

Bill of Materials

TI DESIGNS

TIDM-FRAM-WATERMETER

Item	Designator	Qty	Value	Part Description	Manufacturer	Manufacturer Part Number	Digikey Part Number	PCB Footprint	Note
1	BT1	1	2460	Battery Holder, 1AA Cells, PC-mount	Keystone	2460	2460K-ND	BH1AA-PC	
2	C1	1	47uF	CAP, TA, 47uF, 6.3V, +/-10%, 0.8 ohm, SMD	AVX	TPSA476K006R0800	478-3079-1-ND	3216-18	
3	C2	1	10uF	CAP, TA, 10uF, 16V, +/-10%, 3 ohm, SMD	Vishay-Sprague	293D106X9016A2TE3	718-1123-1-ND	3216-18	
4	C3, C11, C51	3	10uF	CAP, CERM, 10uF, 6.3V, +/-20%, X5R, 0603	Kemet	C0603C106M9PACTU	399-5504-1-ND	0603	
5	C4, C10	2	1uF	CAP, CERM, 1uF, 16V, +/-10%, X5R, 0603	Kemet	C0603C105K4PACTU	399-5090-1-ND	0603	
6	C7, C8, C9, C41, C42, C43, C47, C49, C52	9	0.1uF	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	Kemet	C0603C104J4RACTU	399-1097-1-ND	0603	
7	C46, C48	2	25pF	CAP, CERM, 25pF, 50V, +/-11%, COG/NPO, 0603	AVX	06035A2R2CAT2A	478-1155-1-ND	0603	
8	C5, C6, C50	3	1000pF	CAP, CERM, 1000pF, 100V, +/-5%, X7R, 0603	AVX	06031C102JAT2A	478-3698-1-ND	0603	
9	D1	1	Green	LED, Green, SMD	Lite-On	LTST-C170KRKT	160-1415-1-ND	LED_LTST-C170	
10	J1, J7, J8, J9	4	3x1	Header, TH, 100mil, 3x1, Gold plated, 230 mil above insulator	Samtec	TSW-103-07-G-S	SAM1029-03-ND	TSW-103-07-G-S	
11	J2, J3	2	4x1	Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec	TSW-104-07-G-S	SAM1029-04-ND	TSW-104-07-G-S	
12	J4	1	3x2	Header, TH, 100mil, 3x2, Gold plated, 230 mil above insulator	Samtec	TSW-103-07-G-D	SAM1028-03-ND	TSW-103-07-G-D	
13	J6	1	5x1	Header, TH, 100mil, 5x1, Gold plated, 230 mil above insulator	Samtec	TSW-105-07-G-S	SAM1029-05-ND	TSW-105-07-G-S	
14	J11, J12	2	10x1	Header, TH, 100mil, 10x1, Gold plated, 230 mil above insulator	Samtec	TSW-110-07-G-S	SAM1029-10-ND	TSW-110-07-G-S	
15	LCD1	1	LCD	BTU002 4COM LCD	N/A	BTU002	N/A	LCD	
16	LS1	1	BEEPER	Loudspeaker	Soberton Inc	WST-1203UX	433-1047-ND	BEEPER	
17	Q2, Q3	2	PNP	Transistor, PNP, 40V, 0.2A, SOT-23	Diodes Inc.	MMBT3906-7-F	MMBT3906-FDICT-ND	SOT-23	
18	R3, R5	2	10k ohm	RES, 10k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060310K0JNEA	541-10KGCT-ND	0603	
19	R4	1	120 ohm	RES, 120 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603120RJNEA	541-120GCT-ND	0603	
20	R21	1	47k ohm	RES, 47k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060347K0JNEA	541-47KGCT-ND	0603	
21	R2, R22	2	2.0k ohm	RES, 2.0k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06032K00JNEA	541-2.0KGCT-ND	0603	
22	R23	1	200 ohm	RES, 200 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603200RJNEA	541-200GCT-ND	0603	
23	R25	1	50 ohm	RES, 50 ohm, 0.5%, 0.1W, 0603	Yageo America	RT0603DRE07150RL	RT0603DRE07150RL-ND	0603	
24	R101, R102	2	470k ohm	RES 470K OHM 1/10W 5% 0603 SMD	Yageo America	RC0603JR-07470KL	311-470KGRTR-ND	0603	
25	U1	1	TPS78233	IC, 150mA, Ultra-Low Quiescent Current, IQ 500nA LDO Linear Regulator	Texas Instruments	TPS78233DDCR	296-24059-1-ND	TSOT-23-5[DDC]	
26	U2	1	SN65HVD75	High Temperature 3.3 V RS-485 Transceiver	Texas Instruments	SN65HVD115HKJ	296-28287-5-ND	D0008A N	
27	U4	1	MSP430FR4133	16-bit Ultra-Low-Power MCU	Texas Instruments	MSP430FR4133IPM	N/A	PM0064A M	
28	U10	1	DRV8837	LOW-VOLTAGE H-BRIDGE IC, DSG0008A	Texas Instruments	DRV8837DSG	296-34806-1-ND	DRV8837DSG	
29	Y1	1	32.768kHz	Crystal, 32.768kHz, 12.5pF, SMD	Abracon Corporation	AB26TRQ-32.768KHZ-T	535-12051-1-ND	XTAL_MS3V-T1R	
NC									
30	C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39	28	8.2pF	CAP, CERM, 8.2pF, 50V, +/-3%, COG/NPO, 0603	AVX	06035A8R2CAT2A	478-1162-1-ND	0603	
31	C45, R8, R10, R11, R14, R16, R17	7	NC	NC	NC	NC	NC	NC	
32	C40	1	100uF	CAP, TA, 100uF, 6.3V, +/-10%, 1.7 ohm, SMD	Vishay-Sprague	293D107X96R3B2TE3	718-1128-1-ND	3528-21	
33	C44	1	0.1uF	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	Kemet	C0603C104J4RACTU	399-1097-1-ND	0603	
34	D3, D4	2	Diode	Diode, Schottky, 40V, 0.03A, SOD-323	Diodes Inc.	SDMK0340L-7-F	SDMK0340L-DICT-ND	sod-323	
35	J5	1	2x1	Header, TH, 100mil, 2x1, Gold plated, 230 mil above insulator	Samtec	TSW-102-07-G-S	SAM1029-02-ND	TSW-102-07-G-S	
36	R9, R12	2	220 ohm	RES, 220 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603220RJNEA	541-220GCT-ND	0603	
37	R15	1	100k ohm	RES, 100k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603100KJNEA	541-100KGCT-ND	0603	
38	R18, R20	2	0 ohm	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603000020EA	541-0.0GCT-ND	0603	
39	R24	1	10.0k ohm	RES, 10.0k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-103-B-T5	RG16P10.0KBCT-ND	0603	
40	U3	1	TSS721	METER-BUS Transceiver	Texas Instruments	TSS721A	296-27128-1-ND	D0016A N	
41	U5, U6	2	PS2501	High Isolation Voltage Single Transistor Type OptoCoupler	California Eastern Laboratories	PS2501L-1-A	PS2501L-1A-ND	PS2501L	
42	U7, U8, U12, U14, U15	5	TPD2E2U06	DUAL CHANNEL HIGH SPEED ESD PROTECTION DEVICE, DRL0005A	Texas Instruments	TPD2E2U06DRL	296-38361-1-ND	DRL0005A	

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