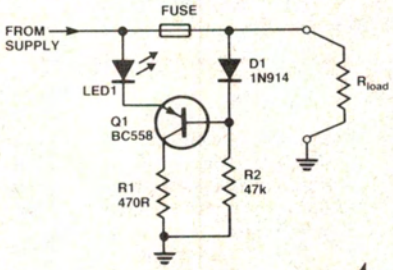

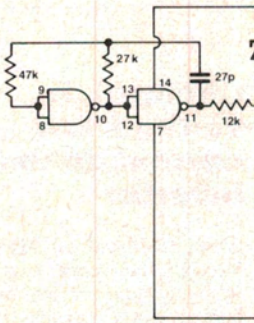

Idea of the Month

Blown fuse indicator

John Beaver, Concord NSW.

Fuses are probably the handiest tool in electronics in that for an outlay of cents they can save hundreds of dollars worth of equipment. When a fuse blows it is usually obvious as the equipment it supplies stops working, sometimes however this is not always the case. If the fuse supplies, for example, power to brake lights in a vehicle or even long delay timer circuits it may not be noticed for days. This circuit will give immediate indication of a blown fuse whether there is a load on the circuit or not as long as there is power.

On a nominal 12 volt supply there is about a 1.7 volt drop across the LED leaving a potential of about 10.3 V on the emitter of Q1. With the fuse intact there is a potential at the base (via fuse and D1) of about 11 V which holds Q1 off. If, however, the fuse blows, power is removed from the anode of D1 therefore allowing current to flow from the base of Q1 through R2 turning on the LED.

The advantage of this circuit is that in the standby mode it draws only 255 microamps, which makes it particularly useful in battery operated circuits. It may be adapted for different voltages by simply changing the values of R1 and R2 using the following formula: R1 = (Vs-2)*100/2, R2 = (Vs-2)*10000/2. (A flashing LED, which is more of an attention-getter, could be used for LED1.)