

# PRELIMINARY

Digital output infrared sensor

# MMS702 (1x8 array)

### Outline

This product is an infrared sensor using MEMS thermopile technology. MMS702 has an array of 8 elements in a row. This sensor can measure the surface temperature of objects without touching them by capturing infrared ray radiation from objects. MMS702 can measure temperatures from each angular region divided over a wide range of angles. The product outputs a digital value of surface temperature of the object. I2C is adopted for the interface. Temperature of the sensor itself can also be measured.

## Applications

Home electric appliances (refrigerator, air conditioner, microwave oven, etc.), Detection of human body, gestrure and other contactless temperature monitoring.

#### Features

1 Low noise level

Noise-equivalent temperature (NETD): below 0.06℃

- Pinpoint temperature can be aquired over a wide angle
  FOV over 50° in 8 pixels (5.5° per pixel)
- ③ Temperature value directly available Ambient temperature compensated value of object temperature is output. Easy for rapid application engineerir
- ④ Easily mountable with a connector

No need to prepare dedicated board for the sensor. Other electrical connection is possible (ex. pin header).

#### **Block Diagram**



# Specification

Item	Specification	Unit
Supply Voltage Range	4.5 to 5.5	VDC
Object Temperature Range	5 to 50 <sup>*1</sup>	ĉ
Operating Temperature Range	0 to 60	°C
Field of View (FOV)	X: 54.5 (5.5° per pixel)	degree
	Y: 5.5	degree
Pixels	8 (X:1, Y:8)	Pixels
Noise-equivalent temperature (NETD)	0.06	°C
Temperature Accuracy	±1.5 (@calibration point <sup>*2</sup> )	°C
Current Consumption	5.0	mA
Interface	I2C	-
Size <sup>*3</sup>	11.6(W) x 12(D) x 10.7(H)	mm

\*1 Flexible on the temperature range spec.

\*2 Calibration point : ①Tx=25℃, Ta=25℃ ②Tx=45℃, Ta=25℃
 ③Tx=45℃, Ta=45℃ Tx: Object temperature, Ta: Reference temperature
 \*3 Connector is included.





Field of View (FOV): defined as the angular range of incident angles where the infrared ray signal is half of the peak.



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