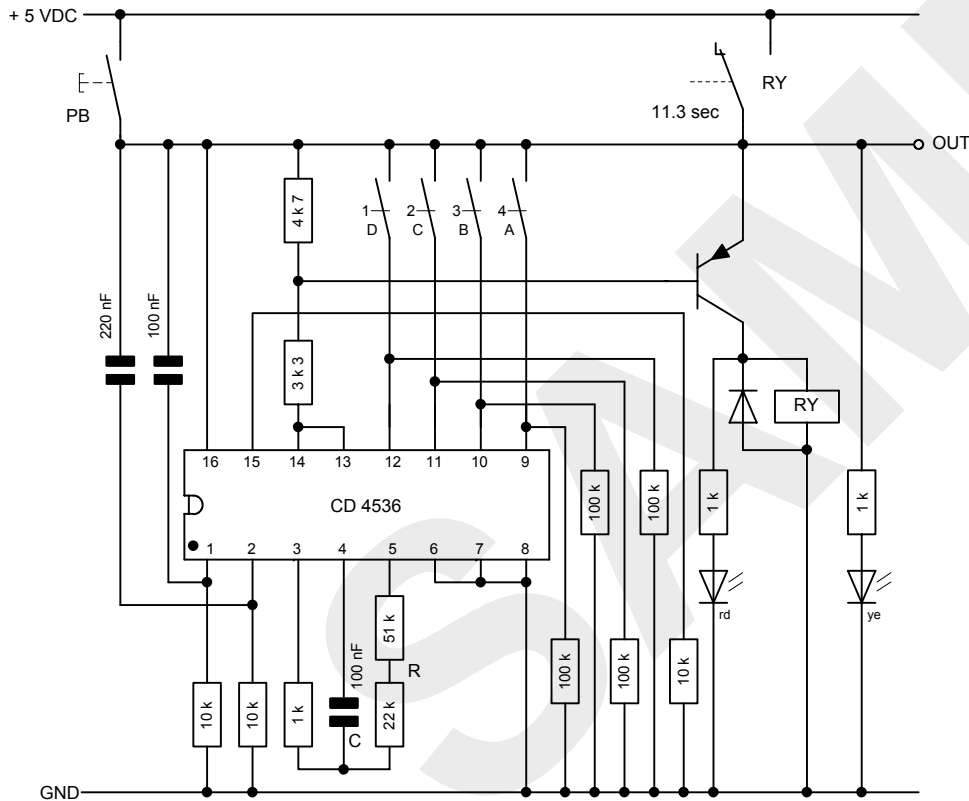
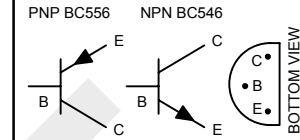


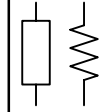
CD4536 - 5 VDC RELAY, SELF SHUT OFF, PROGRAMMABLE DELAY OFF TIMER, 4 DIP-SWITCH CONFIG., Vers. 04



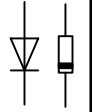
TRANSISTOR



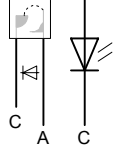
RESISTOR:



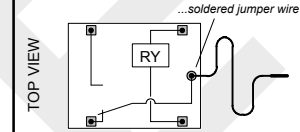
DIODE:



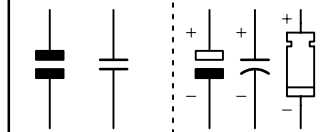
LED:



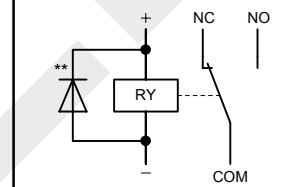
RELAY SRD-05VDC-SL-C:



CAPACITOR:

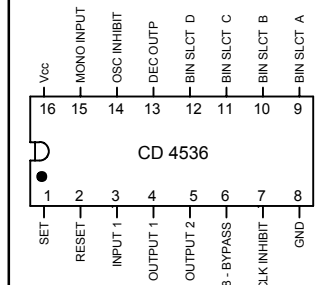


RELAY "SPDT":



** FLYBACK DIODE TO ELEMENATE HIGH VOLTAGE SPIKES ACROSS THE RELAY COIL DURING ENERGIZE AND DE-ENERGIZE (SWITCHING ON & OFF).

TIMER IC CD 4536:



OSCILLATOR RC DIMENSIONING

$T = 3 \times R \times C$
 $R = 73 \text{ k}, C = 100 \text{ nF}$
 $T = 3 \times 73000 \times 0.0000001 = 0.0219 \text{ sec}$

FIGURES ARE APROXIMATELY, DUE TO COMPONENT TOLERANCES !

D	C	B	A	MIN. DELAY
0	0	0	0	$T \times 2^8 = 5.63 \text{ sec}$
0	0	0	1	$T \times 2^9 = 11,3 \text{ sec}$ ←
0	0	1	0	$T \times 2^{10} = 22.5 \text{ sec}$
0	0	1	1	$T \times 2^{11} = 45 \text{ sec}$
0	1	0	0	$T \times 2^{12} = 01 \text{ min} : 30 \text{ sec}$
0	1	0	1	$T \times 2^{13} = 3 \text{ min}$
0	1	1	0	$T \times 2^{14} = 6 \text{ min}$
0	1	1	1	$T \times 2^{15} = 12 \text{ min}$
1	0	0	0	$T \times 2^{16} = 24 \text{ min}$
1	0	0	1	$T \times 2^{17} = 48 \text{ min}$
1	0	1	0	$T \times 2^{18} = 01 \text{ hrs} : 36 \text{ min}$
1	0	1	1	$T \times 2^{19} = 03 \text{ hrs} : 12 \text{ min}$
1	1	0	0	$T \times 2^{20} = 06 \text{ hrs} : 24 \text{ min}$
1	1	0	1	$T \times 2^{21} = 12 \text{ hrs} : 48 \text{ min}$
1	1	1	0	$T \times 2^{22} = 25 \text{ hrs} : 36 \text{ min}$
1	1	1	1	$T \times 2^{23} = 51 \text{ hrs} : 12 \text{ min}$

FOR FULLY COMPONENT SPECS. SEE MANUFACTURER DATASHEETS

TI-4	A4	udo@elgers.com	ue-ERT20210712-16	12-JUL-2021
026	A	CD4536 SPECIAL TIMER RELAY - EXPERIMENT 08		