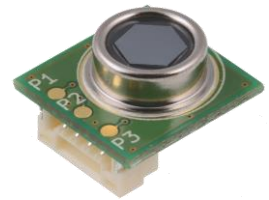# MITSUMI

Digital output infrared sensor

# MMS701L11A

## (Monocular type_Low temperature support)

## Outline

This product is an infrared sensor using MEMS thermopile technology. This sensor can measure surface temperature of objects without touching them by capturing infrared ray radiation from the objects. The product outputs a digital value of surface temperature of the object. Temperature of the sensor itself can also be measured. I2C is adopted for the interface.
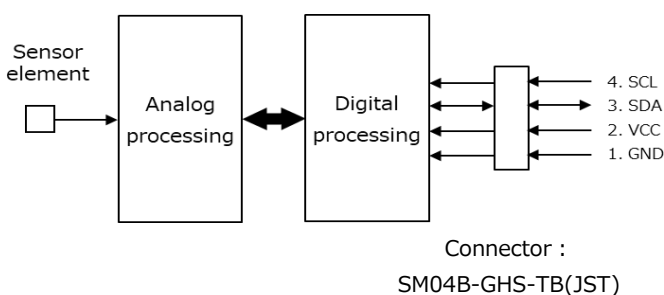
## Applications

Home electric appliances (refrigerator, freezer, air conditioner, etc.), Detection of human face temperature and other contactless temperature monitoring.

## Features

① Low noise level

　　Noise-equivalent temperature difference (NETD):

　　below 0.06℃

② Temperature value directly available

　　Ambient temperature compensated value of object

　　temperature is output. Easy for rapid application engineering.

③ Easily mountable with a connector

　　No need to prepare dedicated board for the sensor.

　　Other electrical connection is possible (ex. pin header).

④ MMS701L11A exhibits good temperature accuracy even

　　at in sub-zero temperatures.

　　For reference, +/-2.0℃ at -10℃

## Specification

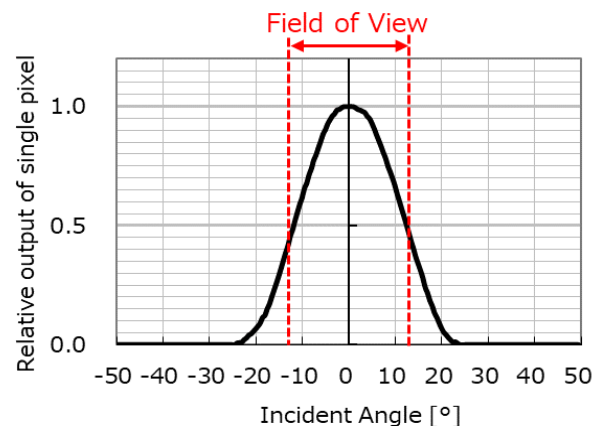| Item | Specification |
|---|---|
| Supply Voltage Range | 4.5 to 5.5VDC (5.0VDC typ.) |
| Object Temp. Range | -40℃ to 80℃ |
| Operating Temp. Range | -40℃ to 80℃ |
| Field of View (FOV) | 25° |
| Pixels | 1px |
| NETD[*1] | 0.06℃ |
| Temp. Accuracy | ±1.5℃ max.　(@Calibration point[*2]) |
| Current Consumption | 3.5mA typ. |
| Interface | I2C |
| Size | 11.6(W) x 12(D) x 8.8(H)mm [*3] |

*1 NETD : Noise-equivalent temperature difference
*2 Calibration point : ①Ta= 5℃, Tx= 5℃　②Ta= 5℃, Tx=25℃
　　　　　　　　　　　③Ta=25℃, Tx=25℃
　　Ta: Reference temperature, Tx: Object temperature
*3 Connector is included.

## Block Diagram



Connector :
SM04B-GHS-TB(JST)

## Typical Performance Characteristics



Field of View (FOV): The field of view is defined as angle range obtained 50% or more sensor output relative maximum output.

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