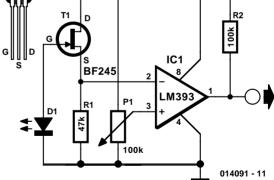# LED Photosensor

It is not always necessary to use special photoresistors or phototransistors to make light-sensitive switches. Although it is not well known, normal visible-light and infrared LEDs will also work. A voltage that depends on the intensity of the natural or artificial illumination falling on the LED can be taken from the anode of the LED. This behaviour can be easily verified by connecting a DVM or oscilloscope directly to the two leads of the LED.

Since the load on the photoelectric potential should be kept as small as possible, a JFET is used here as a buffer. The type used is not critical; similar transistors should work equally well. The buffered voltage is fed to the inverting input of comparator IC1. The threshold voltage can be adjusted to meet the desires of the user by means of the potentiometer. A pull-up resistor is connected to the comparator output, since the LM393 has an open-collector output. The supply voltage may be chosen anywhere in the range of 5 to 9 V.

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