

# Bill of Materials

TI DESIGNS

TIDM-FRAM-IRREFLECTIONSENSING

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	4	C3,C9,C12,C15	0.1uF	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	Kemet	C0603C104J4RACTU		0603	C9, C12 DNP
2	1	C8	100uF	CAP, CERM, 100 uF, 6.3 V, +/- 20%, X5R, 1210	MuRata	GRM32ER60J107ME20L		1210	
3	3	C6,C10,C11	1uF	CAP, CERM, 1 uF, 10 V, +/- 10%, X5R, 0603	MuRata	GRM185R61A105KE36D		0603	C10, C11 DNP
4	2	C7,C14	10uF	CAP, CERM, 10 uF, 10 V, +/- 10%, X5R, 1210	Kemet	C1210C106K8PACTU		1210	
5	2	C5,C13	1nF	CAP, CERM, 1000pF, 100V, +/-5%, X7R, 0603	AVX	06031C102JAT2A		0603	C13 DNP
6	1	C1	3.3pF	CAP, CERM, 3.3 pF, 50 V, +/- 8%, COG/NPO, 0603	AVX	06035A3R3CAT2A		0603	
7	2	C2,C4	10uF	COG/NPO, 0603	Kemet	C0603C106M9PACTU		0603	
8	1	S1		SWITCH TACTILE 6.0x6.0x4.3mm 100gf 1 N 50mA 12 V	ALPS	SKHHAJA010		EVQ-PAD04M	
9	1	D3	Red	LED, Red, SMD	Rohm	SML-311UTT86		SML-31_Red	
10	1	D4	30V	Diode, Schottky, 30V, 0.5A, SOD-123	ON Semiconductor	MBR0530T1G		SOD-123	
11	1	D1	60V	Photodiode, 60V 215mW 875nm	Vishay Semiconductors	BPV10NF		T-1 3/4	
12	1	D2		IR Emitter,15 Degree 210mW 950nm	Vishay Semiconductors	TSUS5201		T-1 3/4	
13	3	J1,J2,J3		Header, 100mil, 2x1, Tin, TH	Molex	90120-0122		CONN_90120-0122	
14	1	L1	10uH	Inductor, Shielded, Ferrite, 10uH, 0.45A, 1.33 ohm, SMD	Vishay-Dale	IFSC0806AZER100M01		IFSC-0806AZ-01	
15	3	Q1, Q2,Q5	2.6V	Transistor, NPN, 30V, 0.6A, SOT-23	ON Semiconductor	MMBT2222LT1G		SOT-23	
16	1	Q3	0.075V	Transistor, PNP, 45V, 0.1A, SOT-23	Diodes Inc.	BC857C-7-F		SOT-23	
17	1	Q4		NPN Transistor	Toshiba	2SC4738		SC-75-3	
18	2	R12, R20	2.2Meg	RES, 2.2Meg ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06032M20JNEA		0603	
19	1	R5	2k	RES 2K OHM 1/4W 5% 0603 SMD	Rohm Semiconductor	ESR03EZPJ202		0603	
20	1	R7	300	RES, 300 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603300RJNEA		0603	
21	1	R6	100	RES, 100 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603100RJNEA		0603	
22	1	R8	6.8	RES, 6.8 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06036R80JNEA		0603	
23	1	R9	180k	RES, 180k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07180KL		0603	
24	1	R10	150k	RES, 150k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603150KJNEA		0603	
25	1	R11	620	RES, 620 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603620RJNEA		0603	
26	2	R3, R17	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA		0603	
27	5	R16,R21,R23,R18,R19	10k	RES, 10k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060310K0JNEA		0603	R21, R23 DNP
28	1	R13	3.9k	RES, 3.9k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-073K9L		0603	
29	1	R14	160k	RES, 160k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07160KL		0603	
30	2	R4,R15	47k	RES, 47k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060347K0JNEA		0603	
31	1	R24	270k	RES, 270k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603270KJNEA		0603	DNP
32	1	R1	510k	RES, 510k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603510KJNEA		0603	
33	2	R2,R25	100k	RES, 100k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603100KJNEA		0603	R25 DNP
34	1	R26	100K	NTC Thermistors,0603 100k ohm +/- 1%	Murata Electronics	NCP18WE104F12RB		0603	DNP
35	1	P1	4x1	Header, TH, 100mil, 4x1, Gold plated,	Samtec	TSW-104-07-G-S		TSW-104-07-G-S	
36	1	P2		Buzzer	Murata	PKM24SPH3805		PKM24SPH3805	
37	1	BT1		Battery Holder, CR123A, TH	Keystone	1051		Keystone_1051	
38	3	U2,U3,U5		DUAL CHANNEL HIGH SPEED ESD PROTECTION DEVICE	Texas Instruments	TPD2E2U06DRL		DRL0005A_N	
39	1	U4		28 V, 400 mA Switch Boost Converter for White LED Applications, 1.8 to 6 V, 40 to 85 degC, 5-pin SOT23 (DBV5), Green (RoHS & no Sb/Br)	Texas Instruments	TPS61040DBVR		DBV0005A_N	
40	1	U1		MSP430FR2311 Mixed-Signal Microcontroller	Texas Instruments	MSP430FR2311		TSSOP20	

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
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