

Bill of Materials

TIDM-FLOWESI-ENERGYTRACE

Designator	Value	Quantity	Description	Footprint	Manufacturer	Manufacturer PN
Capacitors						
C100, C101, C200, C201, C405, C406, C410, C412	10pF(NP0/COG)	8	CAP, CERM, 10 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	Murata	GRM1555C1H100JA01D
C10, C11, C403, C404	22pF(NP0/COG)	4	CAP, CERM, 22 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	Murata	GRM1555C1H220JA01D
C109, C110, C114, C115	33pF(NP0/COG)	4	CAP, CERM, 33 pF, 50 V, +/-5%, COG/NP0, 0402	0402	Murata	GRM1555C1H330JA01D
C111, C210, C400	1000pF	3	CAP, CERM, 1000 pF, 50 V, +/- 5%, COG/NP0, 0402	0402	Murata	GRM155R71H102KA01D
C1	2200pF	1	CAP, CERM, 2200 pF, 16 V, +/- 10%, X5R, 0402	0402	Murata	GRM155R72A222KA01D
C3, C5, C7, C9, C102, C104, C108, C113, C118, C119, C121, C202, C204, C205, C402, C407, C408	0.1uF	17	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402	Murata	GRM155R71C104KA88D
C105, C106, C206, C207	0.22uF	4	CAP, CERM, 0.22 uF, 16 V, +/- 10%, X7R, 0402	0402	Murata	GRM155R71C224KA12D
C107, C208	0.47uF	2	CAP, CERM, 0.47 uF, 16 V, +/- 10%, X5R, 0402	0402	Murata	GRM155R61A474KE15D
C411, C415, C417	1uF	3	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603	Murata	GRM188R71E105KA12D
C33, C112, C116, C117, C120, C209, C401	4.7uF	7	CAP, CERM, 4.7 uF, 16 V, +/- 10%, X5R, 0805	0805	Murata	GRM21BR71C475KA73L
C32, C103, C203, C409	10uF	4	CAP, CERM, 10 uF, 16 V, +/- 10%, X5R, 1206	1206	Murata	GRM31CR71E106KA12L
C12, C13	33pF	DNP	CAP, CERM, 33 pF, 50 V, +/- 5%, COG/NP0, 0402	0402		
C34, C35, C36	0.1uF	DNP	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402		
Resistors						
R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R124	0	15	RES, 0, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04020000Z0ED
R65	10	1	RES, 10, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040210R0JNED
R407, R409, R412, R413, R416, R417	22	6	RES, 22, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040222R0JNED
R100, R101, R201, R203, R406	27	5	RES, 27, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040227R0JNED
R405	33	1	RES, 33, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040233R0JNED
R211	100	1	RES, 100, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402100RJNED
R105, R202, R204, R205	390	4	RES, 390, 5%, 0.063W, 0402	0402	Vishay Dale	CRCW0402390RJNED
R9, R10, R104, R120, R200	470	5	RES, 470, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402470RJNED
R122	820	1	RES, 820, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402820RJNED
R103, R206, R408	1.5k	3	RES, 1.5 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04021K50JNED
R40, R41, R113	2.2k	3	RES, 2.2 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04022K20JNED
R115	3.3k	1	RES, 3.3 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04023K30JNED
R111, R112	4.7k	2	RES, 4.7 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04024K70JNED
R5, R6, R7, R8	5.6k	4	RES, 5.6 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04025K60JNED

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R114	6.8k	1	RES, 6.8 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04026K80JNED
R400, R401, R402, R403, R410, R411, R414, R415	15k	8	RES, 15 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040215K0JNED
R1, R106, R121, R123, R209, R404	47k	6	RES, 47 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW040247K0JNED
R3	100k	1	RES, 100 k, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402100KJNED
R109	150k	1	RES, 150 k, 1%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402150KFKED
R107, R108, R116, R117, R118, R119	220k	6	RES, 220 k, 1%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402220KFKED
R110	240k	1	RES, 240 k, 1%, 0.063 W, 0402	0402	Vishay Dale	CRCW0402240KFKED
R102, R210	1.0M	2	RES, 1.0 M, 5%, 0.063 W, 0402	0402	Vishay Dale	CRCW04021M00JNED
R59, R60, R61, R62, R63	0	DNP	RES, 0, 5%, 0.063 W, 0402	0402		
R600, R601	4.7K	DNP	RES, 4.7 k, 5%, 0.063 W, 0402	0402		
R11, R12, R13	330k	DNP	RES, 330 k, 5%, 0.063 W, 0402	0402		
VR1	DNP	DNP	Potentiometer	VR-3150		

**Inductors, Diodes, LEDs,
Transistors, Oscillators**

L400	2.2uH	1	Inductor, 2.2uH, 20%, 1.1A,, 0.095 ohm, SMD	3mm x 3mm	Taiyo Yuden	NR3010T2R2M
L101	2.2uH	1	Inductor, Shielded, Composite, 2.2uH, 0.95A, 0.16 ohm, SMD	0805	Samsung Electro-Mechanics America, Inc	CIG21L2R2MNE
LED1, LED2	Amber	2	LED, Amber, SMD	0603	Lite-On Inc	LTST-C190AKT
D101, D201, D202, D203	Green	4	LED, Green, SMD	0603	Lite-On Inc	LTST-C190GKT
D100, D200	Red	2	LED, Red, SMD	0603	Lite-On Inc	LTST-C190CKT
D102, D103	BAS40-05-7-F	2	Diode, Schottky, 40V, 0.2A, SOT-23	SOT-23	BAS40-05-7-F	Diodes Incorporated
Q101	DMG1013UJW-7	1	MOSFET, P-CH, -20V, -0.82A, SOT-323	SOT-323	DMG1013UJW-7	Diodes Incorporated
Q102	BC850CLT1G	1	Transistor, NPN, 45V, 0.1A, SOT-23	SOT-23	ON Semiconductor	BC850CLT1G
Q100, Q200	4MHz	2	Resonator, 4MHz, 39pF SMD	Murata_CSTCR	Murata	CSTCR4M00G15L99-R0
Q400	6MHz	1	Resonator, 6MHz, 39pF SMD	Murata_CSTCR	Murata	CSTCR6M00G55-R0
X1	32.768kHz	1	Crystal, 32.768kHz, 12.5pF, SMD	Cylindrical Can, Radial	Citizen	CMR200T-32.768KDZF-UT
X2		DNP	Crystal, 12Mhz, 18pF, SMD	ABM3	TXC	7A-12.000MAAJ-T

IC

U401	TUSB2046B	1	4-Port Full-Speed USB Hub	RHB0032E	Texas Instruments	TUSB2046BIRHBR
U403	TPS62237	1	2MHz, 3.3Vout, 500mA Step-Down Converter	DRY0006A	Texas Instruments	TPS62237DRYT
U400	TPD2E001	1	+ / - 15 kV ESD-Protection Array, 2 Channels	DRL0005A	Texas Instruments	TPD2E001DRLR
U100, U200	MSP430F5528	2	Mixed Signal MicroController	RGC0064B	Texas Instruments	MSP430F5528IRGCR
U1	MSP430FR6989	1	Mixed Signal MicroController	PZ0100A_N	Texas Instruments	MSP430FR6989IPZ
U102	MSP430G2452	1	Mixed Signal Microcontroller	RSA0016B	Texas Instruments	MSP430G2452IRSA16R
U101	TS5A21366	1	Dual SPST Analog Switch	RSE0008A	Texas Instruments	TS5A21366RSE

Connectors

RF1, RF2	10x2	2	Header (shrouded), 50mil, 10x2, SMD		Samtec	TFM-110-02-SM-D-A-K
TGND	2x1	1	Header, 100mil, 2x1, TH		Samtec	TSW-102-07-G-S
JP13	2x2	1	Header, 100mil, 2x2, TH		Samtec	TSW-102-07-G-D
J401	3x2	1	Header, 100mil, 3x2, TH		Samtec	TSW-103-07-G-D
J402, J601, PORT_1_4, PORT_2_3, PORT_6_8, PORT J	4x2	6	Header, 100mil, 4x2, TH		Samtec	TSW-104-07-G-D
ESI	8x2 RA	1	Header (shrouded), 100mil, 8x2, TH, Right Angled		Sullins Connector Solutions	SBH11-PBPC-D08-RA-BK
J400	USB Micro B	1	Connector, micro USB Type B, Reverse, Receptacle, SMD		Hirose	ZX62R-B-5P
J101		DNP	Header, 100mil, 2x1, TH	TSW-102-07-G-S		

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J201		DNP	Header, 100mil, 3x1, TH	TSW-103-07-G-S		
J600		DNP	Header, 100mil, 4x1, TH	TSW-104-07-G-S		
PORT_9/ESI		DNP	Header, 100mil, 8x2, TH	TSW-108-07-G-D		
J100, J200		DNP	Header, 100mil, 7x1, TH	TSW-107-07-G-S		
SBW		DNP	Socket Strip, 6x1, 50mil, Black, TH	CONN_SMS-106-01-G-S		

Misc						
LCD		1	LCD Screen	FH-1152P	ADKOM Elektronik GmbH	FH-1152P
MCU_RESET, S201, S202		3	SWITCH TACTILE SPST-NO 0.05A 12V	SW_B3U-1000P	Omron	B3U-1000P
BUT		1	Switch, Multi-directional momentary action Navigation, SMD	SW_CK-TPA511GLFS	C&K	TPA511GLFS
BUT (Cap)	Button Cap	1	Cap for TPA511GLFS	N/A	C&K	Y43109100OP
H1, H2, H3, H4		4	Screw, Round, 6mm, M3, Metal, Philips Panhead	N/A	APM Hexseal	RM3X8MM 2701
H5, H6, H7, H8		4	Standoff, Hex, 13mm, M3, Female-Female, Metal	N/A	Harwin Inc	R30-1011302
(Jumpers)	1x2	12	2 pin Jumper, 2.54mm	N/A	Sullins Connector Solutions	QPC02SXGN-RC
J201		DNP	Header, 100mil, 3x1, TH	TSW-103-07-G-S		
J600		DNP	Header, 100mil, 4x1, TH	TSW-104-07-G-S		
PORT_9/ESI		DNP	Header, 100mil, 8x2, TH	TSW-108-07-G-D		
J100, J200		DNP	Header, 100mil, 7x1, TH	TSW-107-07-G-S		
SBW		DNP	Socket Strip, 6x1, 50mil, Black, TH	CONN_SMS-106-01-G-S		
Misc						
LCD		1	LCD Screen	FH-1152P	ADKOM Elektronik GmbH	FH-1152P
MCU_RESET, S201, S202		3	SWITCH TACTILE SPST-NO 0.05A 12V	SW_B3U-1000P	Omron	B3U-1000P
BUT		1	Switch, Multi-directional momentary action Navigation, SMD	SW_CK-TPA511GLFS	C&K	TPA511GLFS
BUT (Cap)	Button Cap	1	Cap for TPA511GLFS	N/A	C&K	Y43109100OP
H1, H2, H3, H4		4	Screw, Round, 6mm, M3, Metal, Philips Panhead	N/A	APM Hexseal	RM3X8MM 2701
H5, H6, H7, H8		4	Standoff, Hex, 13mm, M3, Female-Female, Metal	N/A	Harwin Inc	R30-1011302
(Jumpers)	1x2	12	2 pin Jumper, 2.54mm	N/A	Sullins Connector Solutions	QPC02SXGN-RC

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