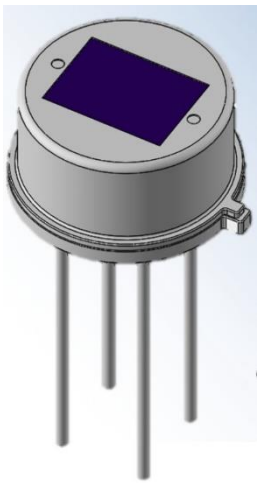
Zilog Digital PIR Sensors

Applications

- Lighting Control
- Thermostats
- Access Control
- Vending
- Video Doorbells
- Smart Displays
- Proximity Detection
- IP Cameras
- Occupancy Sensing
- Home Appliances
- Security
- IoT Sensors
- Power Management
- Multi-Zone Detection

Zilog's ZDP323 Family of Digital Passive Infrared (PIR) Sensor combines a dual element PIR sensor with all necessary signal processing and a communication interface to provide a fully integrated motion sensor delivering high performance and excellent EMI immunity for the most demanding motion detection applications.



All devices include a dual element, balanced differential (series-opposed type) passive infrared sensor and are available in a 4-pin TO-5 nickel-plated metal can.

Signal processing is performed digitally with programmable gain, bandwidth, and detection thresholds.

The ZDP323 family is available with an I^2C communications interface.

Features

- Dual-element balanced differential (series opposed) PIR sensor
- Integrated signal processing with programmable filter/gain profiles
- Programmable detection thresholds
- Standard I^2C interface with triggered output mode
- Up to 4 devices can be supported on a single I^2C bus (ZDP323Bx series)
- Elements are 0.75mm x 2.3mm spaced 0.6mm apart
- Wide Field of View: 148° x 136°
- Standard 4-pin metal TO-5 package
- 3µA operating current
- Operates with most standard PIR lenses for maximum application flexibility
- Wide operating voltage range of 1.8V to 5.5V
- Operating temperature range of -40°C to +80°C

Device Selection

There are four variations of the ZDP323 series Digital PIR Sensor available, differentiated by the I2C address. All other performance parameters remain the same.

Part Number	Description
ZDP323B1	Digital PIR Sensor; Dual Element, I^2C Address 301h
ZDP323B2	Digital PIR Sensor; Dual Element, I^2C Address 302h
ZDP323B3	Digital PIR Sensor; Dual Element, I^2C Address 303h
ZDP323B4	Digital PIR Sensor; Dual Element, I2C Address 304h
ZDIGPIRM100ZCOG	ZDP323 Digital PIR Evaluation Kit
ZDP323	Configuration and Monitor PC Application S/W

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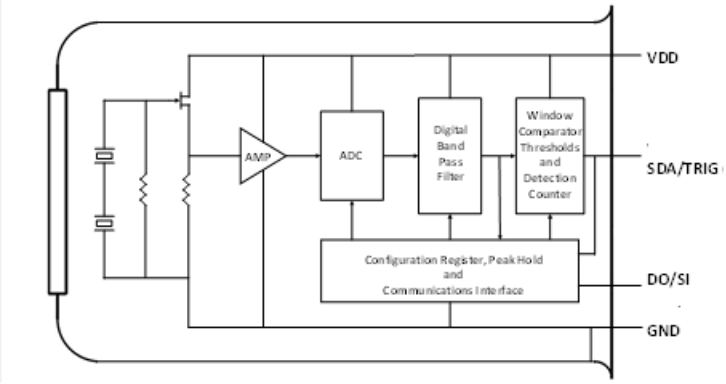
Block Diagram



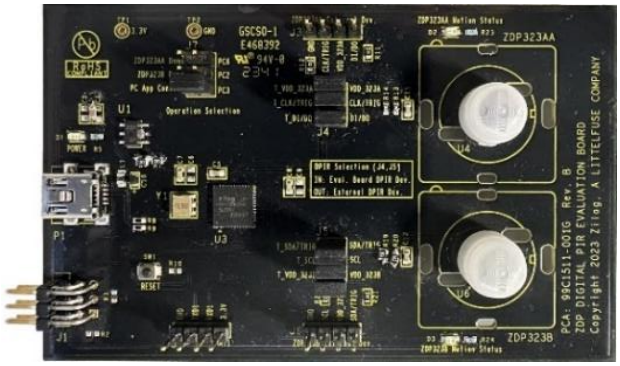
The device consists of two series opposed PIR sensing elements connected to a FET follower and all other processing functions required to detect motion. A serial communications interface is provided to configure and monitor the sensor. The sensor supports a Trigger Output to wake or interrupt a Microcontroller.

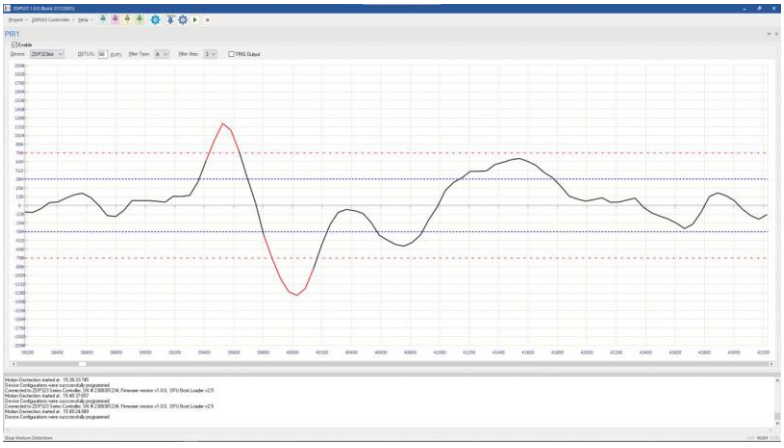
Tools

The ZDP323 Digital PIR Sensor Family comes with a convenient and flexible Evaluation Kit to demonstrate the capabilities and develop applications using the ZDP323 family of digital PIR sensors. The ZDP323 PC Application S/W is provided to graphically monitor and configure the sensors' operation during development and evaluation.

Evaluation Board

- Provides a ZDP323B1 (I^2C) sensor on-board
- Multiple clip-on and board-mount lenses provided (all available from Zilog)
- Interfaces to external ZDP323Bx sensors (and lens) for development directly on your target hardware
- MCU provides USB communication interface between on-board or external sensors
- Operates with or without ZDP323 PC Application





ZDP323 PC Application S/W

- Provides a graphical display of the sensor data in real time
- Simple to use configuration interface to adjust gain/filter profiles and threshold values
- Operates over USB interface
- Supports up to 4 sensors simultaneously
- Provides event logging to a file for long-term stability testing