

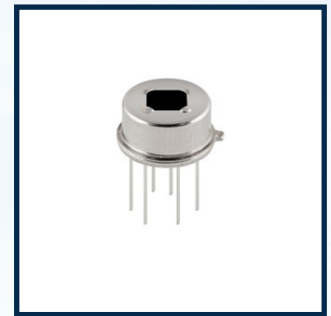
PIR DIGITAL SENSOR

P/N: RDI-9740-S000



General Description

This is a pyroelectric infrared sensor that integrates digital intelligent control circuit and human body detection sensitive element in electromagnetic shielding cover. The human body detection sensor couples the sensed human body movement signal to the digital intelligent integrated circuit chip through a very high impedance differential input circuit, and the digital intelligent integrated circuit converts the signal into an ADC digital signal. When the PIR signal exceeds the selected digital threshold There will be a timed REL level output. The OEN enable terminal enables the REL output or automatic control by the light sensor. Sensitivity and time parameters are set by voltage divider resistors. All signal processing is done on-chip.



Specifications:

Window Size: 3*4mm

Output Signal: High and low level output

Sensing Distance: 12M(lens SB-F-02)

See lens selection for different distances

Sensing Angle: 120° (horizontal direction)

Working Voltage: 2.2-3.7V

Features

Digital signal processing, no drift and aging

High power supply rejection ratio, anti-radio frequency interference (mobile phone, WiFi, etc.)

A second-order Butterworth bandpass filter with built-in infrared sensor to shield input interference at other frequencies

Sensitivity, On-time, and light sensor Schmitt REL output

On-time adjustable



Technical Data

1. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Remarks
Operating Temp	TST	-30	70	°C	
Current into any pin	Into	-100	100	mA	
Storage Temp	TST	-40	80	°C	

2. Operating Conditions (T=25°C, Vdd=3V unless stated otherwise)

Parameter	Symbol	Min	Type	Max	Unit	Remarks
Regular voltage	VDD	2.2	3	3.7	V	
Supply current	IDD	9	9.5	11	μA	
Sensitivity threshold	VSNS	90		2000	μV	
Detective Wavelength	λ	5		14	um	
Outputs REL						
Output current low	IOL	10			mA	VOL<1V
Output current high	IOH	-10			mA	VOH>(VDD-1V)
Low REL output locking time	TOL		2		s	Non-adjustable
High REL output delay time	TOH	2		3600	s	
Inputs SENS, ONTIME						
Input voltage range		0		VDD1/2	V	Adjustable between 0V and VDD/2
Input leakage current		-1		1	μA	
Input OEN						
Input low voltage	VIL	0.8V-1.2V (Hysteresis zone)		0.8	V	Voltage threshold from high to low
Input high voltage	VIH	1.2			V	Voltage threshold from low to high
Input current	II	-1		1	μA	VSS<VIN<VDD
Oscillator and Filter						
LPF cutoff frequency				7	Hz	
HPF cutoff frequency				0.44	Hz	
On chip oscillator frequency	FCLK			64	kHz	