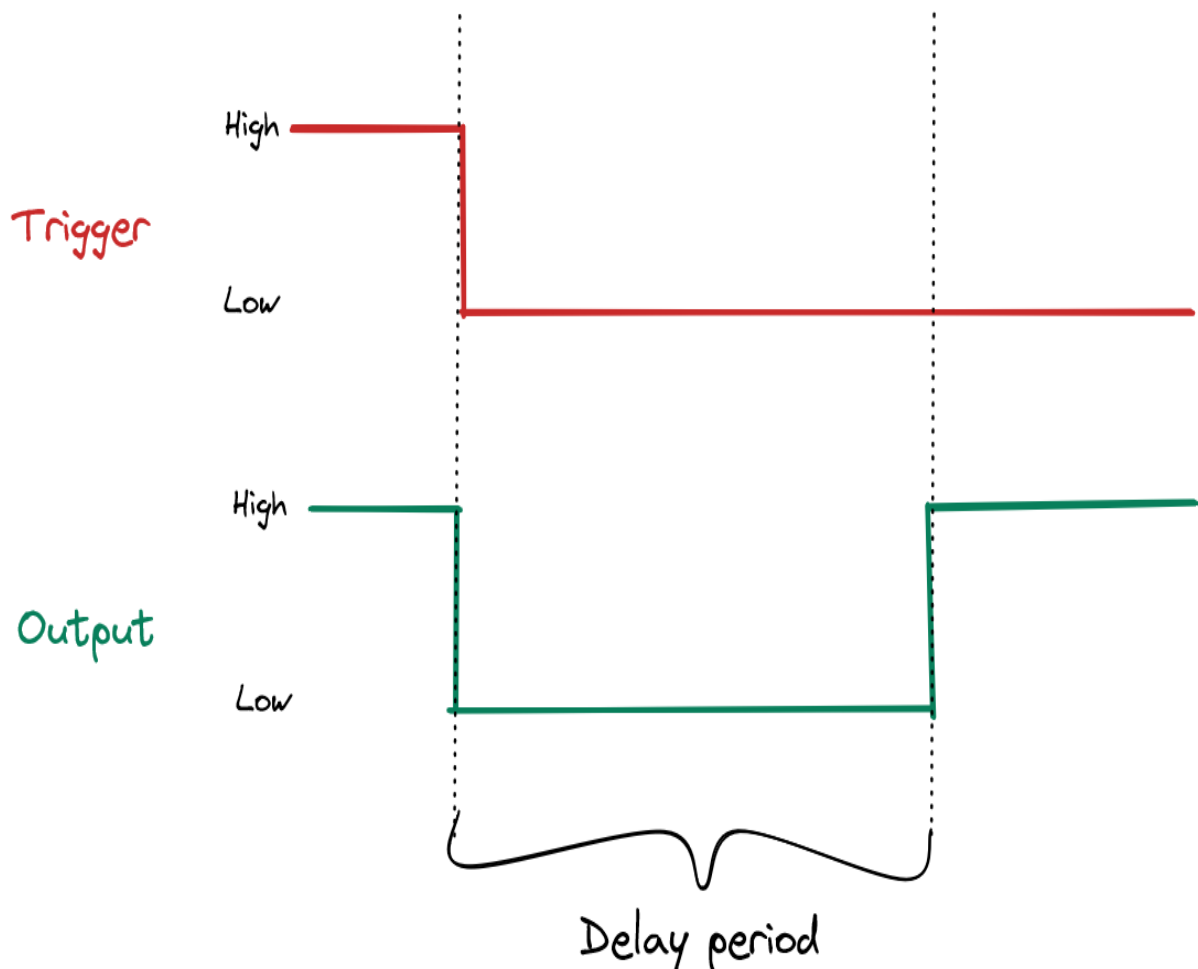


Specifications

The size of the board is 12mm x 12mm, with an operating voltage of 2v to 5v. The output timing can be set to a minimum of 2 seconds and a maximum of 1000 hours. The output is low during the timing interval

Function

1. While the trigger is not activated the output is high. The trigger can be activated by sending a falling signal to the trigger pin.
2. Once the trigger is set by an external controller, the output goes low. An internal timer starts as well.
3. Once the timer completes, the output will reset and the chip will wait for the next falling signal.
4. The chip is not repeatedly triggered, meaning that in the time between it is triggered and resets, it will not respond or keep track of any other falling signals from the external controller.
5. The trigger can be tied to the output as a short detector, so that it will cut off the power when there is a short circuit to ground. It will then attempt to reset the power after a short period of time.



Features

1. The module is assembled using CMOS technology
2. The output can power an LED directly or drive a transistor / FET to switch circuits with higher currents. Current limiting resistors are required.
3. The timing can be changed by adjusting the resistance, and there are prescalers available to further change the timing.

Testing and Applications

The timer is triggered by pulling the 'Trigger Input' to ground. On the falling edge the 'Output' goes low for a specific period of time before going back to its default state of HIGH.

This is a one shot timer and requires an external input to change state.

For low power circuits, the ground can be tied to the OUT pin. This way the delay works as a low side switch and controls power to the circuit through the connection to ground. If an external trigger is activated, the circuit will turn on and process the event for a predetermined length of time before it turns off.

The module can also be used as an OFF timer. A transistor can be connected to the output so that when the output goes low the transistor is switched OFF causing the load to switch OFF for a predetermined period.

The timer only starts on the falling edge of the 'Trigger Input'. Holding the 'Trigger Input' low does not restart the timer.

The solder pads are spaced 0.1 in apart, and can be soldered to standard headers.

The module operates with a supply voltage of 2 to 5 volts.

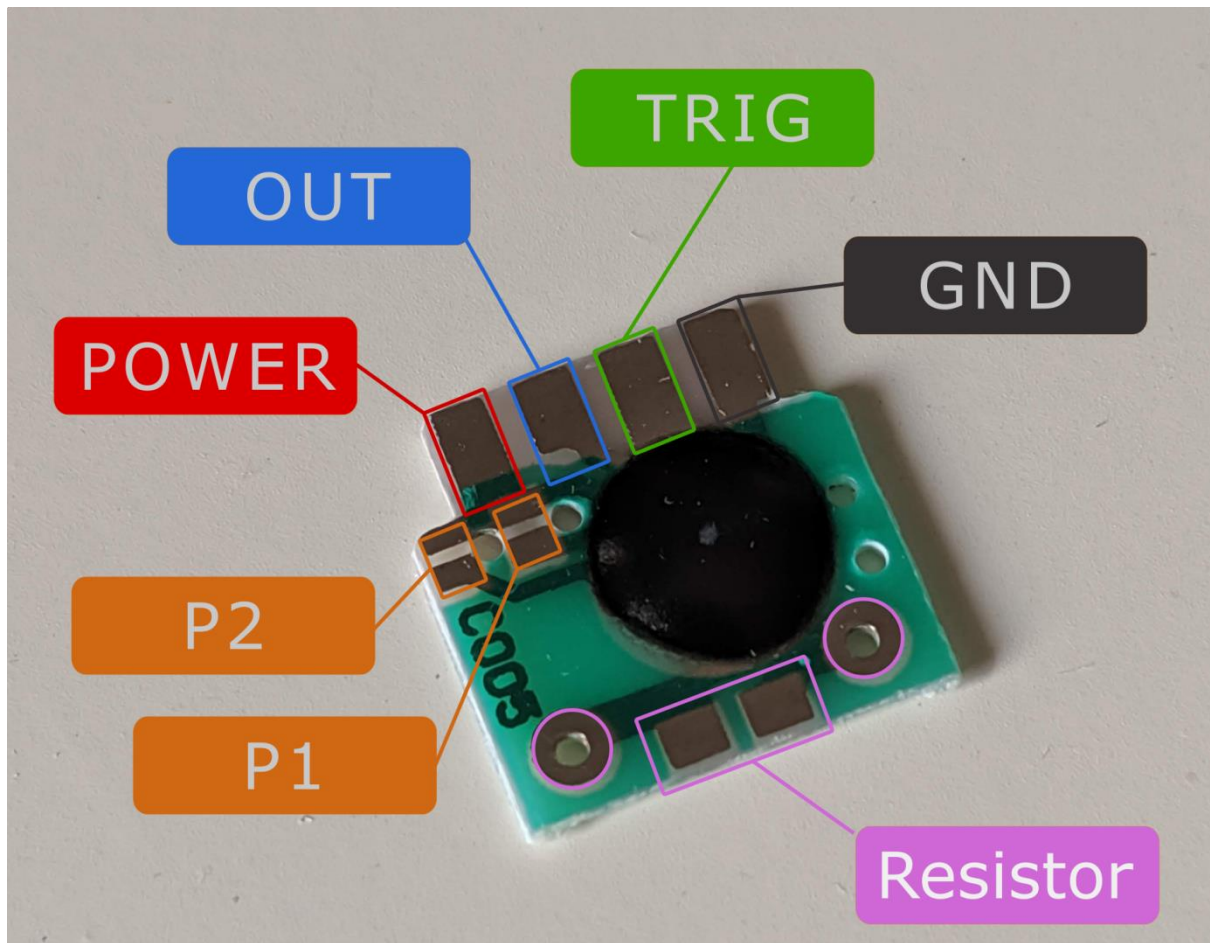
A resistor needs to be soldered to the appropriate pins to set the timing. See reference table. A variable resistor or trimmer can be used to set / vary the timing period.

Additionally P1 and P2 can be used to extend the time. By shorting P1, the time is extended by 8 times. Shorting P2 extends the time by 64 times. Shorting P1 and P2 yields a time extension of 512 times.

For stability, a pull-up resistor should be added to the trigger pin. Do note that the output pin is capable of sinking up to 20mA and is not a full power switch.

Steps

- Select a resistor and solder it in place
- Connect power and ground
- Connect the trigger pin to an external device or switch
- Connect the output pin to the circuit to be powered



Power consumption

This chip / board draws about 100uA when active (when it is keeping time, OUT is low). It draws about 1uA when in sleep mode.

Reference Table

These times apply when both P1 and P2 are not shorted.

Resistance	Timing under 3V	Timing under 4.5V
10K	5.8 seconds	4.8 seconds
20K	8.9	8
30K	12.1	11.4
51K	19.2	18
75K	26.5	25
100K	34	32
150K	49	46
200K	65	60
240K	78	74
300K	96	92
390K	123	119
510K	155	150
560K	175	168
620K	199	187
750K	230	222
820K	255	246
1M	330	291
1.5M	383	432
2M	598	568
3M	762	762
4.7M	1425	1165
10M	2921	2621
15M	4394	3813
20M	5160	4660
22M	7052	6452