

## Bill of Materials

Quantity	Value	PCB Package	Description	MPN	Manufacturer	Part Number	Budget Price
1	BAT+		NON COMPONENT, BATTERY + PAD, SMD			19-00356	
1	BAT-		NON COMPONENT, BATTERY - PAD, SMD			19-00357	
1	PS1240P02BT		ACOUSTIC, BUZZER, UP TO 30V, PTH	PS1240P02BT	TDK	11-00008	
2	1uF	0402	CAPACITOR, CERAMIC X5R, 1uF, 10V, -10%/+10%, -55DEGC/+85DEGC, 0402, SMD	GRM155R61A105KE15D	MURATA	02-02381	0.0014
11	100nF	0402	CAPACITOR, CERAMIC X7R, 100nF, 10V, -10%/+10%, -55DEGC/+125DEGC, 0402, SMD	GRM155R71A104KA01D	MURATA	02-00760	0.003
1	220pF	0402	CAPACITOR, CERAMIC C0G/NP0, 220pF, 50V, -5%/+5%, -55DEGC/+125DEGC, 0402, SMD	GRM1555C1H221JA01D	MURATA	02-01276	0.007
3	2.2uF	0402	CAPACITOR, CERAMIC X5R, 2.2uF, 6.3V, -20%/+20%, -55DEGC/+85DEGC, 0402, SMD	GRM155R60J225ME95D	MURATA	02-04674	
2	15pF	0402	CAPACITOR, CERAMIC C0G/NP0, 15pF, 50V, -5%/+5%, -55DEGC/+125DEGC, 0402, SMD	GRM1555C1H150JA01D	MURATA	02-04673	0.003
4	18pF	0402	CAPACITOR, CERAMIC C0G/NP0, 18pF, 50V, -55DEGC/+125DEGC, 0402, SMD	GRM1555C1H180JA01D	MURATA	02-02407	0.016
3	1pF	0402	CAPACITOR, CERAMIC C0G/NP0, 1pF, 50V, -0.1pF/+0.1pF, -55DEGC/+125DEGC, 0402, SMD	GRM1555C1H1R0BA01D	MURATA	02-04367	0.008
1	100uF	RADIAL	CAPACITOR, ALUMINUM, 100uF, 10V, -20%/+20%, -40DEGC/+85DEGC, RADIAL, SMD	EEE1AA101WR	PANASONIC INDUSTRIAL	02-04681	
2	15nF	0402	CAPACITOR, CERAMIC X7R, 15nF, 16V, -5%/+5%, -55DEGC/+125DEGC, 0402, SMD	CAPACITOR_0402_15nF_X7R_M_+/-5%_16V	Manufacturer selection	02-03018	0.00589
1	10nF	0402	CAPACITOR, CERAMIC X7R, 10nF, 25V, -10%/+10%, -55DEGC/+125DEGC, 0402, SMD	GRM155R71E103KA01D	MURATA	02-02314	0.004
1	2.2nF	0402	CAPACITOR, CERAMIC X7R, 2.2nF, 50V, -10%/+10%, -55DEGC/+125DEGC, 0402, SMD	GRM155R71H222KA01D	MURATA	02-02076	0.004
1	1nF	0402	CAPACITOR, CERAMIC X7R, 1nF, 50V, -10%/+10%, -55DEGC/+125DEGC, 0402, SMD	CAPACITOR_0402_1nF_X7R_M_+/-10%_50V	Manufacturer selection	02-03038	0.00589
1	IR333-A		OPTO, LED, IR, 940nm, 0.1A, 0.15W, PTH	OPE5594A	KNOWLEDGE-ON	15-01157	
5	BLM15HG102SN1	0402	FILTER, INDUCTOR TYPE, 1000OHM@100MHZ, 25%,250mA, 0402, SMD	BLM15HG102SN1D	MURATA	04-00032	0.081
2	2nH	0402	INDUCTOR, CHIP, 2nH, -0.3nH/+0.3nH, 0.3A, -55DEGC/+125DEGC, 0402, SMD	LQG15HS2N0S02D	MURATA	03-06525	0.021
1	1nH	0402	INDUCTOR, CHIP, 1nH, -0.3nH/+0.3nH, 0.3A, -55DEGC/+125DEGC, 0402, SMD	LQG15HS1N0S02D	MURATA	03-06607	0.021
1	3nH	0402	INDUCTOR, CHIP, 3nH, -0.3nH, +0.3nH, 0.3A, -55DEGC/+125DEGC, 0402, SMD	LQG15HS3N0S02D	MURATA	03-06566	0.021

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Quantity	Value	PCB Package	Description	MPN	Manufacturer	Part Number	Budget Price
1	FTSH-105-01-F-DV-K		CONNECTOR, HEADER, MALE, STRAIGHT, 10 PINS, 2 ROWS, PITCH 1.27mm, SMD	FTSH-105-01-F-DV-K	SAMTEC	06-00166	1.700
2	BC817-16	SOT23-3	TRANSISTOR, BIPOLAR NPN, 45V, 0.5A, 0.25W, SOT23-3, SMD	BC817-16,215	NXP	16-01211	0.01
1	2N7002	SOT23-3	TRANSISTOR, MOSFET N-CHANNEL, 60V, 0.3A, 0.83W, SOT23-3, SMD	2N7002,215	NXP	16-04676	0.013
1	56k	0402	RESISTOR, THICK FILM, 56k, -1%/+1%, 0.063W, 50V, -55DEGC/+155DEGC, 0402, SMD	RESISTOR_0402_56k_+/-1%_50V_0.063W_M_+/-100PPM	Manufacturer selection	01-12808	0.00244
2	DNM		RESISTOR, DO NOT MOUNT, 0402, SMD			01-02475	
1	30	1210	RESISTOR, THICK FILM, 30, -5%/+5%, 0.33W, 200V, -55DEGC/+125DEGC, 1210, SMD	CRCW121030R0JNEA	VISHAY DALE	01-07968	N/D
1	220	0402	RESISTOR, THICK FILM, 220, -1%/+1%, 0.1W, 50V, -55DEGC/+155DEGC, 0402, SMD	ERJ2RKF2200X	PANASONIC INDUSTRIAL	01-17120	0.005
2	2.2k	0402	RESISTOR, THICK FILM, 2.2k, -1%/+1%, 0.1W, 50V, -55DEGC/+155DEGC, 0402, SMD	ERJ2RKF2201X	PANASONIC INDUSTRIAL	01-17123	
2	1k	0402	RESISTOR, THICK FILM, 1k, -1%/+1%, 0.1W, 50V, -55DEGC/+155DEGC, 0402, SMD	ERJ2RKF1001X	PANASONIC INDUSTRIAL	01-17121	
1	DNM		RESISTOR, DO NOT MOUNT, 0603, SMD			01-02493	
3	0	0402	RESISTOR, THICK FILM, 0, 0.1W, 50V, -55DEGC/+155DEGC, 0402, SMD	ERJ2GE0R00X	PANASONIC INDUSTRIAL	01-11470	0.008
1	0	0402	RESISTOR, JUMPER, 3 PORTS, -55DEGC/+155DEGC, 0402, SMD	RK73Z1ETTP	KOA SPEER	01-16574	
2	DNM	0402	RESISTOR, DO NOT MOUNT, 0402, SMD	DNM	DO NOT MOUNT	01-02472	
4	2.2k		RESISTOR NETWORK, CHIP ARRAY – 4 RESISTORS, 2.2k, -5%/+5%, 0.031W, 50V, -55DEGC/+155DEGC, SMD	EXBN8V222JX	PANASONIC INDUSTRIAL	01-17124	
1	2k	0402	RESISTOR, THICK FILM, 2k, -1%/+1%, 0.1W, 50V, -55DEGC/+155DEGC, 0402, SMD	ERJ2RKF2001X	PANASONIC INDUSTRIAL	01-17122	
1	2.7k	0402	RESISTOR, THICK FILM, 2.7k, -1%/+1%, 0.063W, 50V, -55DEGC/+155DEGC, 0402, SMD	RESISTOR_0402_2.7k_+/-1%_50V_0.063W_M_+/-100PPM	Manufacturer selection	01-12656	0.00244
1	15k	0402	RESISTOR, THICK FILM, 15k, -1%/+1%, 0.063W, 50V, -55DEGC/+155DEGC, 0402, SMD	RESISTOR_0402_15k_+/-1%_50V_0.063W_M_+/-100PPM	Manufacturer selection	01-12741	0.00244
1	47k	0402	RESISTOR, THICK FILM, 47k, -1%/+1%, 0.063W, 50V, -55DEGC/+155DEGC, 0402, SMD	RESISTOR_0402_47k_+/-1%_50V_0.063W_M_+/-100PPM	Manufacturer selection	01-12799	0.00244
6	TP_0.5MM_PTH		TESTPOINT, 0.5MM HOLE, PTH			19-00199	
1	CC2541F256	VQFN40	IC, DIGITAL WIRELESS, 2.4-GHz BLUETOOTH® LOW ENERGY AND PROPRIETARY SYSTEM-ON-CHIP, 256 KB, 2V TO 3.6V	CC2541F256RHAR	TEXAS INSTRUMENTS	18-28143	2.00
1	KXTF9	LGA10	IC, TRANSDUCER, TRI-AXIS DIGITAL ACCELEROMETER, 1.8V TO 3.6V, LGA10, SMD	KXTF9-2050	KIONIX	18-28272	

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2	SN74LV164A	TSSOP14	IC, DIGITAL, LOGIC, 8 BIT PARALLEL OUT SERIAL SHIFT REGISTER, 2V TO 5.5V, TSSOP14, SMD	SN74LV164APWR	TEXAS INSTRUMENTS	18-14638	0.15
2	TPS78330	SOT5	IC, ANALOG, ULTRA-LOW QUIESCENT CURRENT LOW-DROPOUT LINEAR REGULATOR, 2.2V TO 5.5V, SOT5, SMD	TPS78330DDCT	TEXAS INSTRUMENTS	18-28252	0.28
1	IMU-3000	QFN24	IC, GYROSCOPE, 2.1V TO 3.6V, QFN24, SMD	IMU-3000	INVENSENSE	18-28259	
1	32MHz	SMD	CRYSTAL, OSCILATOR, 32MHz, 10pF, -10PPM/+10PPM, -40DEGC/+85DEGC, SMD	FA-128 32MHz 10pF 10PPM	Epson Toyocom	12-00422	
1	32.768kHz		CRYSTAL, OSCILATOR, 32.768kHz, -20PPM/ + 20PPM, -40DEGC/	FC-12M 32.768kHz 20ppm	Epson Toyocom	12-00430	

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