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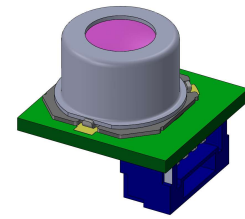
Digital output infrared sensor

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℃

② 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 engineerin

④ Easily mountable with a connector

　No need to prepare dedicated board for the sensor.

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

Specification

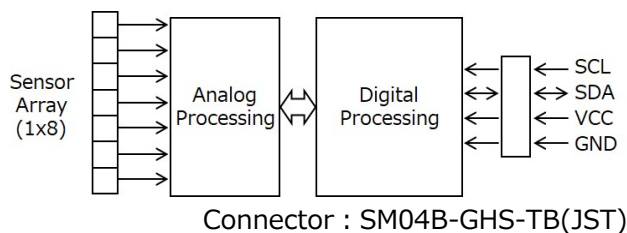| Item	Specification	Unit
Supply Voltage Range	4.5 to 5.5	VDC
Object Temperature Range	5 to 50 [*1]	℃
Operating Temperature Range	0 to 60	℃
Field of View (FOV)	X: 54.5 (5.5° per pixel)	degree
	Y: 5.5	degree
Pixels	8 (X:1, Y:8)	Pixels
Noise-equivalent temperature (NETD)	0.06	℃
Temperature Accuracy	±1.5 (@calibration point[*2])	℃
Current Consumption	5.0	mA
Interface	I2C	-
Size[*3]	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.

Block Diagram

Connector : SM04B-GHS-TB(JST)

Typical Performance Characteristics

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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