

Bill of Materials

TI DESIGNS

TIDM-SMBUS - MSP-EXP430FR5969

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	C1	1n	CAP CER 1000PF 50V 10% X7R	Standard		445-1256-1-ND	402	
2	1	C2	1u	CAP CER 1UF 10V 10% X5R 0603,Digikey 445-1321-1-ND	Standard		445-1321-1-ND	603	
3	0	C3	27p (DNP)	CAP CER 27PF 50V 5% NP0 0402,Digikey 445-1240-1-ND	Standard		445-1240-1-ND	402	DNP
4	0	C4	27p (DNP)	CAP CER 27PF 50V 5% NP0 0402,Digikey 445-1240-1-ND	Standard		445-1240-1-ND	402	DNP
5	1	C5	10p	CAP CER 10PF 50V NP0 0402,Digikey 445-1235-1-ND	Standard		445-1235-1-ND	402	
6	1	C6	10p	CAP CER 10PF 50V NP0 0402,Digikey 445-1235-1-ND	Standard		445-1235-1-ND	402	
7	1	C7	0.1F	CAP SUPER 100MF 5.5V RADIAL,Digikey P10787-ND	Panasonic-ECG	EEC-S0HD104H	P10787-ND	10.5 mm Coil	
8	1	C8	100n	CAP CER 0.1UF 16V 10% X7R 0603,Digikey 445-1317-1-ND	Standard		445-1317-1-ND	603	
9	1	C9	100n	CAP CER 0.1UF 16V 10% X7R 0603,Digikey 445-1317-1-ND	Standard		445-1317-1-ND	603	
10	1	C101	470n	CAP CER 0.47UF 16V 10% X5R 0402,Digikey 445-4976-1-ND	Standard		445-4976-1-ND	402	
11	1	C102	220n	CAP CER 0.22UF 16V 10% X5R 0402,Digikey 445-4972-1-ND	Standard		445-4972-1-ND	402	
12	1	C103	100n	CAP CER 0.1UF 10V 20% X5R 0402,Digikey 445-4984-1-ND	Standard		445-4984-1-ND	402	
13	1	C104	10u	CAP TANT 10UF 10V 20% 1206,Digikey 493-2351-1-ND	Standard		493-2351-1-ND	1206	
14	1	C105	100n	CAP CER 0.1UF 10V 20% X5R 0402,Digikey 445-4984-1-ND	Standard		445-4984-1-ND	402	
15	1	C106	4.7u	CAP TANT 4.7UF 10V 10% 1206,Digikey 493-4142-1-ND	Standard		493-4142-1-ND	1206	
16	1	C107	220n	CAP CER 0.22UF 16V 10% X5R 0402,Digikey 445-4972-1-ND	Standard		445-4972-1-ND	402	
17	1	C108	100n	CAP CER 0.1UF 10V 20% X5R 0402,Digikey 445-4984-1-ND	Standard		445-4984-1-ND	402	
18	1	C109	4.7u	CAP TANT 4.7UF 10V 10% 1206,Digikey 493-4142-1-ND	Standard		493-4142-1-ND	1206	
19	1	C110	10p	CAP CER 10PF 50V NP0 0402,Digikey 445-1235-1-ND	Standard		445-1235-1-ND	402	
20	1	C111	10p	CAP CER 10PF 50V NP0 0402,Digikey 445-1235-1-ND	Standard		445-1235-1-ND	402	
21	1	C112	1n	CAP CER 1000PF 50V 10% X7R	Standard		445-1256-1-ND	402	
22	1	C113	100n	CAP CER 0.1UF 10V 20% X5R	Standard		445-4984-1-ND	402	
23	1	C115	33p	CAP CER 33PF 50V 5% NP0 0402,Digikey	Standard		445-1241-1-ND	402	
24	1	C116	33p	CAP CER 33PF 50V 5% NP0 0402,Digikey	Standard		445-1241-1-ND	402	
25	1	C117	4.7u	CAP CER 4.7UF 10V 10% X5R	Standard		445-5170-1-ND	603	
26	1	C118	100n	CAP CER 0.1UF 10V 20% X5R	Standard		445-4984-1-ND	402	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
27	1	C119	4.7u	CAP CER 4.7UF 10V 10% X5R 0603,	TDK	C1608X5R1A475K080A	445-5170-1-ND	603	
28	1	C120	100n	CAP CER 0.1UF 10V 20% X5R	Standard		445-4984-1-ND	402	
29	1	C121	100n	CAP CER 0.1UF 10V 20% X5R	Standard		445-4984-1-ND	402	
30	1	C122	33p	CAP CER 33PF 50V 5% NPO 0402,Digikey	Standard		445-1241-1-ND	402	
31	1	C123	33p	CAP CER 33PF 50V 5% NPO 0402,Digikey	Standard		445-1241-1-ND	402	
32	1	C124	100n	CAP CER 0.1UF 10V 20% X5R	Standard		445-4984-1-ND	402	
33	1	D101	BAS40-05W	DIODE SCHOTTKY 40V 120MA SOT-	NXP	BAS40-05W 115	568-7982-1-ND	SOT-323	
34	1	D102	BAS40-05W	DIODE SCHOTTKY 40V 120MA SOT-	NXP	BAS40-05W 115	568-7982-1-ND	SOT523	
35	0	FOOT1	6mm	Rubber standoff, D=6mm, H=2.2mm,	CM	custom	D=6mm, H=2.2mm	0.234 inch	DNP
36	0	FOOT2	6mm	Rubber standoff, D=6mm, H=2.2mm,	CM	custom	D=6mm, H=2.2mm	0.234 inch	DNP
37	0	FOOT3	6mm	Rubber standoff, D=6mm, H=2.2mm,	CM	custom	D=6mm, H=2.2mm	0.234 inch	DNP
38	0	FOOT4	6mm	Rubber standoff, D=6mm, H=2.2mm,	CM	custom	D=6mm, H=2.2mm	0.234 inch	
39	1	IC101	TLV70036DSE	IC REG LDO 3.6V 200MA 6WSON,Digikey	TI	TLV70036DSE	296-29752-1-ND		
40	1	IC102	TPD4E004DRY	IC 4CH ESD-PROT ARRAY 6-SON,Digikey	TI	TPD4E004DRY	296-23618-1-ND	USON	
41	1	IC103	TSSA21366RSER	IC SWITCH DUAL SPST 8QFN,Digikey 296-	TI	TSSA21366RSER	296-25285-1-ND	uQFN	
42	1	J1	PEC03SAAN	CONN HEADER .100 SINGL STR	Standard		S1012E-03-ND	0.100 inch x 3	
43	1	J2	Place Jumper	CONN HEADER .100 SINGL STR	Standard		S1012E-03-ND	0.100 inch x 3	
44	1	J3		CONN HEADER 14 POS STRGHT	Standard		MHC14K-ND	0.338 x 0.988 inch	
45	1	J4		M/F CONN HEADER .100 SINGL STR	Standard		#VALUE!	0.100 inch x 10	
46	1	J5		M/F CONN HEADER .100 SINGL STR	Standard		#VALUE!	0.100 inch x 10	
47	1	J6	Place Jumper	CONN HEADER .100 SINGL STR	Standard		S1012E-02-ND	0.100 inch x 2	
48	0	J7	dnp	CONN HEADER .100 SINGL STR	Standard		S1012E-01-ND	0.100 inch x 1	DNP
49	0	J8	dnp	CONN HEADER .100 SINGL STR	Standard		S1012E-03-ND	0.100 inch x 3	DNP
50	1	J9	Place Jumper	CONN HEADER .100 SINGL STR	Standard		S1012E-02-ND	0.100 inch x 2	
51	1	J10	Place Jumper	CONN HEADER .100 SINGL STR	Standard		S1012E-03-ND	0.100 inch x 3	
52	1	J11	Place Jumper	CONN HEADER .100 SINGL STR	Standard		S1012E-02-ND	0.100 inch x 2	
53	1	J12	PEC03SAAN	CONN HEADER .100 SINGL STR	Standard		S1012E-03-ND	0.100 inch x 3	
54	1	J13	Place Jumpers	CONN HEADER .100 DUAL STR	Standard		S2012E-09-ND	0.100 inch X2X9	
55	0	J21	dnp	CONN HEADER .050" 6POS R/A	Standard		S9010E-06-ND	0.200x0.320 inch	DNP
56	1	J101	ZX62R-B-5P	CONN RCPT MICRO USB B SMD R/A,	Hirose Electrical Co	ZX62R-B-5P	H11574CT-ND	6x8 mm	
57	1	L101	2.2uH	2.2uH, Tayo Yuden CBC2518T2R2M,	Taiyo Yuden	CBC2518T2R2M	587-1618-1-ND	1007	
58	1	LED1	Low Current Red	LED GREEN CLEAR 0603 SMD,Digikey 160-	Standard		160-1183-1-ND	603	
59	1	LED2	Low Current Green	LED GREEN CLEAR 0603 SMD,Digikey 160-	Standard		160-1183-1-ND	603	
60	1	LED101	Low Current Red	LED RED CLEAR 0603 SMD,Digikey 160-	Standard		160-1181-1-ND	603	
61	1	LED102	Low Current Green	LED GREEN CLEAR 0603 SMD,Digikey 160-	Standard		160-1183-1-ND	603	
62	1	MSP101	MSP430F5528IRGC	IC MCU 16BIT 128KB FLASH	TI	MSP430F5528IRGC	296-27400-1-ND	QFP-64	
63	1	MSP102	MSP430G2452RSA	IC MCU 16BIT 8KB FLASH 16QFN,Digikey	TI	MSP430G2452RSA	296-28129-1-ND	QFN	
64	1	Q101	PIEZO_CSTCR4M00G15L99	CER RESONATOR 4.00MHZ SMD	Murata	CSTCR4M00G15L99	CSTCR4M00G15L99	2x4.5 mm	
65	1	R1	47k	RES 47.0K OHM 1/16W 1% 0402	Standard		311-47.0KLRCT-ND	402	
66	1	R2	10	RES 10 OHM 1/10W 1% 0805	Standard		311-10VCT-ND	805	
67	1	R3	470	RES 330 OHM 1/16W 1% 0402	Standard		311-330LRCT-ND	402	
68	1	R4	0	RES 0.0 OHM 1/16W 0402 SMD,Digikey	Standard		311-0.0JRTR-ND	402	
69	1	R5	0	RES 0.0 OHM 1/16W 0402 SMD,Digikey	Standard		311-0.0JRTR-ND	402	
70	1	R6	390	RES 330 OHM 1/16W 1% 0402	Standard		311-330LRCT-ND	402	
71	1	R7	10	RES 10 OHM 1/10W 1% 0805	Standard		311-10VCT-ND	805	
72	1	R101	470	RES 470 OHM 1/16W 1% 0402	Standard		311-470LRCT-ND	402	
73	1	R102	390	RES 390 OHM 1/16W 1% 0402	Standard		311-390LRCT-ND	402	
74	1	R103	27	RES 27 OHM 1/16W 5% 0402	Standard		311-27JRCT-ND	402	
75	1	R104	27	RES 27 OHM 1/16W 5% 0402	Standard		311-27JRCT-ND	402	
76	1	R105	1k4	RES 1.33K OHM 1/16W 1% 0402	Standard		311-1.33KLRCT-ND	402	
77	1	R106	1M	RES 1.00M OHM 1/16W 1% 0402	Standard		311-1.00MLRCT-ND	402	
78	1	R107	47k	RES 47.0K OHM 1/16W 1% 0402	Standard		311-47.0KLRCT-ND	402	
79	1	R108	47k	RES 47.0K OHM 1/16W 1% 0402	Standard		311-47.0KLRCT-ND	402	
80	1	R109	47k	RES 47.0K OHM 1/16W 1% 0402	Standard		311-47.0KLRCT-ND	402	
81	1	R112	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	
82	1	R113	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
83	1	R114	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	
84	1	R115	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	
85	1	R116	4k7	RES 4.7K OHM 1/16W 5% 0402	Standard		311-4.7KJRCT-ND	402	
86	1	R117	4k7	RES 4.7K OHM 1/16W 5% 0402	Standard		311-4.7KJRCT-ND	402	
87	1	R118	820	RES 820 OHM 1/16W 1% 0402	Standard		311-820LRCT-ND	402	
88	1	R119	0	RES 0.0 OHM 1/16W 0402 SMD,Digikey	Standard		311-0.0JRTR-ND	402	
89	1	R120	470	RES 470 OHM 1/16W 1% 0402	Standard		311-470LRCT-ND	402	
90	1	R121	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	
91	1	R122	220k	RES 220K OHM 1/16W 1% 0402	Standard		311-220KLRCT-ND	402	
92	1	R123	33k	RES 33.0K OHM 1/16W 1% 0402	Standard		311-33.0KLRCT-ND	402	
93	1	R124	240k	RES 240K OHM 1/16W 1% 0402	Standard		311-240KLRCT-ND	402	
94	1	R125	150k	RES 150K OHM 1/16W 1% 0402	Standard		311-150KLRCT-ND	402	
95	1	R126	2k2	RES 2.20K OHM 1/16W 1% 0402	Standard		311-2.20KLRCT-ND	402	
96	1	R127	3k3	RES 3.30K OHM 1/16W 1% 0402	Standard		311-3.30KLRCT-ND	402	
97	1	R128	6k8	RES 6.80K OHM 1/16W 1% 0402	Standard		311-6.80KLRCT-ND	402	
98	1	S1	EVQ221304M	SWITCH TACTILE SPST-NO 0.02A	Standard		P12216SCT-ND	0.236 x 0.236 inch	
99	1	S2	EVQ221304M	SWITCH TACTILE SPST-NO 0.02A	Standard		P12216SCT-ND	0.236 x 0.236 inch	
100	1	S3	EVQ221304M	SWITCH TACTILE SPST-NO 0.02A	Standard		P12216SCT-ND	0.236 x 0.236 inch	
101	1	T101	DMG1013UW-7	MOSFET P-CH 20V 820MA	Diodes	DMG1013UW-7	DMG1013UW-7DICT-	SOT-323	
102	1	T102	BC850CW-115	TRANSISTOR NPN 45V 100MA	NXP	BC850CW-115	568-6076-1-ND	SOT-323	
103	1	TP101	TPD4E004DRY	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase	TP	
104	1	TP102	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
105	1	TP103	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
106	1	TP104	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
107	1	TP105	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
108	1	TP106	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
109	1	TP107	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
110	1	TP108	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
111	1	TP109	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
112	1	TP110	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
113	1	TP113	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
114	1	TP114	STD	Test Point,Hole, Digikey nothing-to-	Standard		nothing-to-purchase		
115	1	U1	MSP430FR5969RGZ	IC Mixed Signal Microcontroller,TI	TI	MSP430FR5969RGZ	MSP430FR5969RGZ	QFN-48	
116	0	Y1	4 MHz (DNP)	CRYSTAL 4.000 MHZ 20PF 49UA,Digikey	ECS	ECS-40-20-1X	X971-ND	4.65 x 11.35 mm	DNP
117	1	Y4	32.7638 kHz, 7.0pF	MICRO CRYSTAL - MS3V-T1R 32.768KHZ	Micro Crystal AG	MS3V-T1R	MS3V-T1R 7pF	6.7 x 1.40 mm	

 <h1>Bill of Materials</h1> <p>TI DESIGNS</p> <p>TIDM-SMBUS - 430BOOST-TMP006</p>									
Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	2	J1, J2		CONN RECEPT 10POS .100 VERT GOLD	TE Connectivity	5-534237-8	A32910-ND		
2	1	J3, J4		CONN HEADER RT ANG 10POS .050	Mill-Max	850-10-010-20-001000	ED8650-ND		Note 1: The Digikey part number is for a 50 pin connector. This connector needs to be cut down to (4) 10 pin strips and used for 2 boards
3	1	D1	Green	LED GREEN CLEAR 0603 SMD	Lite On	LTST-C190GKT	160-1183-1-ND	0603	
4	1	D2	Red	LED RED CLEAR 0603 SMD	Lite On	LTST-C190CKT	160-1181-1-ND	0603	
5	2	R1, R2	499	RES 499 OHM 1/4W 1% 1206 SMD	Yageo	RC1206FR-07499RL	311-499FRCT-ND	1206	
6	1	R3		Do Not Install	N/A	N/A	N/A	1206	DNP

Bill of Materials

TI DESIGNS

TIDM-SMBUS - MSP-EXP430G2

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	2	C2, C3	16pF	Ceramic Capacitor				0402	
2	2	C9, C10	22pF	Ceramic Capacitor				0402	
3	1	C1	10nF	Ceramic Capacitor				0402	
4	5	C5, C7, C11	100nF	Ceramic Capacitor				0402	
5	3	C4, C6, C8	1uF	Ceramic Capacitor, 6.3V				0603	
6	1	D1	1V@ 50mA, 75V 0.15A	Switching Diode	Micro Commercial	1N4148WX-TP		0603	
7	1	EZ_USB	SB-MB-H	USB Connector	Würth Electronics	65100516121	UX60A-MB-SST		
8	1	Q1	12.0MHz, 16pF	Crystal	Freqtech	FT10A-12,0/16-30-30/27			
9	3	R1, R2, R3,	47k	Resistor 5% tolerance				0402	DNP: R16 R17
10	1	R8	61.5k	Resistor 5% tolerance				0402	
11	2	R19, R22	3.3k	Resistor 5% tolerance				0402	
12	1	R9	30k	Resistor 5% tolerance				0402	
13	2	R12 R21	33k	Resistor 5% tolerance				0402	
14	5	R4, R5, R6,	100R	Resistor 5% tolerance				0402	
15	2	R14, R15	33R	Resistor 5% tolerance				0402	
16	2	R18, R20	100k	Resistor 1% tolerance				0402	
17	3	R13, R24, R4	1.5k	Resistor 5% tolerance				0402	
18	1	R10	10k	Resistor 5% tolerance				0402	
19	1	R11	15k	Resistor 5% tolerance				0402	
20	1	U1	MSP430F1612IPMR	Texas Instrument Microcontroller	Texas Instruments	MSP430F1612IPMR		64QFP	
21	1	U4	TPD2E001DRLR	2 channel +/-15kV ESD Protection	Texas Instruments	TPD2E001DRLR		5SOT	
22	1	U3	TUSB3410VF	RS232/IrDA Serial-USB Converter	Texas Instruments	TUSB3410VF		32QFP	
23	1	U2	TPS77301DGKR	Single Output 250mA LDO, Adjust	Texas Instruments	TPS77301DGKR		8VSSOP	
24	1	U5	AT24C128-10TU-2.7	Serial EEPROM	Atmel	ATC24C128-10TU-2.7	24AA128-I/ST	8TSSOP	
25	1	C14	1nF	Ceramic Capacitor				0603	
26	2	C21, C22	12.5pF	Ceramic Capacitor				0603	DNP
27	1	C23	10uF	Ceramic Capacitor, 10V	TDK	C2012Y5V1A106Z		0805	
28	1	C20, C24	100nF	Ceramic Capacitor				0603	DNP: C24
29	2	LED0, LED1	Green	Green 0603 LED				0603	
30	1	LED2	Red	Red 0603 LED				0603	
31	1	R34, R27	47k	Resistor 5% tolerance				0603	DNP: R34
32	2	R32, R26	270R	Resistor 5% tolerance				0603	
33	1	R33	470R	Resistor 5% tolerance				0603	
34	2	R28, R29	0R	Resistor				0603	
35	1	U7	DIL20	20DIP IC Socket	Aries Electronics	20-3518-10	4820-3000-CP	20DIP	
36	1	Q2	Crystal						DNP
37	2	J1, J2,	10-pin header, TH 2.54 mm Male/Female	10x1 100mil male header					
38	1	J3	2X05 Pin Header Male	5x2 100mil male header					place jumper on all header (5 pcs)
39	1	J4	6 Pin Header Male 1.28 mm						DNP
40	1	J5	2X02 Pin Header Male	2x2 100mil male header					place jumper on header (2 pcs)
41	2	J6	3-pin header, male, TH	3x1 100mil male header					
42	2	S1, S2	Push Button	SPST Push Button	Panasonic	EVQ-21505R			
43	1	MSP430	MSP430G2452IN20	Texas Instrument Microcontroller	Texas Instruments	MSP430G2452IN20		20DIP	Option for Socket
44	1	MSP430	MSP430G2553IN20	Texas Instrument Microcontroller	Texas Instruments	MSP430G2553IN20		20DIP	Option for Socket

Bill of Materials

TI DESIGNS

TIDM-SMBUS - TMP006EVM

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	N/A		Printed Circuit Board	Texas Instruments	EDGE#: 6499073			
2	1	C1	1uF	CAP CER 1.0UF 16V X7R 10% 0603	TDK	C1608X7R1C105K		0603	
3	1	C2	0.01uF	CAP CER 10000PF 25V X7R 10% 0402	TDK	C1005X7R1E103K		0402	
4	1	D1		LED ALINGAP GRN WHT DIFF 0603SMD	Lumex	SML-LX0603SUGW-TR		0603	
5	1	FB1		FERRITE BEAD 300 OHM .2A 0402	Würth	74279272		0402	
6	1	H1		CONN SOCKET 10PIN .050 R/A SNGL	Mill-Max	851-43-010-20-001000		DIP - 0.5 - 10	If not available, use: "851-43-050-20-001000" and cut down to 10 pins
7	0	H2	DNI	CONN FPC/FFC 10POS .5MM HORZ SMD	Hirose	FH12-10S-0.5SH(55)		HJF10	Optional - DNP
8	1	Q1		MOSFET P-CH 50V 130MA SC70-3	Diodes Inc	BSS84W-7-F		SC70-3 - PMOS	
9	2	R1,R2	0R	RES 0.0 OHM 1/16W 0402 SMD	Rohm	MCR01MZPJ000		0402	
10	3	R3,R4,R5	47k	RES 47.0K OHM 1/16W 1% 0402 SMD	Rohm	MCR01MZPF4702		0402	
11	1	R6	160R	RES 160 OHM 1/16W 1% 0402 SMD	Rohm	MCR01MZPF1600		0402	
12	1	U1		Infra-Red Sensor with Digital Interface	Texas Instruments	TMP006AIYZFT		8-WCSP(YZF)	

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