

**Pyroelectric Infrared
Radial Sensor**



<http://en.nyenba.com>

TYPE: AS312

NANYANG SENBA OPTICAL AND ELECTRONIC CO., LTD.

Digital Smart Pyroelectric Detector AS312

AS312 is a newest smart digital motion detector with a small window size. It offers a complete motion detector solution, with all electronic circuitry built into the detector housing. Only a power supply and power-switching components need to be added to make the entire motion switch.

AS312 delay time is 2 seconds.

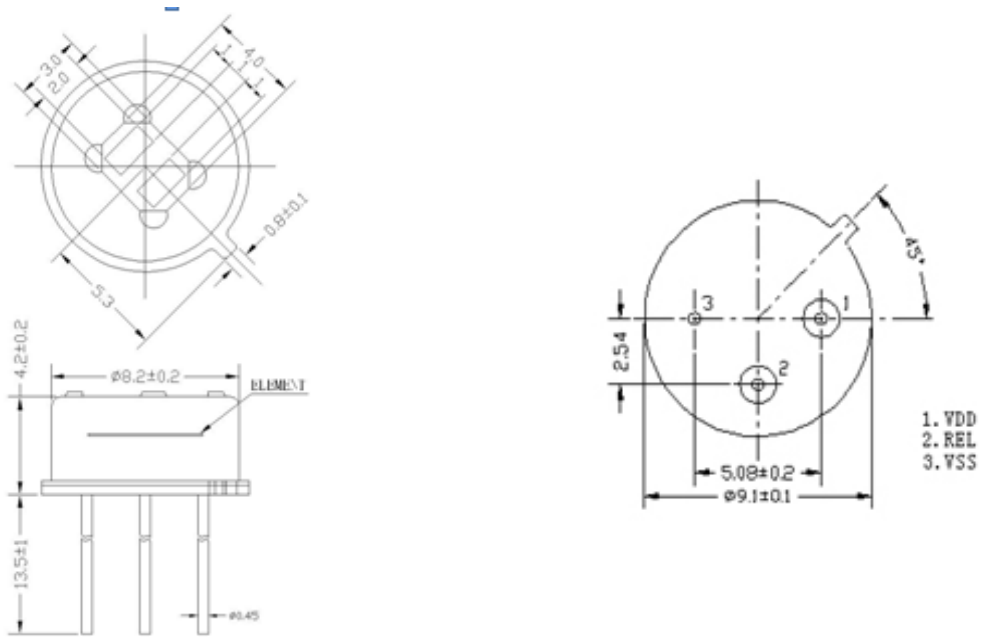
■ Features and Benefits

- Digital signal processing (DSP)
- Power adjustable, save more energy
- Two-way differential high impedance sensor input and temperature compensation
- Built-in filter, screen the interference by other frequency
- Excellent power supply rejection, Insensitive to RF conduction interference
- Schmidt REL output

■ Application

- Intelligent appliance
- Alarms
- Motion detector
- Sensor lamp, Sensor switch
- Security system
- Automatic control etc.

■ Dimension



■ Technical Data

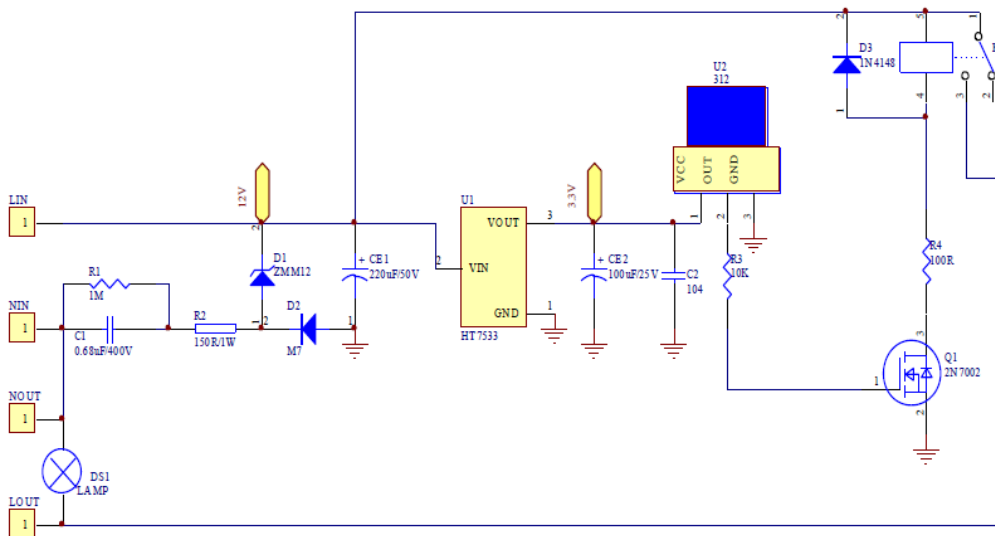
1. Maximum Ratings

Characteristic	Symbol	Min. Value	Max. Value	Unit	Remarks
Supply Voltage	VDD	-0.3	3.6	V	
Working Temperature	TST	-20	85	°C	
Max.current for pin	Into	-100	100	mA	
Storage Temperature	TST	-40	125	°C	

2.Working Conditions (T=25°C, Vdd=3V)

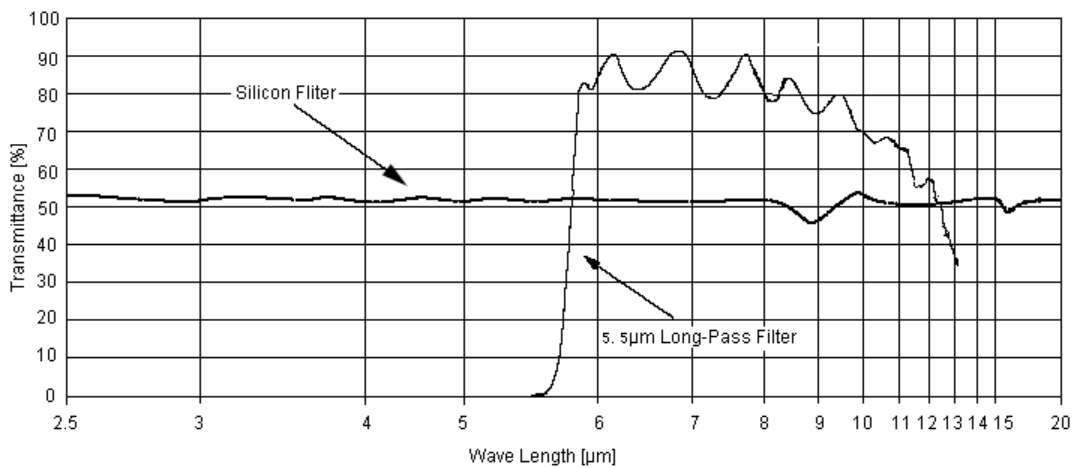
Characteristics	Sym bol	Min.	Typ e	Max.	Unit	Remarks
Supply Voltage	V _{DD}	2.7	3	3.3	V	IR=0.5mA
Working Current	I _{DD}	12	15	20	μA	
Sensitivity	V _{SEN} s		100		μV	It is not adjustable
Output REL						
Output Low Current	I _{OL}	10			mA	V _{OL} <1V
Output High Current	I _{OH}			-10	mA	V _{OL} >(V _{DD} -1V)
Lock time	T _{OL}		2.3		s	It is not adjustable
On-time	T _{OH}		2.3		s	
Oscillator & Band Pass Filter(BPF)						
Band Pass Filter(BPF) Low cut-off frequency				7	Hz	
Band Pass Filter(BPF) High cut-off frequency				0.44	Hz	
Oscillator frequency on Chip	F _{CLK}			64	kHz	
Interior Block Diagram						

Typical Application



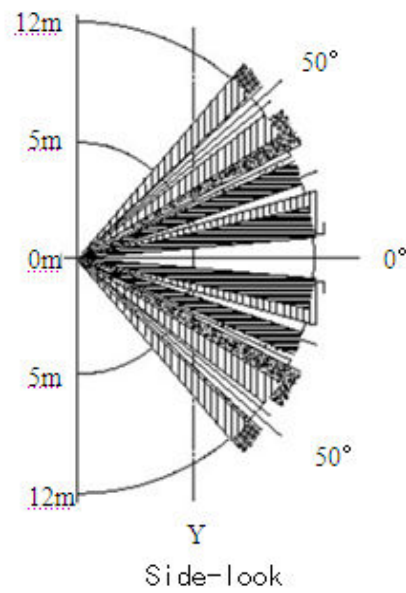
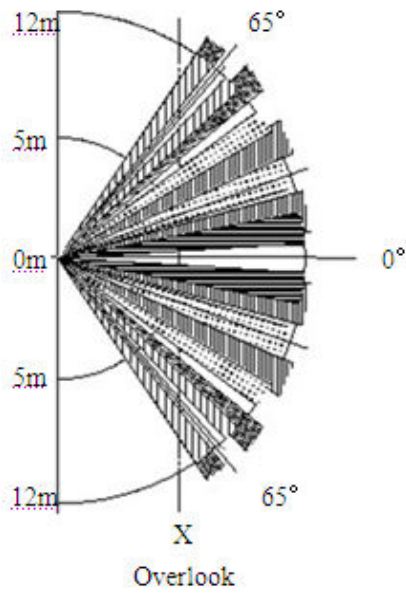
Notes: The circuit design for PIR Sensor AS312 .

Spectral Response of Window Materials

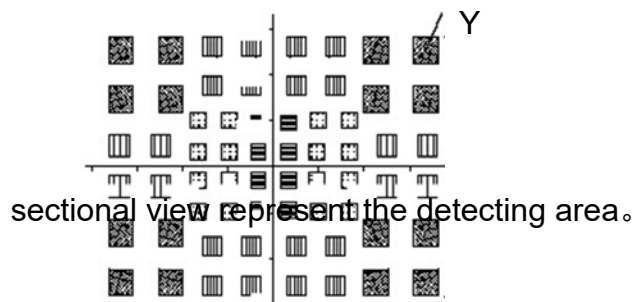


Notes: The average transitivity curve for silicon filter with 5.5μm pass IR filter

■ **Detection View**



X-Y sectional view



detecting zone

Notes: 1.X-Y

X

2.Objects with temperature difference can be

Detected in the

vertical level.

12m 9 6 3 3 6 9 12



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