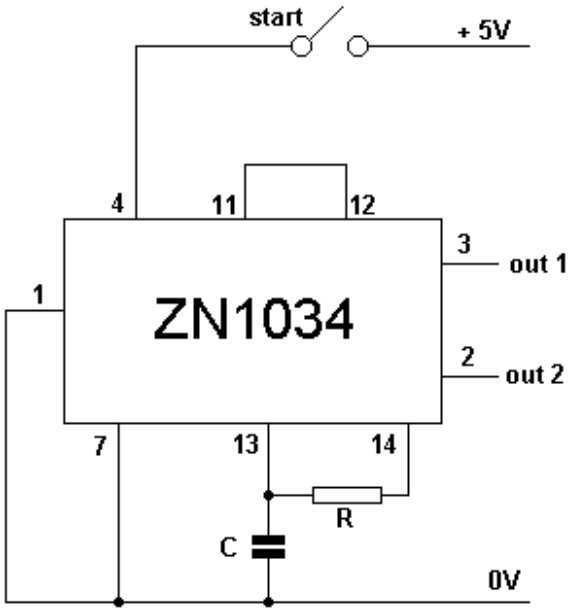
ZN1034



The 555 timer can only provide short and poor accuracy timing periods.
The ZN1034 can provide timing periods up to several days with great accuracy.

The timer contains an oscillator, the frequency of which is controlled by an external resistor and capacitor.
The output of this oscillator goes into a 12 stage binary counter.
The output of the counter changes after 4095 cycles of the oscillator.
The timer require a 5 volt supply and consumes 5 mA.
The timing cycle is triggered by a negative going edge to pin 1.
Pin 3 goes high during the timing period. Pin 2 goes low.
The timing period is determined by t = CR,
where t is in seconds, C is in Farads and R is in ohms.

<u>The following table gives values for various timings</u>

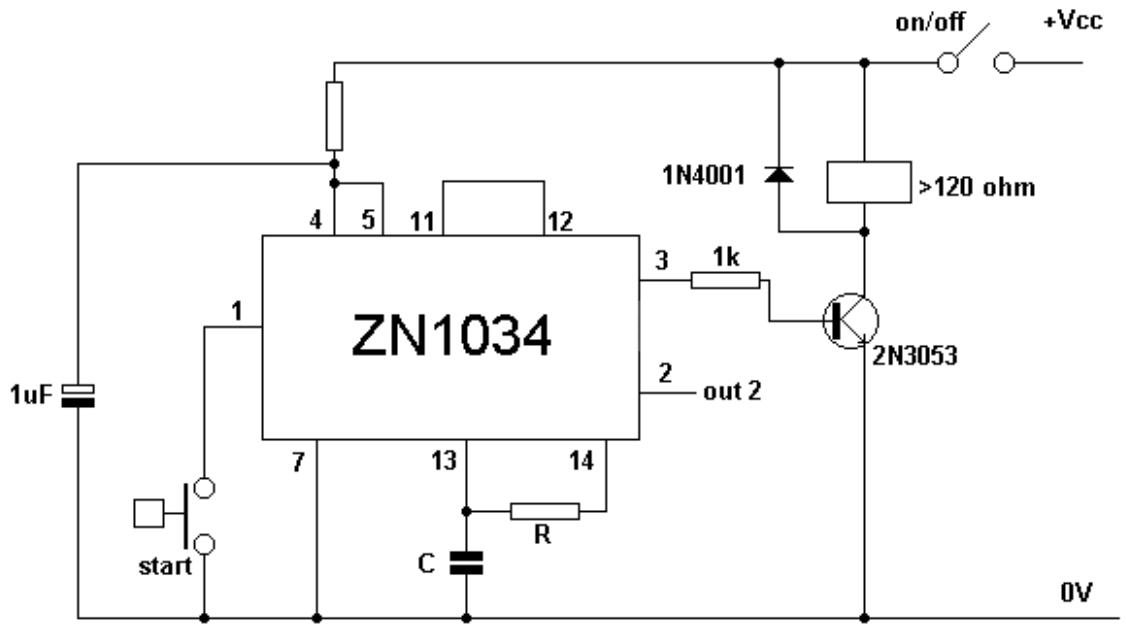
1 second	10 nF	39k
1 minute	100 nF	220k
5 minutes	1 uF	100k
1 hour	1 uF	1.2 M
1 day	10 uF	3.3 M
1 week	100uF	2.2 M

Use low leakage capacitors, such as tantalums, for high values of C.
Use values of C between 3.3 nF and 1000uF.
Use values of R between 5k and 5 M

The timing period can be adjusted to a more precise value by a trimming potentiometer between pins 13 and 14.

The timer can use voltage supplies other than 5 volts if a resistor is connected between pins 4 and 5 and the supply rail, as shown in the next diagram. A decoupling capacitor is necessary.
Calculate the value of the resistor from
R = supply voltage - 5V/ load current in mA. (the ZN1034 can supply output current up to 25 mA).

The timer can provide high power control by driving a transistor which in turn drives a relay.


on/off
+Vcc
1N4001
>120 ohm
4
5
11
12
3
1k
1
ZN1034
2N3053
2
out 2
1uF
7
13
14
R
start
C
0V

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