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Photo Interrupter - GPIA57HRJ00F

SEN-09299 ROHS

4

DESCRIPTION

DOCUMENTS

Photo interrupter, photogate, photodiode, phototransistor, whatever you want to call it, this sensor is composed of an infrared emitter on one upright and a shielded infrared detector on the other. By emitting a beam of infrared light from one upright to the other, the sensor can detect when an object passes between the uprights, breaking the beam. Used for many applications including optical limit switches, pellet dispensing, general object detection, etc. Gap width = 10mm

A breakout board is available.

Photo Interrupter - GPIA57HRJ00F Product Help and Resources

VIDEOS SUPPORT TIPS SKILLS NEEDED



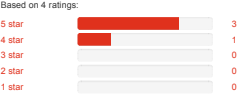
SparkFun Simple Sketches - Photo Interrupter

PUBLISHED ON NOVEMBER 5, 2014

COMMENTS 5 REVIEWS

Customer Reviews

4.8 out of 5



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3 of 3 found this helpful:

★★★★★ photo interrupter

about 3 years ago by Member #394280 ✓ verified purchaser

Works absolutely fine. I am using it on a "persistence of vision" wheel to time the start of the display. The interruption lasts a fraction of a millisecond but triggers every time. I highly recommend buying the related circuit board. It makes mounting and use easier. I would also recommend that Sparkfun add mounting holes to the board. Current version has no screw holes.

1 of 1 found this helpful:

★★★★★ Works great, always keep some on hand; needs suggested interfacing

about 2 years ago by Brad10 ✓ verified purchaser

A photo-interrupter is so versatile. I'm keeping a couple in my kit of basics such as leds, 200ohm resistors, and buttons. Your list of uses could include detecting the initial position of stepper motors, detecting the position of DC motors, detecting doors opening, closing, or sliding open and closed, detecting a coin dropping through a slot, and on and on!

I soldered this part up to the suggested (almost required) Photo Interrupter Breakout Board - GP1A57HRJ00F, and it worked great with my Arduino Mega project.

My one wish is for better application circuit documentation. As things are, most people without EE degrees will have to buy the breakout board to use the part. I couldn't decipher the datasheet to work out a recommended wiring for Arduino.. A quick schematic sketch would be great.

So, I love this part when bought with the corresponding Breakout Board - it worked nearly the first time, and works over and over, and works for so many things...and thanks for making the Breakout Board; it's a lifesaver.

★★★★★ Very Good

about 3 years ago by Member #434034 ✓ verified purchaser

They are very easy to use and work very well.

★★★★☆ Needed to use 2N2222A NPN transistor to get enough current for LED

about a year ago by Just Passing Through ✓ verified purchaser

I tried driving a green LED directly off of the output and it lit but was really dim. There is an internal voltage regulator which also seems to limit the output current as well. I tried supplying 6V and 7.5V to the receiver end within the specified range. In either case, it output about 4.5 volts. And changing the series resistor with the LED from 220 ohm to 100 ohm to 0 ohm didn't change the brightness at all. Same thing with red (green LEDs need higher voltage difference than red). Measuring the resistance between VCC and VO gave about 13.5 kohms, which is less than the 15 kohms internal resistance specified in the data sheet. But that shouldn't make any significant difference in driving the LED. Finally I added a 2N2222A NPN transistor to the output by connecting the base to VO. Used a 220 ohm resistor in series with the green LED between emitter and ground. Put the power supply to 6 V and used a 1N4004 diode to safeguard the electrical power supply (reducing VCC to about 5.4 V) and used that to power both the photointerrupter and the 2N2222A transistor powering the LED. Bright as I wanted it to be. So my conclusion is that the output is mostly regulating the voltage and is somehow current limited. But it's internal to the device, so you cannot change it.

START SOMETHING

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In 2003, CU student Nate Seidle blew a power supply in his dorm room and, in lieu of a way to order easy replacements, decided to start his own company. Since then, SparkFun has been committed to sustainably helping our world achieve electronics literacy from our headquarters in Boulder, Colorado.

No matter your vision, SparkFun's products and resources are designed to make the world of electronics more accessible. In addition to over 2,000 open source components and widgets, SparkFun offers curriculum, training and online tutorials designed to help demystify the wonderful world of embedded electronics. We're here to help you start something.

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