MESSRS:

AGENT:

SPECIFICATION
of
PYROELECTRIC PASSIVE INFRARED SENSOR

MODEL NO. : P924M-S

APPROVED BY	CHECKED BY	DRAWN BY

1. SCOPE

This specification describes a Pyroelectric Passive Infrared Sensor supplied by SHANGHAI NICERA SENSOR CO.,LTD. For passive infrared sensor device.

2. TYPE of SENSOR

2.1 TYPE NAME

Pyroelectric Passive Infrared Sensor

2.2 MODEL NO.

P924M-S

3. PHYSICAL CONFIGURATION AND DIMENSIONS

3.1. APPEARANCE

There are not remarkable wounds,spots,rust and etc.

3.2. DIMENSIONS

TO-5 Package : See Fig.1.

3.3 MARKING

Lot number and model number are marked on top surface of Detector.(Figure.1)

4. GENERAL CHARACTERISTICS

Table.1

PARAMETER		SPECIFICATION
4.1	Pyroelectric Passive Infrared Sensor	Balanced differential type (Series opposed type)
4.2	Circuit Configuration	See Fig.2

5. ELECTRICAL CHARACTERISTICS

(ENVIRONMENT TEMPERATUER=25(+/-) 5 DEG.C.)

Vdd=3.3V,unless specified.

Table.2

PARAMETER		CONDITION	SPECIFICATION
5.1	Maximum range(V)		-0.3 to 3.6V
5.2	Supply Voltage (V)	Single Power Supply	2.7 to 3.3V (maximum rating :3.6V)
5.3	Fluctuation in Supply Voltage	Single Power Supply	Supply voltage (+/-) 3%
5.4	Current Consumption	Vdd=3.3V supply Circuit after Vout is not considered	Non-Detection:20uAmax. Detection :20uAmax.
5.5	Vout Output Voltage	Single Power Supply	Non-Detection: Max. 1.0 V Detection: Min. Vdd-1.0V
5.6	Warm-up time		Max. 30 sec.
5.7	Setting of SENS	*) Setting of SENS : See Fig.4	Input Voltage : 0~0.25Vdd
5.8	On Time	2.3 sec.	

6. OPTICAL CHARACTERISTICS

Table.3

PARAMETER		SPECIFICATION
6.1	Field of view	X-axis : 153 deg. Y-axis : 144 deg.
6.2	Filter substrate	Sillcon
6.3	Cut on (5%T ABS)	5 (+/-) 1 micron
6.4	Transmission	≥ 70% average 8 to 13 micron

7. ENVIROMENTAL REQUIREMENTS

Table.4

PARAMETER		SPECIFICATION
7.1	Operating Temperature	-20 to +70 deg. C
7.2	Storage Temperature	-30 to +80 deg. C
7.3	Relative Humidity	The Sensor shall operate without increase in Noise Output when exposed to 90 to 95% RH at 30 deg.C Continuously
7.4	Hermeticity	The Sensor shall be sealed to withsand a vacuum level of 21. 28kPa.

8. RoHS COMPLINCE

This product conforms to the RoHS Directive in force at the date of issuance of this Specification Sheet.

9. REVISION

Any revision of this specification should be made in writing by discussion

10. NOTES

10.1. Design restrictions/precautions

If used for outdoor applications, be sure to apply suitable supplementary optical filter, drip-proof and anti-dew construction. This sensor is designed for indoor use.

In cases where secondary accidents due to operation failure or malfunctions can be anticipated, add a fail safe function to the design.

10.2. Usage restrictions/precautions

To prevent sensor malfunctions, operational failure or any deterioration of its characteristics, do not use this sensor in the following, or similar, conditions.

A. In rapid environmental temperature changes
B. In strong shock or vibration.
C. In a place where there are obstructing materials(Glass, Fog, etc) through which infrared rays cannot pass within detection area.
D. In fluid, corrosive gases and sea breeze.
E. Continual use in high humidity atmosphere.
F. Exposed to direct sun light or headlights of automobiles.
G. Exposed to direct wind from a heater or air conditioner.

10.3. Assembly restrictions/precautions

Soldering

A. Use soldering irons when soldering .
B. Avoid keeping pins of this sensor hot for a long time as excessive heat may cause deterioration of its quality.(Ex. Within 5 sec. at 350 deg.C)

Washing

A. Be sure to wash out all flux after soldering as remainder may cause malfunctions.
B. Use a brush when washing . Washing with an ultrasonic cleaner may cause operational failure.

10.4.Handling and storage restrictions/precautions

To prevent sensor malfunctions, operational failure, appearance damage or any deterioration of its characteristics, do not expose this sensor to the following or similar handing and storage conditions.

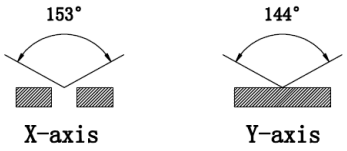
A. Vibration for a long time.
B. Strong shock
C. Static electricity or strong electromagnetic waves.
D. High or Low temperature and humidity for a long time.
E. Corrosive gases or sea breeze.
F. Dirty and dusty environments that may contaminate the optical lens.

10.5.Restrictions on product use

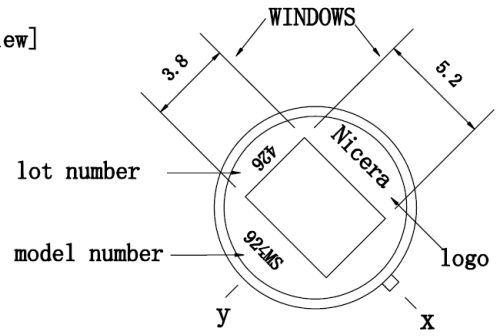
The product described in this document shall not be used or embedded to any downstream products of which manufacture, use and/ or sales are prohibited under any applicable laws and regulations.

Sensor troubles resulting from misuse, inappropriate handling ro storage are not the manufacturer`s responsibility.

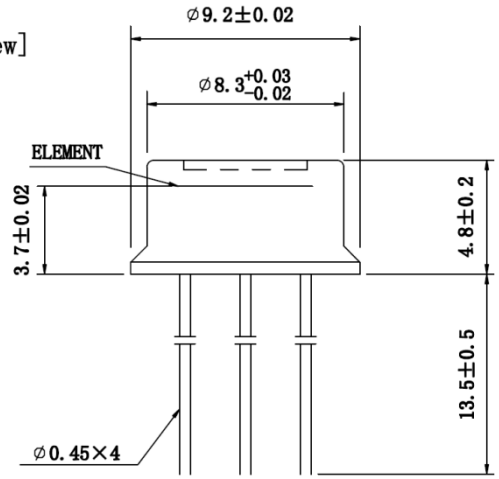
[F.O.V.]



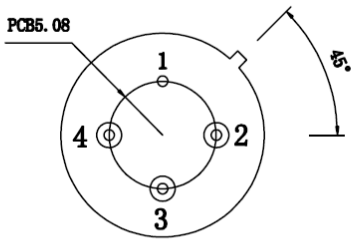
[Top View]



[Side View]



[Bottom View]



1-VSS
2-SENS
3-VDD
4-REL

Tolerance without instruction: (+/-)0.2
Unit:[mm]

(*)The sensor conforms to the standard for RoHS

Fig.1 : Dimensions

MODEL NO: P924M-S	DRAWING NO.	REV:	PAGE	
PART NO:		A	5/7	SHANGHAI NICERA SENSOR CO.,LTD.

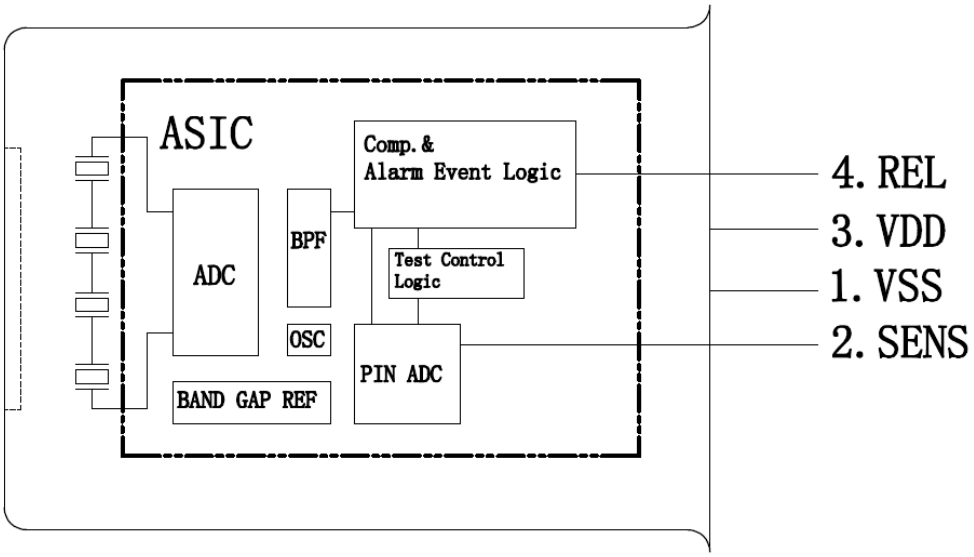


Fig.2:Circuit configuration

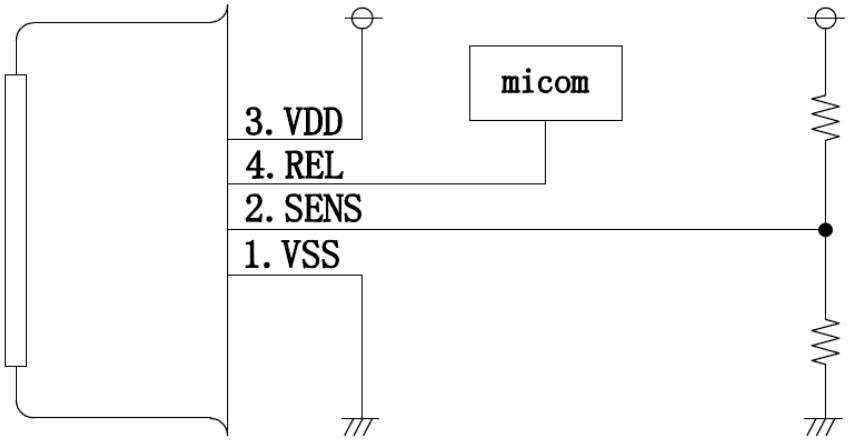


Fig.3:Basic Application Circuit Examples

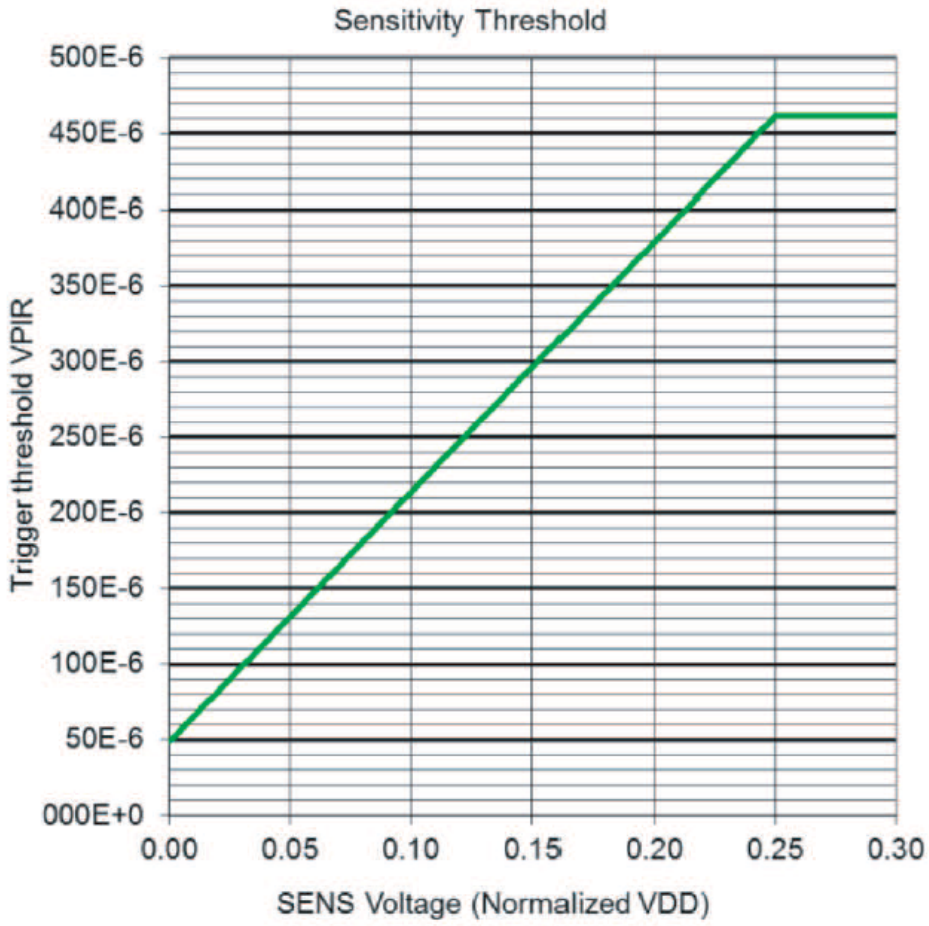


Fig.4 : Setting of detection performance