

Bill of Materials

Bill of Materials For Project [RotorHazard_S32_BPill_R1.PrjPCB]

Project: RotorHazard_S32_BPill_R1.PrjPCB

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Footprint	Comment	LibRef	Designator	Description	Quantity
BZ_12mm	TMB12A05	Buzzer_12mm	BZ1	TMB12A05 12mmX9.5mm Buzzer	1
Cap Radial 100mil	0.1uF 50V X7R	C320C104K5R5TA7301	C1, C2	Multilayer Ceramic Capacitors MLCC - Leaded 50V 0.1uF 10% X7R	2
Axial 0.4 Diode	MBR100RLG	MBR1100RLG	D1	Schottky Diodes & Rectifiers 1A 100V	1
HDR 1x2_2.54mm	HDR 1X2	961102-6804-AR	J1, J3, J5, J6, J9, JP1, JP2	Headers & Wire Housings 2P STRT 1 ROW GOLD 6.8MM MATING PIN	7
HDR 1x4_2.54mm	HDR 1X4	961104-6804-AR	J2, J8, J10	Headers & Wire Housings 4P STRT 1 ROW GOLD 6.8MM MATING PIN	3
6-PIN SIL VERT SOCKET	6 PIN SIL VERT SOCKET	M20-7820646	J4	Headers & Wire Housings 6 PIN SIL VERTICAL SOCKET TIN *Note 4	1
Header_2X20_Vert_Thru	Header_2X20_Vert_Thru	Header_To_Pi_Cable	J7	Header 2X20_Vert_Thru	1
HDR 1x1_2.54mm	HDR 1X1	HEADER 1X1	J11, J12, J13, J14	Single pin header *Note 2	4
XT30_M	XT30-M	XT30-M	J15	XT30 connector male pins	1
LED_5mm	LED_5mm	LED_5mm	LED1	5mm standard leaded red LED	1
Axial 0.4 100 CF	100 1/4W 5%	CFR-25JR-52-100R	R1	Carbon Film Resistors - Through Hole 100ohm 1/4W 5%	1
Axial 0.4 100K CF	100K 1/4W 5%	CFR-25JR-52-100K	R2	Carbon Film Resistors - Through Hole 100K ohm 1/4W 5%	1
Axial 0.4 1K CF	1K 1/4W 5%	CFR-25JT-52-1K	R3	Carbon Film Resistors - Through Hole 1/4W 1K Ohm 5%	1
Axial 0.4 10K MF	10K 1/4W 1%	MFR-25FRF52-10K	R4	Metal Film Resistors - Through Hole 10K ohm 1/4W 1%	1
Axial 0.4 1K MF	1K 1/4W 1%	MFR-25FRF52-1K	R5	Metal Film Resistors - Through Hole 1K ohm 1/4W 1%	1
RES_SIP_10P	100K 10Pin SIP	4610X-101-104LF	RA1	Resistor Networks & Arrays 10pins 100Kohms Bussed	1
RH_S32_Node_PCB	RX5808_PCB	RH_S32_Node	U1, U2, U3, U4, U5, U6, U7, U8	RX5808 module on PCB with right-angle header pins *Note 1	8
BME280_PCB	BME280_BRD	BME280	U9	BME280 Temperature, Humidity and Pressure Sensor	1
INA219_PCB_RA	INA219_BRD	INA219_BRD	U10	INA219 Current Sensor/Voltage Monitor	1
DIP40_Plus2	STM32F103XX BPill	STM32F103XX_BPill	U11	STMF103XX BPill	1
D36V28FX	D36V28F5	D36V28F5	U12	Pololu D36V28F5 DC/DC Converter	1
D24V22FX	D24V22F3	D24V22F3	U13	Pololu D24V22F3 DC/DC Converter	1
DS3231_Breakout	DS3231_BBRD	DS3231_Breakout	U14	ADAFruit DS3231 Breakout Board *Note 3	1
Pi_RTC	DS3231_Pi_RTC	DS3231_Pi_RTC	U15	ADAFruit DS3231 PiRTC *Note 3	1

Parts for Each Node

HDR 1X9 2.54mm RA	HDR 1X9 RA	649-1012937990904BLF	J1	9-Pin RA Header Thru-Hole *Note 5	1
RX5808_MULTI	RX5808	RX5808_MULTI	U1	RX5808 Module *Note 6	1

Notes

<p>1) The number of nodes is up to the user and should be automatically detected. High-quality low-profile sockets made from the strips linked here are recommended.</p>	<p>3) The DS3231 RTCs are optional, but if installed only one should be used at a time.</p>	<p>5) When used with the low-profile sockets the pins should be cut to a length of 3.5mm-4.0mm as measured from the edge of the node PCB.</p>
<p>2) There are two more single-pin headers that are part of the STM32 CPU component. The one for BOOT0 is required to enable firmware upload. All of the rest are optional. If used these should probably just be separated from the longer breakable strips linked above.</p>	<p>4) Sockets are also recommended for the STM32 CPU and BME280. The best source is probably to get a kit similar to the one linked here from Amazon which will provide enough for several timers.</p>	<p>6) The "Blue Pill" boards are available from a variety of places and generally have clone versions of the CPU. There is a higher-quality board available from RobotDyn (linked below) but it is often out-of-stock.</p> <p>Link to RobotDyn CPU Boards</p>