Morserino-32 Board V3 Bill Of Material

SMD Components

Item #	Ref Des	Qty	Manufacturer	Mfg Part #	Description / Value	Package	Notes
1	C1, C2, C3, C4	4	Vishay	VJ1206Y104JXAMR	CAP CER 100nF >10V	1206	
2	C5	1	Vishay	VJ1206Y103KXBAC	CAP CER 10nF >10V	1206	
3	C6, C7	2	Vishay	VJ1206Y105KXJAT	CAP CER 1µF >10 V	1206	
4	C8	1	Vishay	VJ1206Y224KXAAT	CAP CER 220nF >10V	1206	
5	C9, C10, C11	3	Vishay	VJ1206Y473JXAAC	CAP CER 47nF >10V	1206	
6	IC1	1	Texas Instruments	OPA350UA/2K5	Hi-Speed Single-Suply Rail-to-Rail Op. Amp.	SOIC-8	
7	J1, J2	2	AVX	9159006551906	PCB to PCB card edge connector, 6 POS	6POS	
8	OC1	1	Toshiba	TLP175A(TPL,E	MOSFET Opto-Coupler	SOP-4	
9	POLYFUSE	1	Eaton	PTS120615V050	PPTC PPTC 1206 15V 0.5A	1206	
10	R1, R2, R7	3	Bourns	CR1206-FX-3302ELF	RES 33K 1/4W	1206	
11	R3, R4	2	Bourns	CR1206-FX-6802ELF	RES 68K 1/4W	1206	
12	R5, R6, R9, R10, R11, R15, R16, R17, R18	9	Bourns	CR1206-JW-332ELF	RES 3K3 1/4W	1206	
13	R8	1	Bourns	CR1206-JW-681ELF	RES 680OHM 1/4W	1206	
14	R12, R14	2	Bourns	CR1206-FX-1002ELF	RES 10K 1/4W	1206	
15	R13	1	Bourns	CR1206-FX-5602ELF	RES 56K 1/4W	1206	
16	T1, T2	2	ON Semiconductor	BC847ALT1G	Bipol. TRANSISTOR BC847	SOT-23-3	

Through the Hole Components

Item #	Ref Des	Qty	Manufacturer	Mfg Part #	Description / Value	Package	Notes
17	Encoder	1	Bourns	PEC12R-4215F-S0024	Encoder HORZ 24DET 24PULSE 15mm SHAFT SPST SW		
17a	(Knob)	1	ALPS	DK13-164/A.6:4,5	Knob for Rotary Encoder, black		
18	ESP32LORA-V2	1	Heltec	SX1278	Heltec LORA Wifi Version2!		With 2x18 pos male headers plugged into 2x18 Pos Female Pin Headers; be sure to have Version 2 – Version 1 is not compatible!
19	X1_KEY	1	CUI	MJ-3536NG	2p 3.5mm Jack Socket – TRX Key		
20	X2_IN/OUT	1	CUI	CUI SJ43514	4p 3.5mm Jack Socket – Audio in/out		
21	X3_PHONES, X4_EXT_PADDLE	2	CUI	SJ1-3515	3p 3.5mm Jack Socket		
22	R21	1	Vishay	T73YU104KT20	Trimmer 100kOHM		
23	LS	1	Digisound	FWO2960	Loudspeaker Digisound FWO2960 60 OHM Imp.		
24	SW1	1	NKK	SS12SDH2	Slider Switch		
25	SW2	1	C&K	PVA1OAH31.2NV2	Push Button Switch		
25a	(Cap)	1	C&K	PVRD	Cap for Push Button Switch, Red		
26	LIPO+, LIPO-	1			Cable with Molex 51005 female connector		For connecting battery – replace with different type according to the battery being used
27	ESP32+ / ESP32-	1			SH1.25 connector plug 1.25mm pitch single head 2pin female docking cable		Heltec battery connector cable; see https://item.taobao.com/item.htm?spn
28		1			Coaxial Cable Assembly IPX plug / SMA female socket		depending on the antenna you want to use
29		1			430 MHz Antenna with SMA Male connector		