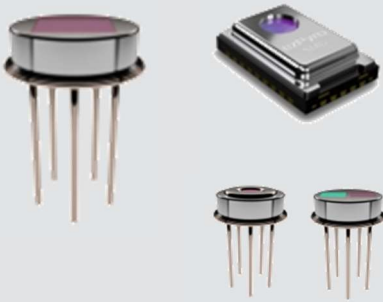


AFBR-S6 IR detection

Pyroelectric Detectors Family



Key Features

- Fast response < 20 ms
- High responsivity >200,000 V/W
- Thermal and mechanical stability

Digital ezPyro™

- Fully integrated
 - Digital readout
 - Power supply
 - Gain and filtering
- Reduced system BOM cost
- Small SMD package
- Low power consumption, 3.5 – 20 μ A

Analog

- Single and multi-channel
- Integrated gain
- Common TO-39 package

Overview

Broadcom® introduces a range of thin film infrared (IR) analog and digital detector components in TO-39 or SMD packaging. The analog detectors are available in single- and multi-channel versions. The ezPyro™ digital detectors combine high-quality sensors with a high level of configurable electric integration. These sensors are highly reliable and are used in a wide range of IR applications such as gas and flame sensing.

Effective March of 2022 Broadcom acquired all assets from Pyreos Ltd. This allows Broadcom to grow the spectral detection range into Mid-IR, as well as the related IP and know-how for both the analog and digital pyroelectric detectors. Moreover, Pyreos's thin film IR detectors are expanding Broadcom's expertise into Mid-IR detection and its application space.

Broadcom's thin film pyroelectric technology

Broadcom thin film pyroelectric IR sensors for gas and flame detection offer exceptionally high responsivity and class leading thermal and electrical stability. This high performance current mode sensor achieves a high signal to noise and offers a fast, stable response over a wide operating frequency range.

Gas sensing IR detectors

Broadcom IR sensors, typically incorporated in NDIR detection module, allow for detection of carbon dioxide, methane, refrigerant and anesthesia gases, and more. We serve markets of gas leak detection as well as medical and consumer breath analysis including capnography. Product releases: optimized sensitivity detector for methane and/or medical carbon dioxide, new SMD package allowing high wavelength (>5 μ m) refrigerants detection, and digital dual channel detector.

Flame sensing IR detectors

Broadcom SMD and TO-39 flame sensing products offer improved detection distance and a wide field of view. Our TO-39 sensors are used in industrial 3IR type systems. Our flame detector in SMD package is a suitable candidate for the industrial as well as consumer market solutions. Product releases: Hydrogen flame detector.

AFBR-S6 Thin Film Pyroelectric Infrared Sensors



ezPyro SMD

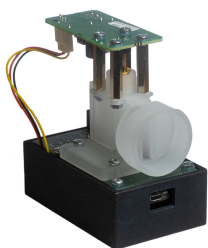
ezPyro TO and Analog TO

Analog TO

AFBR-S6 Pyroelectric Sensor Variants, Key Performance & Package Types

Operational Conditions			
	ezPyro SMD	ezPyro TO	Analog TO
Part number starting with	AFBR-S6EPYxxxx	AFBR-S6EPRxxxx	AFBR-S6PYxxx
Package	SMD 5.65 x 3.7 mm	TO-39	TO-39
Aperture	1x Ø1.65 mm	1x 5.2 x 4.2 mm	1x 5.2 x 4.2 mm 2x 2.6 x 2.6 mm 1x ø2.5 mm
Element size	0.64 x 0.64 mm	1 x 1 mm	1 x 1 mm
Time constant	10 ms	12 ms	12 ms
Supply voltage	1.75 to 3.6 V	1.75 to 3.6 V	2.7 to 8 V
Supply current	3.5 – 80 µA	3.5 – 20 µA	60 µA
Integrated functions	Configurable: gain, filtering, sampling rate, power modes	Configurable: gain, filtering, sampling rate, power modes	Amplification
Readout	Digital I ² C	Digital I ² C	Analog
Field of view	90°	110°	110°, 90°, ...

AFBR-S6 Development Tools



ezPyro SMD CO₂ Gas Sensing Kit

ezPyro SMD Flame Sensing Evaluation Kit

ezPyro SMD Prototyping System