# CURRENT-FLOW INDICATOR

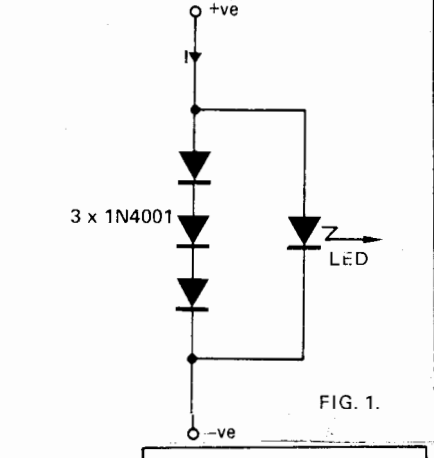


FIG. 1.

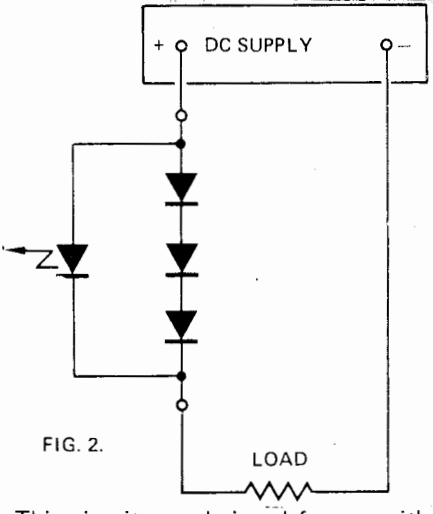


FIG. 2.

LOAD

This circuit was designed for use with the ETI Ni-cad Battery Charger. It gives a positive indication by means of an LED that the battery is receiving current. The current I (at any applied voltage from 3–45V) causes a more-or-less constant p.d. of 1.8–2.2V across the 3 silicon diodes. This causes the LED to light up. The circuit is very sensitive and the LED starts to emit at 1.5mA, growing to its maximum brightness at about 10mA. This brightness is maintained over the full current range up to 1A ($I_{max}$ for the diodes used). No current limiting resistor was found necessary for the LED.

The indicator is very cheap – about 30p – and reliable. Although 2V is 'lost', in many cases this is not important. In practice the unit is connected in series with the load (Fig. 2). It is important to note that no indication of the magnitude of the current is given; the whole idea of the circuit is to give a purely qualitative signal.

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