



Bill of Materials

TI DESIGNS

TIDA-00661 MCU

Item	Qty	Reference	Fitted	Part Description	Manufacturer	Manufacturer Part Number	Supplier part number	PCB Footprint
2	2	-5VP2, SW	Fitted	Test Point, Miniature, White, TH	Keystone	5002	5002K-ND	White Miniature Testpoint
3	8	+5V, -5V, 5VP2, 12V, 12VP2, SW1, TP8, Vpri	Fitted	Test Point, TH, Miniature, Red,	Keystone	5000	5000K-ND	Red Miniature Testpoint, Keystone5000
4	0	C1, C2, C3, C7	Not Fitted	CAP, CERM, 18pF, 100V, +/-5%, C0G/NP0, 0603	MuRata	GRM1885C2A180JA01D	490-1333-1-ND	0603
5	2	C4, C44	Fitted	CAP, TA, 4.7uF, 35V, +/-10%, 1.9 ohm, SMD	Vishay-Sprague	293D475X9035C2TE3	718-1083-1-ND	6032-28
6	6	C5, C8, C11, C15, C45, C47	Fitted	CAP, CERM, 1uF, 16V, +/-10%, X7R, 0603	TDK	C1608X7R1C105K	445-1604-1-ND	0603
7	3	C6, C17, C43	Fitted	CAP, CERM, 22uF, 16V, +/-20%, X7R, 1210	TDK	C3225X7R1C226M	445-3955-1-ND	1210
8	7	C9, C12, C13, C19, C25, C35, C40	Fitted	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	AVX	06033C104JAT2A	478-3713-1-ND	0603
9	2	C10, C14	Fitted	CAP, CERM, 10 µF, 6.3 V, +/- 20%, X7R, 0805	TDK	C2012X7R0J106M125AB	445-7594-1-ND	0805
10	5	C16, C41, C46, C48, C50	Fitted	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	Kemet	C0603C104K5RACTU	399-5089-1-ND	0603
11	1	C18	Fitted	CAP, CERM, 1000pF, 1000V, +/-10%, X7R, 1210	Vishay-Vitramon	VJ1210Y102KXGAT5Z	720-1045-1-ND	1210
12	6	C20, C21, C23, C24, C55, C56	Fitted	CAP, CERM, 4.7 µF, 25 V, +/- 10%, X5R, 0805	TDK	C2012X5R1E475K125AB	445-4116-1-ND	0805
13	1	C22	Fitted	CAP, AL, 100uF, 100V, +/-20%, 0.12 ohm, TH	Rubycon	100YXJ100M10X20	1189-2149-ND	10x20mm
14	6	C26, C29, C37, C52, C53, C54	Fitted	CAP, CERM, 100pF, 25V, +/-10%, X7R, 0603	AVX	06033C101KAT2A	478-7899-1-ND	0603
15	1	C27	Fitted	CAP, CERM, 0.01uF, 50V, +/-10%, X7R, 0603	TDK	C1608X7R1H103K	445-1311-1-ND	0603
16	2	C28, C30	Fitted	CAP, CERM, 4.7uF, 50V, +/-10%, X7R, 1206	MuRata	GRM31CR71H475KA12L	490-6521-1-ND	1206
17	1	C31	Fitted	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	TDK	C1608X7R1H104K	445-1314-1-ND	0603
18	5	C32, C34, C42, C57, C58	Fitted	0.01uF, 25V, +/-5%, C0G/NP0, 0603, CAP, CERM, 0.01uF, 25V,	TDK	C1608C0G1E103J	445-2664-1-ND	0603
19	1	C33	Fitted	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	TDK	C1608X7R1E105K080AB	445-5956-1-ND	0603
20	1	C36	Fitted	CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 0805	Kemet	C0805C104K1RACTU	399-3486-1-ND	0805
21	1	C38	Fitted	CAP, CERM, 2700 pF, 50 V, +/- 5%, C0G/NP0, 0603	TDK	C1608C0G1H272J	445-2669-1-ND	0603
22	1	C39	Fitted	CAP, CERM, 10uF, 25V, +/-10%, X7R, 1206	MuRata	GRM31CR71E106KA12L	81-GRM31CR71E106KA12	1206
23	1	C49	Fitted	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	MuRata	GRM188R71H222KA01D	490-1500-1-ND	0603
25	1	C51	Fitted	CAP, CERM, 2.2 µF, 25 V, +/- 10%, X5R, 0805	MuRata	GRM21BR61E225KA12L	490-3334-1-ND	0805
26	1	C59	Fitted	CAP, CERM, 1000 pF, 25 V, +/- 5%, C0G/NP0, 0603	MuRata	GRM1885C1E102JA01D	GRM1885C1E102JA01D-ND	0603

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27	2	C60, C61	Fitted	CAP, CERM, 10 µF, 25 V, +/- 20%, X7R, 1210	TDK	C3225X7R1E106M	445-1434-1-ND	1210
28	1	C62	Fitted	CAP, CERM, 1 µF, 16 V, +/- 10%, X5R, 0603	TDK	C1608X5R1C105K	445-1416-1-ND	0603
29	1	C63	Fitted	CAP, CERM, 1 µF, 100 V, +/- 10%, X7R, 1210	TDK	C3225X7R2A105K200AA	399-8219-1-ND	1210
30	1	C64	Fitted	CAP, CERM, 0.1 µF, 100 V, +/- 10%, X7R, 0805	TDK	C2012X7R2A104K	445-1418-1-ND	0805
31	1	C65	Fitted	CAP, CERM, 1000 pF, 1000 V, +/- 5%, C0G/NP0, 1210	Vishay-Vitramon	VJ1210A102JXGAT5Z	720-1036-1-ND	1210
32	1	C66	Fitted	CAP, CERM, 0.01uF, 50V, +/-10%, X7R, 0603	MuRata	GRM188R71H103KA01D	490-1512-1-ND	0603
33	1	C67	Fitted	CAP, CERM, 1000pF, 50V, +/-10%, X7R, 0603	TDK	C1608X7R1H102K	399-1082-1-ND	0603
34	2	D1, D17	Fitted	LED, Green, SMD	OSRAM	LG L29K-G2J1-24-Z	475-2709-1-ND	1.7x0.65x0.8mm
35	2	D2, D3	Fitted	LED, Green, SMD	Rohm	SML-P12PTT86	511-1592-1-ND	LED, 1x.2x.6mm
36	2	D4, D9	Fitted	Diode, P-N, 1000V, 1A, TH	Fairchild Semiconductor	1N4007	1N4007FSCT-ND	DO-41
37	1	D5	Fitted	Diode, P-N, 100 V, 1 A, TH	Diodes Inc.	1N4002-T	1N4002DICT-ND	DO-41
38	1	D6	Fitted	DIODE SCHOTTKY 100V 1A DO204AL	Fairchild Semiconductor	SB1100FSCT-ND	SB1100FSCT-ND	DO-41
39	2	D7, D8	Fitted	Diode, Switching, 200V, 0.2A, SOT-23	Diodes Inc.	BAS21-7-F	BAS21-FDICT-ND	SOT-23
40	1	D10	Fitted	Diode, Zener, 16V, 1W, DO41	Micro Commercial Co	1N4745A-TP	1N4745A-TPCT-ND	DO-41
41	1	D11	Fitted	DIODE ZENER 24V 1W DO41G	Micro Commercial Co	1N4749A-TP	1N4749A-TPCT-ND	DO-41
42	1	D12	Fitted	Diodes Inc. 3A TrenchSBR 40Vrrm 3A Io 0.49Vf 180Ir	Diodes Incorporated	SBRT3U40P1-7	SBRT3U40P1-7DICT-ND	
43	1	D13	Fitted	Diode, Zener, 3.9 V, 500 mW, SOD-123	ON Semiconductor	MMSZ4686T1G	MMSZ4686T1GOSCT-ND	SOD-123
44	4	D14, D15, D19, D20	Fitted	Diode, Schottky, 100V, 1A, SOD-123FL,	ON Semiconductor	MBR1H100SFT3G	MBR1H100SFT3GOSCT-ND	SOD-123FL
45	1	D16	Fitted	Diode, Zener, 5.6 V, 200 mW, SOD-323	Diodes Inc.	MMSZ5232BS-7-F	MMSZ5232BS-FDICT-ND	SOD-323
46	1	D18	Fitted	Diode, Fast Rectifier, 200 V, 0.8 A, SOD-123	Rohm	RF081M2STR	RF081M2SCT-ND	SOD-123
47	1	D21	Fitted	Diode, Schottky, 45 V, 0.1 A, SOD-523	Diodes Inc.	SDM10U45-7-F	SDM10U45-FDICT-ND	SOD-523
48	2	FB1, FB3	Fitted	FERRITE CHIP 1000 OHM 300MA 0603	TDK Corporation	MMZ1608B102C	445-8672-1-ND	0603
49	3	GND3, IGND3, IGND4	Fitted	Test Point, TH, Miniature, Black	Keystone	5001	5001K-ND	Keystone5001
50	1	HS1	Fitted	HEATSINK TO-220 W/PINS 1.5" TALL	Aavid Thermalloy	513102B02500G		1.500x1.375in.
51	4	J1, J10, J11, J12	Fitted	Terminal Block, 4x1, 2.54mm, TH	On Shore Technology Inc	OSTVN02A150	ED10561-ND	TERM_BLK, 2pos, 2.54mm
52	0	J2, J9, J13	Not Fitted	Terminal Block, 8x1, 2.54 mm, TH	Phoenix Contact	1725711	277-1279-ND	8POS Terminal Block
53	1	J3	Fitted	Header (shrouded), 100 mil, 7x2, Gold plated, TH	Sullins Connector Solutions	SBH11-PBPC-D07-ST-BK	S9170-ND	7x2 Shrouded Header
54	3	J4, J6, J7	Fitted	Header, Male 2-pin, 100mil spacing,	Sullins	PEC02SAAN		0.100 inch x 2
55	1	J5	Fitted	Header, 3x1, 100mil,	Mill-Max		ED7203-ND	Header, 3x1, 100mil, TH
56	1	J8	Fitted	Terminal Block, 3-pin, 15-A, 5.1mm	OST	ED120/3DS	ED1610-ND	0.60 x 0.35 inch
57	1	J14	Fitted	Header, 2.54 mm, 13x2, TH	Harwin	M20-9761346	952-1918-ND	Header, 2.54mm, 13x2, TH
58	1	J17	Fitted	Terminal Block, 8x1, 2.54 mm, TH	Phoenix Contact	1725711	277-1279-ND	8POS Terminal Block
59	1	L3	Fitted	1.5A Ferrite Bead, 330 ohm @ 100MHz, SMD	MuRata	BLM18SG331TN1D	490-3997-1-ND	0603
60	2	Q1, Q2	Fitted	MOSFET, N-CH, 50V, 0.22A, SOT-23	Fairchild Semiconductor	BSS138	BSS138CT-ND	SOT-23
61	1	Q3	Fitted	MOSFET, N-CH, 30V, 22A, SON 2X2 MM	TEXAS INSTRUMENTS	CSD17571Q2	296-37193-1-ND	DQK
62	1	Q4	Fitted	MOSFET, N-CH, 60V, 50A, TO-220AB	Texas Instruments	CSD18537NKC	296-36456-5-ND	TO-220AB
63	2	R1, R10	Fitted	RES, 20k ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW120620K0JNEA	541-20KECT-ND	1206
64	2	R2, R4	Fitted	RES, 1.00k ohm, 1%, 0.1W, 0603, RES, 1.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00FKEA	541-1.00KHCT-ND	0603

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65	1	R3	Fitted	RES, 2.05k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K05FKEA	541-2.05KHCT-ND	0603
66	4	R5, R14, R99, R100	Fitted	RES, 300 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603300RJNEA	541-300GCT-ND	0603
67	5	R6, R7, R61, R69, R76	Fitted	RES, 1.00k ohm, 1%, 0.25W, 1206	Vishay-Dale	CRCW12061K00FKEA	541-1.00KFCT-ND	1206
68	12	R8, R9, R13, R15, R17, R52, R56, R57, R78, R83, R93, R94	Fitted	RES, 0, 5%, 0.1 W, 0603,	Vishay-Dale	CRCW06030000Z0EA	541-0.0GCT-ND	0603
69	2	R11, R12	Fitted	RES, 221, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603221RFKEA	541-221HCT-ND	0603
70	2	R16, R18	Fitted	RES, 4.99 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06034K99FKEA	541-4.99KHCT-ND	0603
71	1	R19	Fitted	RES, 324k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07324KL	311-324KHRCT-ND	0603
72	2	R20, R36	Fitted	RES, 150k ohm, 1%, 0.1W, 0603, RES, 150 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603150KFKEA	541-150KHCT-ND	0603
73	1	R21	Fitted	RES, 13.7k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060313K7FKEA	541-13.7KHCT-ND	0603
74	2	R22, R53	Fitted	RES, 470, 5%, 0.1 W, 0603, RES, 470 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603470RJNEA	541-470GCT-ND	0603
75	3	R23, R25, R50	Fitted	RES, 47 k, 5%, 0.1 W, 0603	Yageo America	RC0603JR-0747KL	311-47KGRCT-ND	0603
76	1	R24	Fitted	RES, 24.3 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060324K3FKEA	541-24.3KHCT-ND	0603
77	2	R26, R27	Fitted	RES, 5.10 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-075K1L	311-5.10KHRCT-ND	0603
78	1	R28	Fitted	RES, 40.2 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-0740K2L	311-40.2KHRCT-ND	0603
79	1	R29	Fitted	RES, 100 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW0603100KFKEA	541-100KHCT-ND	0603
80	1	R30	Fitted	RES, 316 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-07316KL	311-316KHRCT-ND	0603
81	5	R31, R32, R46, R48, R54	Fitted	RES, 100 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603100RFKEA	541-100HCT-ND	0603
82	3	R33, R34, R35	Fitted	RES, 10.0k ohm, 1%, 0.25W, 1206	Vishay-Dale	CRCW120610K0FKEA	541-10.0KFCT-ND	1206
83	15	R97, R98	Fitted	RES, 10.0k ohm, 1%, 0.1W, 0603	Stackpole Electronics Inc,	CRCW060310K0FKEA	541-10.0KHCT-ND	0603
84	1	R38	Fitted	RES, 8.87 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06038K87FKEA	541-8.87KHCT-ND	0603
85	1	R40	Fitted	RES, 18.2 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-0718K2L	311-18.2KHRCT-ND	0603
86	1	R42	Fitted	RES, 0, 5%, 0.1 W, 0603	Yageo America	RC0603JR-070RL	311-0.0GRCT-ND	0603
87	2	R43, R51	Fitted	RES, 0, 5%, 0.25 W, 1206	Vishay-Dale	CRCW12060000Z0EA	541-0.0ECT-ND	1206
88	1	R44	Fitted	RES, 47.0 k, 1%, 0.25 W, 1206	Yageo America	RC1206FR-0747KL	311-47.0KFRCT-ND	1206
89	2	R45, R62	Fitted	RES, 1.00Meg ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031M00FKEA	541-1.00MHCT-ND	0603
90	1	R47	Fitted	RES, 10, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060310R0JNEA	541-10GCT-ND	0603
91	1	R49	Fitted	RES SMD 510 OHM 5% 1/10W 0603	Vishay-Dale	CRCW0603510RJNEA	541-510GCT-ND	0603
92	0	R58, R68	Not Fitted	RES, 28.7 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060328K7FKEA	541-28.7KHCT-ND	0603
93	1	R59	Fitted	RES, 30k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060330K0JNEA	541-30KGCT-ND	0603
94	6	R63, R64, R65, R88, R89, R90	Fitted	RES, 22 ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW120622R0JNEA	541-22ECT-ND	1206
95	0	R66, R73	Not Fitted	RES, 1.50 k, 1%, 0.1 W, 0603	Panasonic	ERJ-3EKF1501V	P1.50KHCT-ND	0603
96	0	R67, R74	Not Fitted	RES, 1.00 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW06031K00FKEA	541-1.00KHCT-ND	0603
97	0	R75	Not Fitted	RES, 10.0k ohm, 1%, 0.1W, 0603	Stackpole Electronics Inc	CRCW060310K0FKEA	541-10.0KHCT-ND	0603
98	1	R77	Fitted	RES, 37.4 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060337K4FKEA	541-37.4KHCT-ND	0603
99	1	R79	Fitted	RES, 470 k, 1%, 0.1 W, 0603	Yageo America	RC0603FR-07470KL	311-470KHRCT-ND	0603
100	1	R80	Fitted	RES, 57.6 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060357K6FKEA	541-57.6KHCT-ND	0603
101	1	R81	Fitted	RES, 20.5 k, 1%, 0.1 W, 0603	Vishay-Dale	CRCW060320K5FKEA	541-20.5KHCT-ND	0603
102	0	R85, R86, R91, R92	Not Fitted	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	541-0.0GCT-ND	0603
103	1	S1	Fitted	Switch, Tactile, SPST-NO, 0.05A, 12V, SMT	TE Connectivity	4-1437565-1	450-1129-ND	SW, SPST 6x6 mm
104	3	SH-J1, SH-J3, SH-J4	Fitted	Shunt, 100mil, Gold plated, Black	TE Connectivity	881545-2	A26242-ND	Shunt 2 pos. 100 mil
105	1	T1	Fitted	Transformer, 45uH, Isat 2.5A, EFD20, 12 pin, SMT, 6:4:11:11	Würth Electronics Midcom	750343011		
106	1	T2	Fitted	XFMR, SMT 45uH, 750314463	Würth Elektronik	750343010		
107	1	U1	Fitted	PW0014A	Texas Instruments	LMV614MT	296-39052-1-ND	PW0014A
108	1	U2	Fitted	QUIESCENT CURRENT	TI	TPS7A6533QKVURQ1	296-36857-1-ND	PFM
109	1	U3	Fitted	Active Low Output, 2.0V Threshold, 5-pin SOT-23	Texas Instruments	LM8364BALMF20	LM8364BALMF20/NOPBCT-ND	MF05A
110	1	U4	Fitted	Converter, DNT0012B	Texas Instruments	LM5160DNT	296-38543-1-ND	DNT0012B

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111	1	U5	Fitted	Mixed Signal Microcontroller, RGZ0048B	Texas Instruments	MSP430FR5969IRGZ	296-37875-1-ND	RGZ0048B
112	1	U6	Fitted	to 40 V Input, 3-pin PFM (KVU), -40 to 125 degC, Green	Texas Instruments	TPS7A6550QKVURQ1	296-28461-1-ND	KVU0003A
113	1	U7	Fitted	100V Constant On-Time PFET Buck Switching Controller, 8-pin PSOP, Pb-Free	Texas Instrument	LM5017MRX/NOPB	296-41308-1-ND	MRA08A
114	0	U8, U11	Not Fitted	Adjustable Precision Zener Shunt Regulator, 3-pin SOT-23	Texas Instruments	LM431CCM3	LM431CCM3X/NOPBCT-ND	MF03A
115	1	U9	Fitted	IC, Dual Differential Comparators, 2-36 Vin	TI	LM2903D	497-1559-1-ND	SO-8
116	1	U10	Fitted	12mA, Adjustable	TI	LM4041BIDBZ	296-20914-1-ND	SOT23
117	0	Y1	Not Fitted	Crystal, 8MHz, 18pF, SMD	Abracon Corportation	ABLS-8.000MHZ-B4-T	535-10212-1-ND	Crystal, 11.4x4.3x3.8mm
118	0	Y2	Not Fitted	CRYSTAL 32.768KHZ 12.5PF SMD	CITIZEN	CMR200T-32.768KDZBT	300-8340-1-ND	-