



PARA LIGHT ELECTRONICS CO., LTD.

11F., No. 8, Jiankang Rd., Zhonghe Dist., New Taipei City 235, Taiwan

Tel: 886-2-2225-3733

Fax: 886-2-2225-4800

E-mail: para@para.com.tw

www.paralighttaiwan.com

DATA SHEET

PART NO.: L-T2016IR1CT-JNJ

REV: A/4

CUSTOMER'S APPROVAL: _____

DCC: _____

DRAWING NO.: DS-31P-19-0118

DATE: 2020-12-22

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2016 instruction manual

Product overview and features:

2016 is a micro photoelectric close range object detection sensor, which can detect the presence of objects 0.3 mm-5.0 mm away from the front of the sensor. When there is an object within the detection distance range from the front of the sensor, the output end changes from low level to high level, the object disappears, and the output end returns to low level. The external circuit of the sensor is simple and the power consumption is very low: the static current is 10na, the working current is 50 μ a (pulse mode input, 1% duty cycle signal). It is especially suitable for electronic products such as small volume * 2.0 * for electronic control.

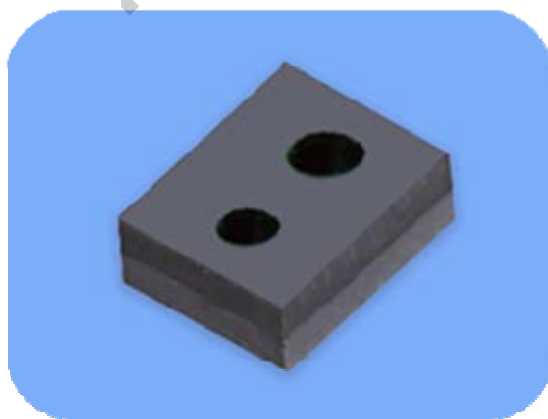
The photoelectric window of the sensor has the function of blocking ambient light, so there is no need to do additional light isolation treatment in actual use.

Application range:

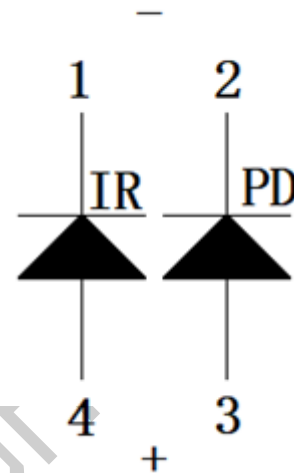
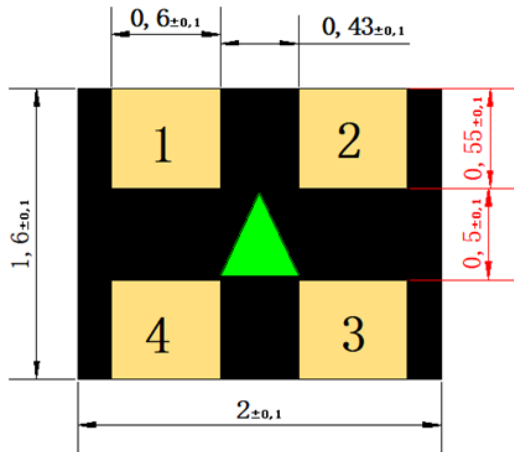
- Intelligent wearable products;
- Household appliances;
- computers;
- Other intelligent electronic products.

Product package drawing:

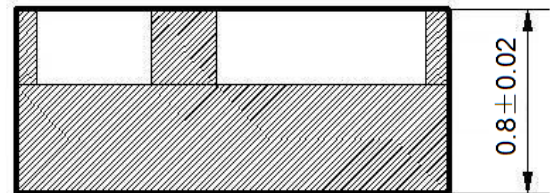
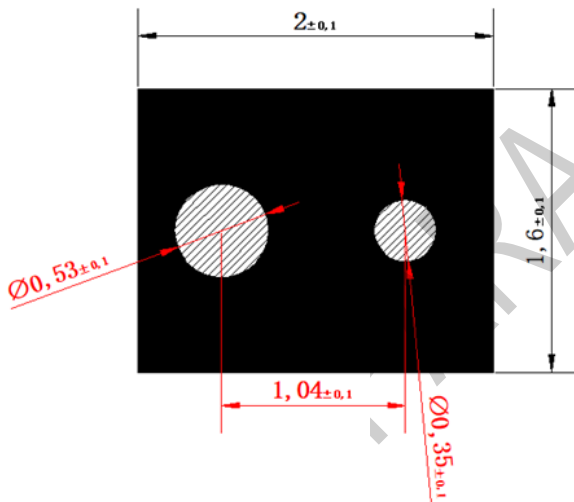
1. Product appearance



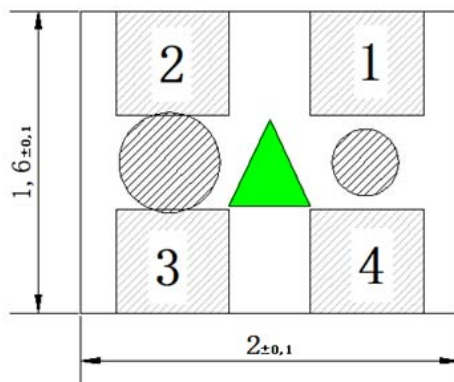
2. Bottom view 0.8 ± 0.02



3. Product size



4. Pin description



PIN	Name
1	IR-
2	VCC
3	VOUT
4	IR+

Examples of application circuits and application scenarios:

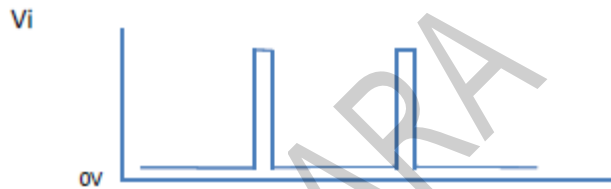
1. Typical parameters:

Test : R1=220Ω,R2=47K,VDD=3.3V

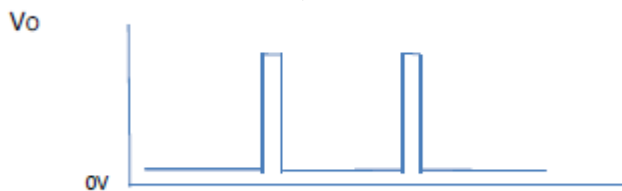
Name	Min	Typ	Max	Company
VDD/Vin	1.8	3.3	6.0	V
Vout	1.0	2.3	2.7	V
Quiescent current (1% duty cycle pulse signal)	--	50	--	μA
Quiescent current	--	10	--	nA
ESD		≧4		KV
Welding temperature		≦220/15"		
Working temperature	-20°		75°	° C

2. Logic diagram

In put signal



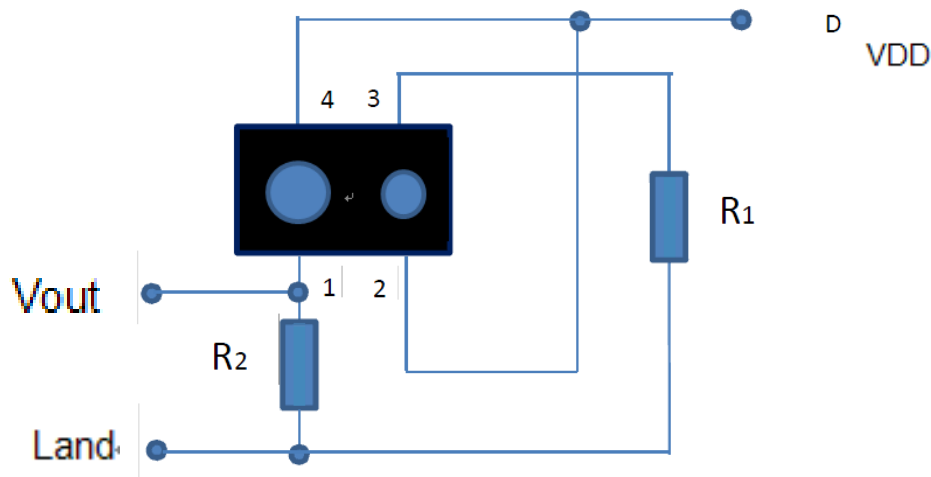
When there are objects in the detection range



When there is no object in the detection range



3.Refer to application drawing



Explain:

- ① Adjust the value of R2 to adjust the Vout state level according to the I / O characteristics Sexual regulation.
- ② R1 can adjust the sensitivity and detection distance.
- ③ The sensor can not directly contact with the object to be detected, and the interval should be 0.2mm.

4. Examples of application scenarios

1) TWS application

For the wearability detection of in ear Bluetooth headset, a detection sensor is installed on both sides of the two earphones respectively. When the output terminals of the two sensors appear high level at the same time, it indicates that the headset is in the cochlea. If only one output is high or both are low, the headset is not in the cochlea. In this way, it can control the switch of the headphone sound system to save power

2) Touch switch application

A detection sensor is installed inside the switch key, and the outer surface of the key is transparent. When the key is touched, the output end of the sensor is at a high level to provide a switch signal to the controller. This kind of switch is very convenient to do waterproof treatment, the external surface does not need to open a hole, beautiful and reliable.

5. Application description

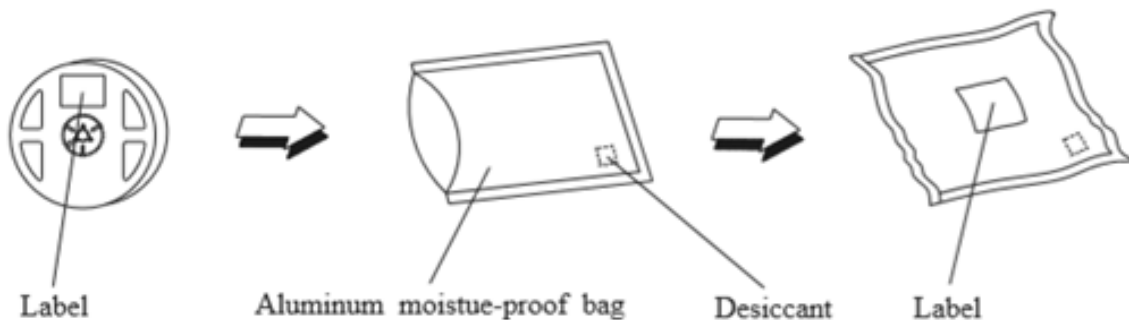
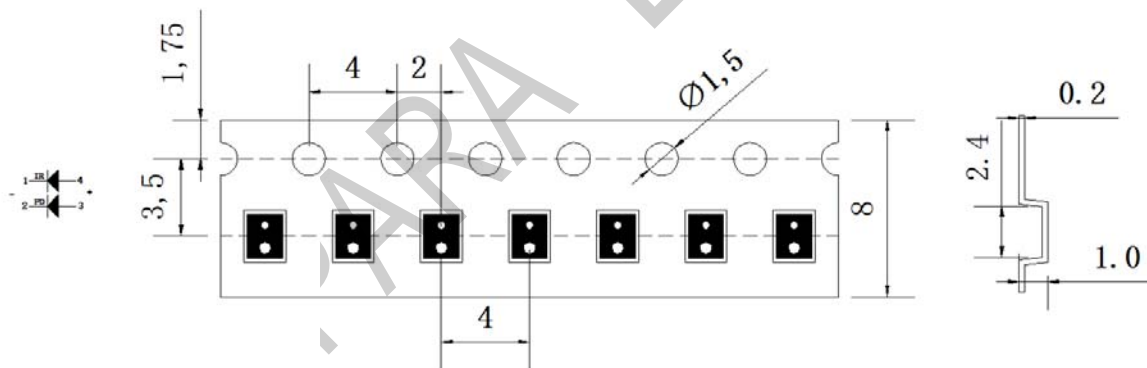
When the sensor works, it needs several ma current, and the main power consumption is at the input end. In order to save power, the input signal can adopt pulse mode, and the high-level output of corresponding high-level pulse signal can be used as the basis for judging the detected object. With proper method, the whole working current can reach dozens of microamperes.

Packaging:

Packaging form	Packing method	Quantity per plate	remarks
DFN4	Tape reel	4000pcs	Provide bulk samples

Progressive direction and Dimensions:

Loaded quantity 4000PCS per reel



Reel Dimensions :

