

## ZMOTION PIR Sensors

Zilog's PIR sensors are designed to deliver high performance and excellent EMI immunity for the most demanding motion detection applications.

Available in both TO-5 and IR reflow compatible Surface Mount packages, Zilog PIR sensors provide an excellent balance of cost and performance.

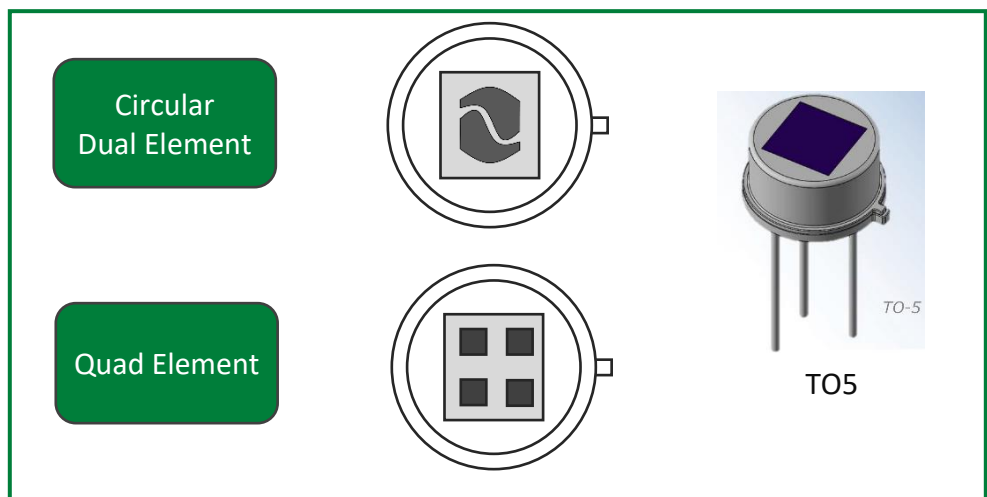
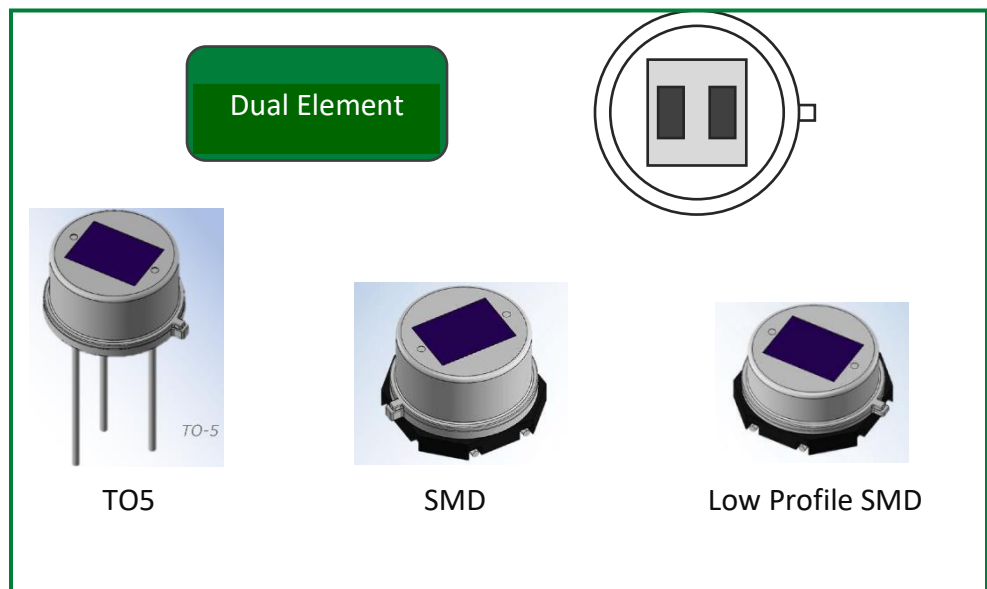
PIR sensors vary by number of elements, element size and spacing, package type, window size, EMI protection and operating voltage.

Zilog PIR sensors are suitable for applications requiring:

- Pet Immunity
- Low Power operation
- Simplified manufacturing flow
- Small footprint
- White Light Immunity
- High EMI and ESD Immunity
- Sensitive walk-up detection
- Zone detection with multiple sensors

### Applications

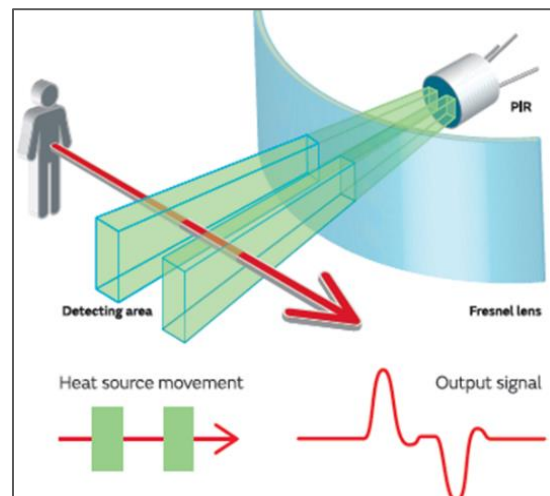
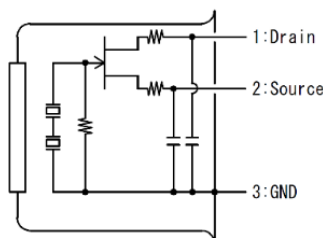
- Intrusion/Security
- Lighting Control
- Thermostats
- Access Control
- Vending
- Video Doorbells
- Smart Displays
- Proximity Detection
- Power Management
- IP Cameras
- Occupancy Sensing
- Home Appliances
- Outdoor Lighting
- IoT Sensors
- Zone Detection



## PIR Sensor Technology

PIR Sensors are used in combination with a lens and consists of two or four sensing elements behind a spectral filter window tuned to 8-13um wavelength to help block out unwanted IR energy sources.

As the focused IR energy moves across the sensor elements, the charge differential generates a small voltage at the gate of a low leakage FET. The output signal is presented from the FET Source pin. To improve EMI and ESD performance, capacitors are included inside the metal package.



## PIR Sensor Selection Table

| Part Number  | Description/Features                                                                                                          | Package         | EMI Compensation | White Light Protection | Operating Voltage | Applications                                                                                                                                                            |
|--------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZRE200GE     | Dual-element sensor<br>2 Elements (1.0mm x 2.0mm) spaced 1.0mm apart                                                          | TO-5            | -                | -                      | 3.0V – 10V        | General purpose motion detectors<br>Wall mount HVAC control, Lighting, Doorbell, IP Camera                                                                              |
| ZSBG323671   | Dual-element sensor<br>2 Elements (1.0mm x 2.3mm) spaced 1.0mm apart                                                          | TO-5            | Yes              | -                      | 3.0V – 10V        | Intrusion motion detectors<br>IP Cameras and Video Doorbells<br>Wall mount lighting/HVAC control                                                                        |
| ZSBG323611PP | Dual-element polarity matched sensor<br>2 Elements (1.0mm x 2.3mm) spaced 1.0mm apart                                         | TO-5            | Yes              | -                      | 1.0V – 15V        | Battery powered applications<br>Dual PIR Intrusion motion detectors<br>Multi-PIR zone and proximity detection                                                           |
| ZSFG223611   | Dual-element sensor<br>2 Elements (0.75mm x 2.3mm) spaced 0.6mm apart                                                         | TO-5            | Enhanced         | Yes                    | 1.0V – 15V        | Battery powered applications<br>Intrusion motion detectors<br>IP Cameras and Video Doorbells<br>Wall mount lighting/HVAC control                                        |
| ZSLM323511   | Dual-element sensor<br>2 Elements (0.75mm x 2.3mm) spaced 0.6mm apart<br>Sensor height matches standard TO-5                  | Low Profile SMD | Enhanced         | Yes                    | 1.0V – 15V        | Battery powered applications<br>Intrusion motion detectors<br>IP Cameras and Video Doorbells<br>Wall mount lighting/HVAC control, Home Appliances                       |
| ZSFM323511   | Dual-element sensor<br>2 Elements (0.75mm x 2.3mm) spaced 0.6mm apart<br>Same size as TO-5 supporting standard clip-on lenses | SMD             | Enhanced         | Yes                    | 1.0V – 15V        | Battery powered applications<br>Intrusion motion detectors<br>IP Cameras and Video Doorbells<br>Wall mount lighting/HVAC control, Home Appliances                       |
| ZSFG469711   | Circular dual-element sensor<br>2 Elements with tapered circular shape<br>Provides improved walk-up detection                 | TO-5            | Yes              | -                      | 1.0V – 15V        | Battery powered applications<br>Ceiling mount 360° motion detectors<br>IP Cameras and Video Doorbells<br>Intrusion motion detectors<br>Wall mount lighting/HVAC control |
| ZSBG446671   | Quad-element sensor<br>4 Elements (1.0mm x 1.0mm) spaced 1.0mm apart<br>Symmetrical sensor organization                       | TO-5            | Yes              | -                      | 3.0V – 10V        | Ceiling mount 360° motion detectors<br>Intrusion motion detectors<br>Lighting and HVAC control                                                                          |