



Pyroelectric Infrared Radial Sensor

TYPE: BL312

Senba Sensing Technology Co.,Ltd.

Digital Intelligent Passive Infrared Sensor BL312



BL312 is a new digital intelligent PIR sensor. This Smart digital detector 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.

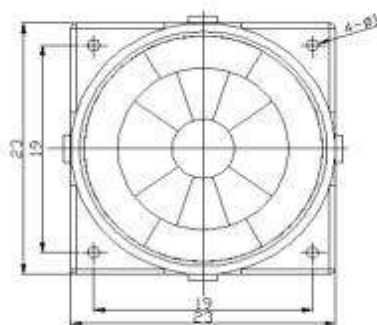
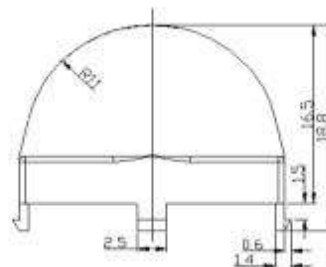
■ Features and Benefits

- Digital signal processing (DSP)
- Power adjustable, save more energy
- Two-way differential high impedance sensor input
- Built-in filter, screen the interference by other frequency
- Excellent power supply rejection, Insensitive to RF interference
- Schmidt REL output
- Low voltage, low power consumption, instantaneous settling after power up

■ Applications

- Toys
- Digital photo frame
- TV, Refrigerator, Air-conditioner
- USB Alarms
- PIR motion detection
- Intruder detection
- Occupancy detection
- Motion sensor lights
- Network camera
- LAN monitor
- Car-security system
- Automatic control for indoor, corridor and stairs lights, etc.

■ Dimension



Outside viewing for PIR sensor

Outside viewing for fresnel lens

Technical Data

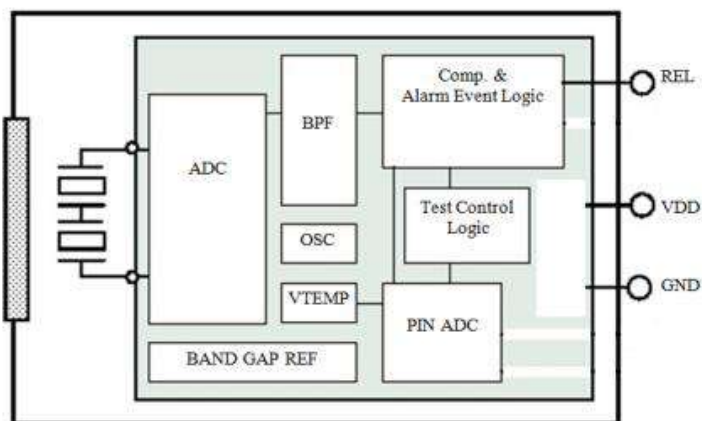
1. Maximum Ratings

Characteristics	Symbol	Min. Value	Max. Value	Unit	Remarks
Supply Voltage	V _{DD}	2.2	3	V	
Working Temperature	T _{ST}	-20	85	°C	
Current into any pin	I _{into}	-100	100	mA	
Storage Temperature	T _{ST}	-40	125	°C	

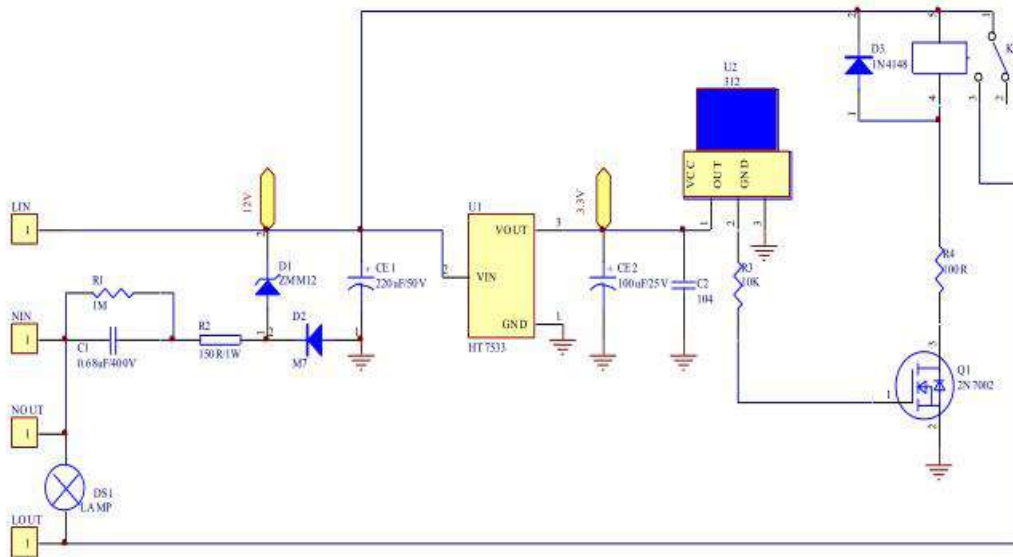
2. Working Conditions (T=25°C, V_{DD}=3V, Except other requirements)

Characteristics	Symbol	Min.	Type	Max.	Unit	Remarks
Supply Voltage	V _{DD}	2.2	2.7	3	V	I _R =0.5mA
Working Current	I _{DD}		9.5	11	μA	
Output REL						
Output Low Current	I _{OL}	10			mA	V _{OL} <1V
Output High Current	I _{OH}			-10	mA	V _{OL} >(V _{DD} -1V)
Oscillator & Filter						
Low pass filter cut-off frequency				7	Hz	
High pass filter cut-off frequency				0.44	Hz	
Oscillator frequency on Chip	F _{CLK}			64	kHz	

Interior Block Diagram



■ Typical Application



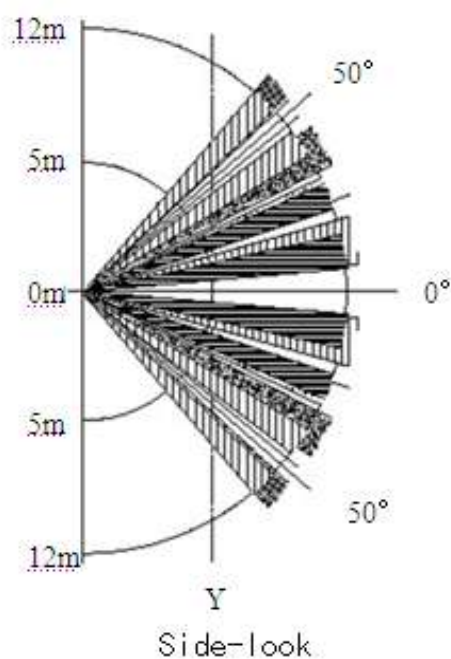
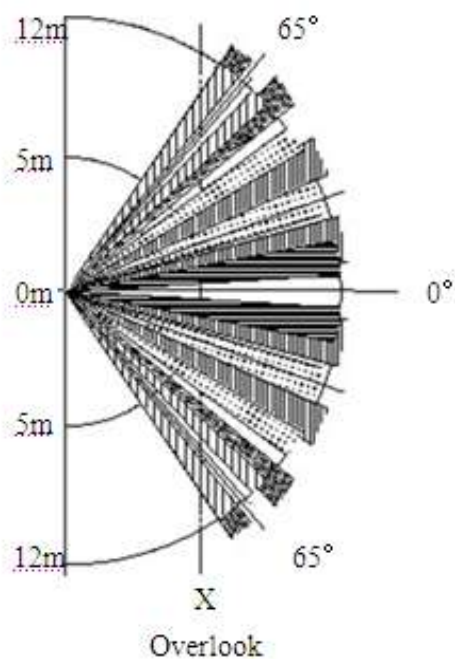
Notes: This is only for reference circuit of BL312 PIR Sensor.

■ Spectral Response of Window Materials

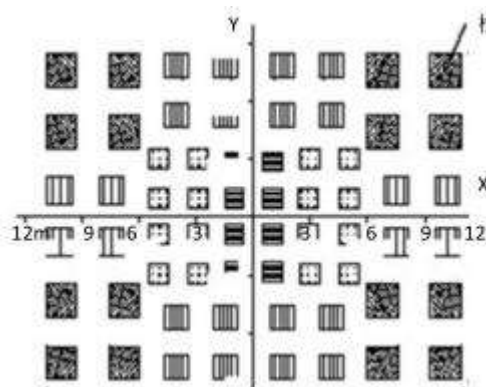
Notice:

The typical average transmissivity curve of 5.5 μ m pass IR filter is figured, which is vacuumed on silicon filter.

■ View of Field



X-Y sectional view



Y detecting zone

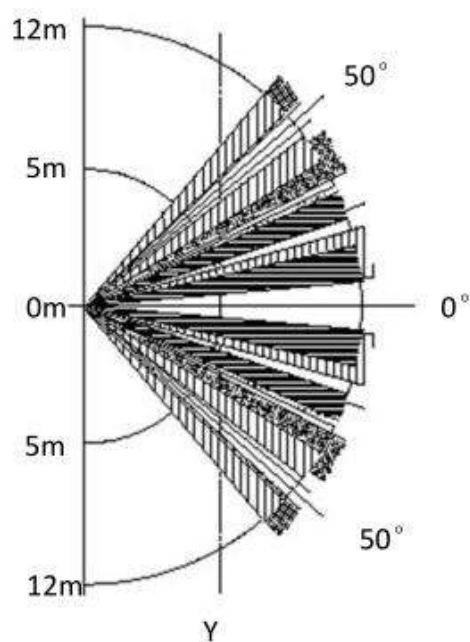
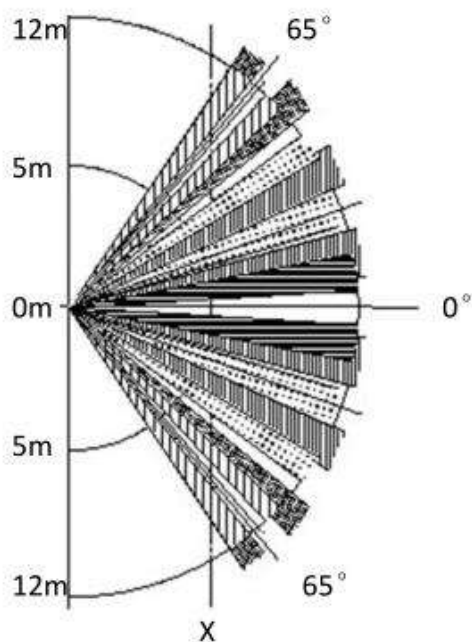
Notes: 1.X-Y sectional view represent the detecting area.

X

2.Objects with temperature difference can be Detected in the vertical level.

12m 9 6 3 3 6 9 12m

■ Fresnel Lens for Human Body Detection



SENBA OPTOELECTRONIC

Senba Sensing Technology Co.,Ltd.

Add : 2nd Floor, No.4 Building, Huawan Industry Zone, Gushu, Xixiang Street ,
Bao'an Dist., ShenZhen City China

Website: www.nysenba.com

E-mail : lily@sbcde.com.cn

Tel : 86-755-82591842

Fax : 86-755-82594762