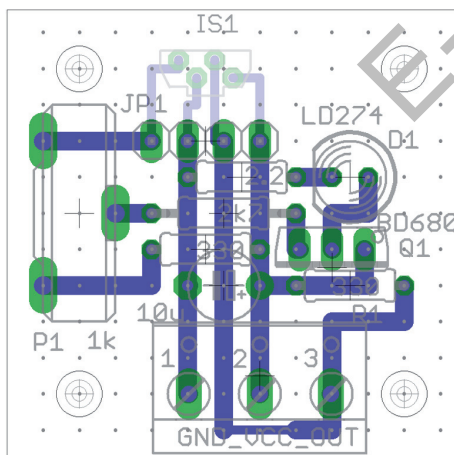
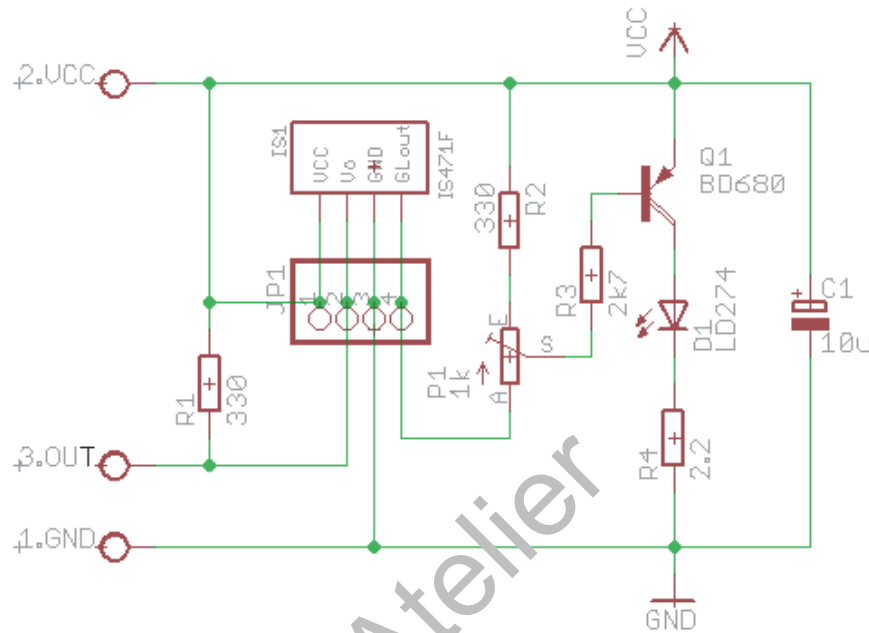


Sharp IS471F Proximity Detector

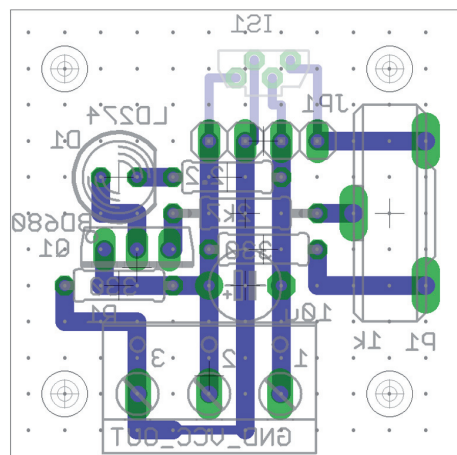
The Sharp IS471F is an infrared light sensor with a built-in pulse driver circuit. The sensor is impervious to external disturbing lights, because the sensor synchronizes its detection with this pulsed signal.

The circuit below combines the Sharp IS471F with a transistor and potmeter to regulate the LED current. The LED current can be adjusted from 0 to 1A (pulsed peak current) by varying the base current of the transistor with potentiometer P1. This gives an adjustable range from 0 to 25 cm when used as a reflective IR proximity sensor. The IR led has a 10° half angle, VCC = 5V.

When you want to use the sensor with maximum range, you can leave out the potmeter and connect GLOUT to R3 and R2 directly. Below, sensor IS1 is drawn only to indicate the correct orientation and pinning of the sensor. The sensor can be used with or without a header. The LED below has a black tube to prevent direct IR emission towards the sensor.



Circuit on prototyping board, top view



Circuit on prototyping board, bottom view

