-Input AND Gates, D0014A, TUBE	D0014A
U12, U14, U16	3		UCC27324DR	Texas Instruments	Dual 4 A Peak High Speed Low-Side Power MOSFET Drivers, D0008A (SOIC-8)	D0008A
U13, U17	2		TLC555CD	Texas Instruments	2.1-MHz, 250-uA, Low-Power Timer, D0008A (SOIC-8)	D0008A
C22, C23, C25, C27	0	22pF	GRM1555C1H220JA01D	MuRata	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C38, C53, C68, C83, C98, C113, C124, C125, C127, C129, C130, C132, C134, C135, C137, C142, C144, C145, C147, C149, C150, C152, C154, C155, C189, C190, C191, C192, C204, C205, C206, C207, C219, C220, C221, C222	0	220uF	GRM31CR60G227ME11L	MuRata	CAP, CERM, 220 uF, 4 V, +/- 20%, X5R, 1206_190	1206_190
C41, C56, C71, C86, C101, C116, C194, C209, C224	0	1000pF	GRM155R71H102KA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0402	0402
C44, C59, C74, C89, C104, C119, C197, C210, C212, C225, C227	0	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0402	0402
C45, C60, C75, C90, C105, C120, C198, C213, C228	0	1000pF	GRM155R61E102KA01D	MuRata	CAP, CERM, 1000 pF, 25 V, +/- 10%, X5R, 0402	0402
C141, C203, C208, C218, C223	0	470uF	EEF-GX0E471R	Panasonic	CAP, Aluminum Polymer, 470 uF, 2.5 V, +/- 20%, 0.003 ohm, SMD_7.3x1.9x4.3mm SMD	SMD_7.3x1.9x4.3mm
C199, C200, C201, C214, C215, C216	0	22uF	C2012X5R1C226M125AC	TDK	CAP, CERM, 22 uF, 16 V, +/- 20%, X5R, 0805	0805
C202, C217	0	4700pF	GRM155R71H472KA01D	MuRata	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0402	0402
C211, C226	0	2.2uF	C1005X5R1A225K050BC	TDK	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X5R, 0402	0402
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
L10, L11	0	150nH	PA4390.151HLT	Pulse Engineering	Inductor, 150 nH, 68 A, 0.0002035 ohm, SMD	10x7x10mm
R26, R27	0	121k	CRCW0603121KFKEA	Vishay-Dale	RES, 121 k, 1%, 0.1 W, 0603	0603
R28, R29, R30, R31, R32, R33, R36, R41, R45, R47	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
R35	0	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, 0603	0603
R51, R57, R63, R69, R75, R81, R226, R232, R238	0	1.0	CRCW06031R00JNEA	Vishay-Dale	RES, 1.0, 5%, 0.1 W, 0603	0603
R155, R156, R157, R158, R159, R160, R161	0	0.3	CSRN2512FKR300	Stackpole Electronics Inc	RES, 0.3, 1%, 2 W, 2512	2512
R230, R234, R235, R236, R240, R241	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R231, R237	0	2.2	CRCW04022R20JNED	Vishay-Dale	RES, 2.2, 5%, 0.063 W, 0402	0402
R233, R239	0	110k	CRCW0402110KFKED	Vishay-Dale	RES, 110 k, 1%, 0.063 W, 0402	0402
U20, U21	0		CSD95490Q5MC	Texas Instruments	Synchronous Buck NexFET Power Stage, DMC0012A (VSON-CLIP-12)	DMC0012A

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