

Item	Quantity	Reference	Part	Digikey #	Part	Footprint	
1	2	C11,C1	2.2nf	1119PHCT-ND	CAP 100V .0022UF AXIAL CERAM X7R	AC100\100	
2	2	C5,C2	1uf	P5305-ND	CAP 1.0UF 100V ALUM LYTIC RADIAL	RC100\200+	
3	2	C4,C3	100uf	P5192-ND	CAP 47UF 63V ALUM LYTIC RADIAL	RC100\250+	Note: changed to 47uf for fit
4	1	C6	10uf	P5309-ND	CAP 10UF 100V ALUM LYTIC RADIAL	RC100\200+	
5	1	C7	.1uf	399-2127-ND	CAP .1UF 50V 20% CER RADIAL	AC100\100	
6	2	C12,C8	500pf	399-1837-1-ND	CAP 470PF 100V 10% CER AXIAL	AC100\100	Note: changed to 470pf
7	2	C9,C10	27pf	399-1891-ND	CAP 27PF 200V 5% CER RADIAL	AC100\125	Optional only needed if a regular 20mhz crystal is used
8	2	D4,D1	1N4148	1N4148FS-ND	DIODE SGL JUNC 100V 4.0NS DO-35	D400(CA,AN)	D1 Optional used for programming
9	1	D2	1N5817	1N5817DICT-ND	DIODE SCHOTTKY 20V 1A DO-41	D400(CA,AN)	Optional 1N4000 will work. used to prevent reverse power. Use J1 to short out
10	1	D3	LED	P562-ND	LED RED CLEAR 3MM ROUND	LED_1	Optional power indicator
11	1	JP1	HEADER 3X2	103186-5-ND	CONN HDR BRKWAY 10POS STR AU PC	J\6P	Optional on board program header
12	1	JP2	HEADER 2X2		use rest of JP1	J\4P	Optional can be permanently shorted with wires
13	1	JP3	HEADER 8	ED1520-ND	TERMINAL BLOCK 3.5MM 8POS PCB	3.5MM 8POS	Optional screw on terminal post but can be hard wired
14	1	JP5	HEADER 3	1-102972-0-ND	CONN HDR BRKWAY 10 POS STR .100	SIP\3P	Optional not used since microstepper in effect.
15	2	JP6,JP7	HEADER 3	ED1515-ND	TERMINAL BLOCK 3.5MM 3POS PCB	3.5MM 3POS	Optional screw on terminal post but can be hard wired
16	1	JP9	HEADER 2	ED1514-ND	TERMINAL BLOCK 3.5MM 2POS PCB	3.5MM 2POS	Optional screw on terminal post but can be hard wired
17	4	J1,J2,J3,J4	SOLDER			SOLDER	Note: not a part
18	2	R7,R1	20K	CFR-25JB-20K	RES 20K OHM 1/4W 5% CARBON FILM	AC100\100	
19	2	R8,R2	6.6K	6.65KXBK-ND	RES 6.65K OHM 1/4W 1% METAL FILM	AC100\100	
20	1	R3	450	470QBK-ND	RES 470 OHM 1/4W 5% CARBON FILM	AC100\100	Optional used for LED Note: changed to 470 more common
21	4	R4,R5,R6,R9	10K	CFR-25JB-10K	RES 10K OHM 1/4W 5% CARBON FILM	R400	
22	2	R10,R11	25k POT (OPT.)	3266W-253-ND	POT 25K OHM 1/4" SQ CERM SL MT	SMALL TRIMPOT	Optional used to vary the current set instead with resistors remove R8 and R2 if used
23	1	U1	LM7805	NJM78L05A-ND	IC 5V POSITIVE REGULATOR TO-92	TO-92A	
24	2	U2,U4	LMD18245	LMD18245T-ND	IC H BRIDGE 3A 55V TO-220	TO-220PWR	
25	1	U3	PIC16F627	PIC16F627-20/P-ND	IC MCU FLASH 1KX14 EEPROM 18DIP	DIP18	
26	1	Y1	20MHZ	490-1215-ND	RESONATOR 20.0MHZ CERAMIC	SIP\3P	Regular 20mhz crystal can be substituted, but C9 and C10 would be needed