

Item	Reference	Part	Value	Digi-Key Part #	Possible Substitute	1 Board
1	C11,C5	Ceramic Capacitor	100 pf 50V disc Y5P	495-1025-1-ND		2
2	C13	Ceramic Capacitor	0.0022 µf 100 V X7R axial leads	1119PHCT-ND		1
3	C3,C6,C7,C8,C9,C10,C12,C14, C15,C17,C18,C19,C20,C21	Ceramic Capacitor	0.1 µf 25 V Z4V radial leads	399-2155		14
4	C4	Tantalum Capacitor	1 µf 20 VDC radial leads	478-1833-ND		1
5	C2	Tantalum Capacitor	6.8 µf 16 VDC radial leads	P2037-ND	478-1919-ND	1
6	C1	Tantalum Capacitor	33 µf 25 VDC radial leads	P2052-ND	478-1897-ND	1
7	C16	Electrolytic Capacitor	330 µf 25 V elect axial	4036PHCT		1
8	D1,D4		DIODE 1N4148	1N4148-TPMSCT-ND		2
9	D2		BUZZER	102-1116****		1
10	D3	LED	LED T-1 Dbl Green Diff Flange	160-1142-ND		1
11	JP1,JP2,JP3,JP4,JP5,JP6	2 Pin Header	SIP Header 2 Pos straight	A23897-ND	A30770-ND	6
12	RN1,RN2,RN3	Resistor Array	1.2k array	1.2KEBK-ND **		21
13	R1, R7, R19	Resistor	51 ohm 1/4w 5% carbon film	51QBK-ND		3
14	R12	Resistor	470 ohm 1/4w 5% carbon film	470QBK-ND		1
15	R8,R20	Resistor	1.1k ohm 1/4w 5% carbon film	1.1KQBK-ND		2
16	R10,R11,R14	Resistor	4.7k ohm 1/4w 5% carbon film	4.7KQBK-ND		3
17	R2,R16,R22,R23	Resistor	10k ohm 1/4w 5% carbon film	10KQBK-ND		4
18	R3,R6,R15,R18	Resistor	11k ohm 1/4w 5% carbon film	11KQBK-ND		4
19	R4,R9,R17,R21	Resistor	12k ohm 1/4w 5% carbon film	12KQBK-ND		4
20	R25	Resistor	47k ohm 1/4w 5% carbon film	47KQBK-ND		1
21	R5	Resistor	100k ohm 1/4w 5% carbon film	100KQBK-ND		1
22	R13	Resistor	120k ohm 1/4w 5% carbon film	120KQBK-ND		1
23	R24	Resistor, variable	100k pot 3/8" SQ Cerm side adj	3296X-104-ND	3296X-104LF-ND	1
24	S1, S3	Switch	Toggle SPDT ON-ON	CKN1021-ND		2
25	S2,S4	Switch	Toggle SPDT ON-OFF-ON	CKN1025-ND		2
26	U1	5V 1.0 AMP V Reg TO-220	LM7805CT	LM7805CT-ND		1
27	U2,U16	IC Precision Timer 8-dip	NE555	296-1411-5-ND		2
28	U3,U12	7ns Comparator	AD8561AN	AD8561AN-ND	AD8561ANZ-ND	2
29	U4	IC 2-IN AND Gate	74LS08	296-1633-5-ND		1
30	U5	QUAD 2-IN Nand Gate	74LS00	296-1626-5-ND		1
31	U6,U9,U13	LED 7-SEG 1.0SNGL Red	7seg	67-1485-ND		3
32	U7,U10,U14	(N) Decade Counter	74LS90	526-NTE74LS90 ***		3
33	U8,U11,U15	BCD-TO-7SEG decoder/dr	74LS47	296-3712-5-ND		3
34		Power Supply	12 VDC - 0.8A	412-112103 (\$8.69)***		1
35		2 Pin Housing	polarized	A19490-ND		6
36		Crimp	(okay to crimp with pliers)	A23962-ND		12
37		Heat Sink	for voltage regulator	294-1114-ND		1
38	D5	Diode	For 2006 Circuit Board only	MBR340IR		1
		created 10/9/01				
		modified 6/3/02 – Corrected Part Number for Item 3				
		modified 11/4/04 – Updated Parts Numbers	<a href="http://www.digikey.com">http://www.digikey.com</a>	Digi-Key		
		modified 11/5/04 – Typo and added Moser Part Number	<a href="http://www.mouser.com/">http://www.mouser.com/</a>	***Mouser Electronics		
		modified 3/29/06 – Replaced obsolete parts				
		modified 4/17/06 – Corrected item number for 13 and part number for 35 and added 36 and 37				
		modified 6/27/06 – Added diode for version 2006 circuit board				
		modified 1/16/08 – New suggested parts are listed as a possible substitute - suggested by Abaz Kryemadhi				
		** replace each resistor array with 7 discrete resistors (1.2K 1/8 watt) placed across each location (e.g. from pin 1 to pin 14, 2 to 13 etc.)				
		so you will need 21 resistors to replace the 3 arrays.				
		****you will have to bend the leads slightly to fit into the holes for pre 2006 circuit boards				