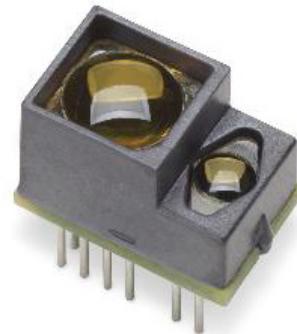


AFBR-S50MV85G

Multi-Pixel Distance and Motion Measurement Sensor



Description

The Broadcom® AFBR-S50MV85G multi-pixel distance and motion measurement sensor, based on the optical time of flight principle, excels by supporting up to 3000 frames per second with up to 16 illuminated pixels.

The sensor has been developed with a special focus on industrial-sensing applications and gesture sensing with the need for highest speed and with small size and very low power consumption. Through its best-in-class ambient light suppression of up to 200k Lux, it can be used in outdoor environments.

The technology has been optimized to measure the distances up to 10m (black target) accurately with an accuracy of < 1% on a wide variety of surfaces. It works equally well on white, black, and colored surfaces, as well as metallic reflective surfaces.

The module has an integrated 850-nm laser light source and uses a single voltage supply of 5V. Data is transferred using a digital SPI interface.

Features

- Integrated 850-nm laser light source
- Between 9 to 16 illuminated pixels
- FOV $6.2^\circ \times 6.2^\circ$ ($1.55^\circ \times 155^\circ/\text{pixel}$)
- Very fast measurement rates of up to 3 kHz
- Variable distance ranges up to 10m
- Operation up to 200k Lux ambient light
- Works well on all surface conditions
- SPI digital interface (up to 20 MHz)
- Single voltage supply 5V
- Integrated clock source
- Laser Class 1
- Accuracy < 1%
- Drop-in compatible within the AFBR-S50 Sensor Platform

Applications

- Industrial sensors
- Gesture sensing
- Distance measurement
- Robotics
- Automation and control

Specifications

- Voltage supply range: 4.5V to 5.5V
- SPI interface compatible with 3.3V
- Active current consumption typ. < 25 mA
- Operation temperature: -20°C to 70°C
- Size: $\sim 11.3 \text{ mm (L)} \times 7.3 \text{ mm (W)} \times 7.8 \text{ mm (H)}$
- Weight: 0.7 grams

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