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IRPS

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Infra Red reflective proximity sensor

This simple IR proximity sensor uses 'modulated burst' sensing method to avoid false triggering and interference.
It has a range of about 4 -12cm (depending on the type of reflective surface), and will not respond at all to matt black. Response time is around 10mS, and a small amount of hysteresis (about 1cm) is included to avoid 'chattering' at limit range
Vertical and horizontal axis of 'sight' versions will be available.

Figure 1: IRPS

Features

- Up to 12cm range
- Simple interface (2.7 - 3.6V at 7mA nominal, cmos output).
- Low current consumption: 6mA average (20mA peak)
  0.5mA (reset)
- Small size: 22 x 17 x 13 mm

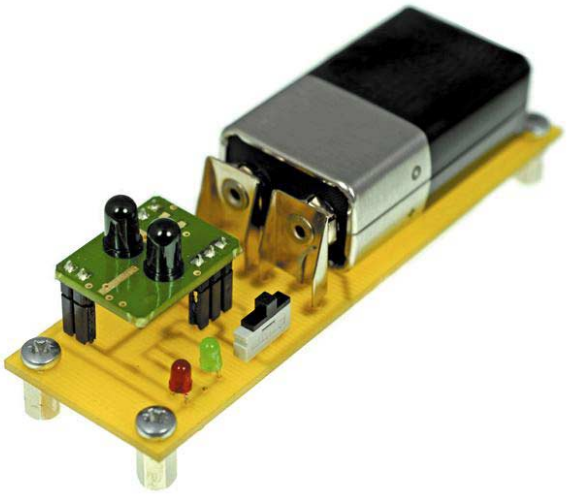

Figure 2: IRPS demo board

Applications

- Robotics
- Alarms
- Optical switches
- Industrial sensing

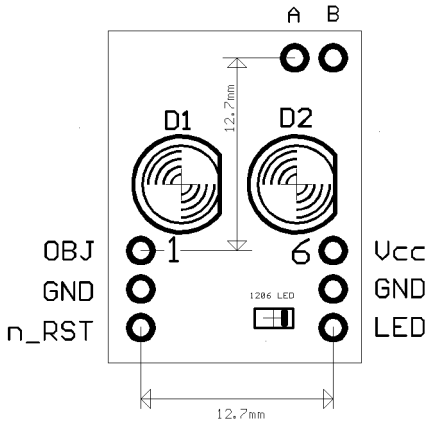

Figure 3: IRS footprint (top view)

Pin description

Pin	Name	Function
1	OBJ	'high' when reflective object is in view
2	GND	Ground
3	RST	pull low to reset, and disable, the module
4	LED	as pin 4, with series 470R resistor
5	GND	Ground
6	Vcc	2.7 -3.6v in (4 - 5v version available)
A	GND	Ground
B	GND	Ground

Notes:

1. Pin 1 (OBJ) is a cmos logic output
2. Pin 3 (n_RST) has a 100K pullup to Vcc
3. An optional light emitting diode (low current, 1206 package) can be fitted on the PCB When fitted, it is connected between Pin 4 (LED) and GND
4. The module pinout fits on a 0.1" pitch matrix
5. Vertical and horizontal view versions are available

Technical Specifications

Range	2 - 8cm initial detection (depending on surface sensed) approx 1-2cm of hysteresis is present
Emission	940nM OOK modulated datastream (approx 20kbit/sec)
Response time	< 10mS
Supply *voltage*	2.7 - 3.6v (4 - 5v version available)
current	6mA average (20mA peak) 0.5mA (reset)
Interface *user*	3, 3, 2 pin 0.1" pitch headers
Operating temperature	-20 to +70 degrees centigrade (Storage -30 to +70 degrees)
Size	22 x 17 x 13 mm (vertical view version)

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The Intrastat commodity code for all our modules is: 8542 6000.

R&TTE Directive

After 7 April 2001 the manufacturer can only place finished product on the market under the provisions of the R&TTE Directive. Equipment within the scope of the R&TTE Directive may demonstrate compliance to the essential requirements specified in Article 3 of the Directive, as appropriate to the particular equipment.
Further details are available on The Office of Communications (Ofcom) web site:
http://www.ofcom.org.uk/radiocomms/ifi/

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