

DC Lamp Dimmer

The IC which controls the switching is the well known 555 timer, which is intended for monostable or oscillator applications.

Its main internal functions comprise a flip-flop, and two comparators, which can set the flip-flop (and hence the output) into either state. The comparators

switch at one third and two thirds of the supply voltage, but this can be modified by the control voltage input, and thus in this application can change the mark to space ratio.

It can in fact be varied from full on to completely off — though being on for two thirds of the time seems to be a typical setting required.

The FET used requires less than 0V8 on its gate to guarantee turn off — no problem for the 555 IC which is guaranteed to pull down to 0V25.

The circuit can handle lamps up to about 10 watts in size.

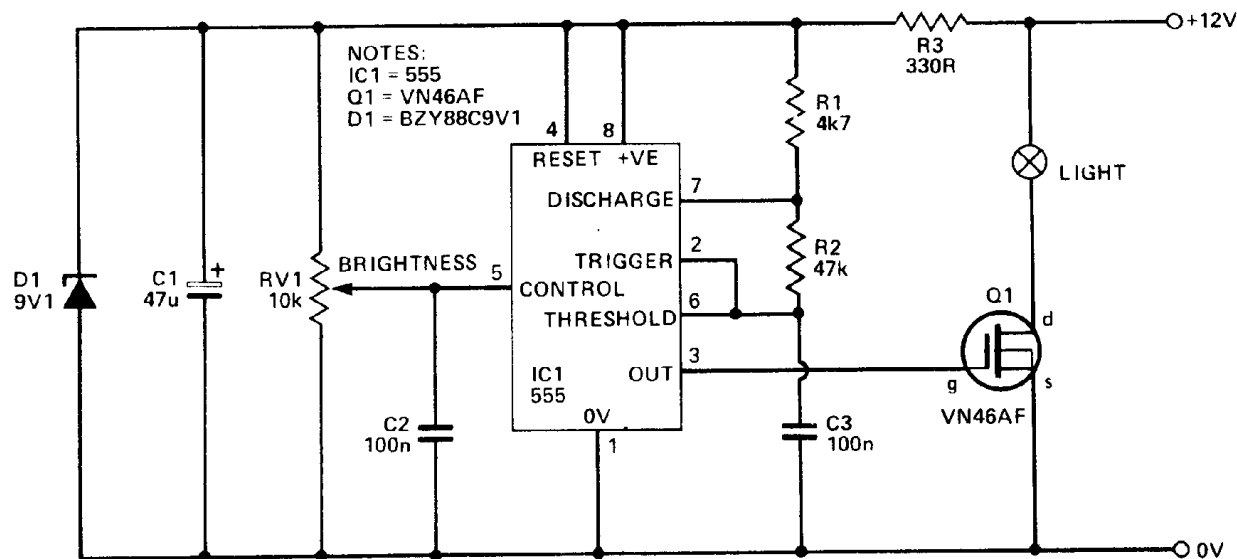


Fig. 1. The circuit. The dimming is obtained by a rapid switching of the lamp, controlled by the 555 timer.