MITSUMI

Digital output infrared sensor

MMS702 (Array type)

Outline

This product is an infrared sensor using MEMS thermopile technology. MMS702 has an array of eight 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 digital values of surface temperatures of the objects. 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 difference (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 engineering.

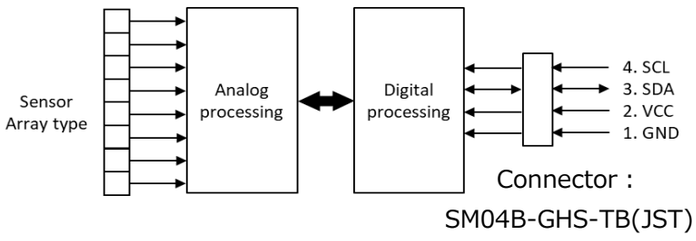
④ Easily mountable with a connector
No need to prepare dedicated board for the sensor. Other electrical connection is possible (ex. pin header).

Specification

Item	Specification	Unit
Supply Voltage Range	4.5 to 5.5	VDC
Object Temperature Range	5 to 100 *1	℃
Operating Temperature Range	-20 to 100	℃
Field of View (FOV)	X: 54.5 (5.5° per pixel)	degree
	Y: 5.5	degree
Pixels	8 (X:8, Y:1)	Pixels
NETD*2	0.06	℃
Temperature Accuracy	±1.5 (@calibration point*3)	℃
Current Consumption	5.0	mA
Interface	I2C	-
Size*4	11.6(W) x 12(D) x 10.7(H)	mm

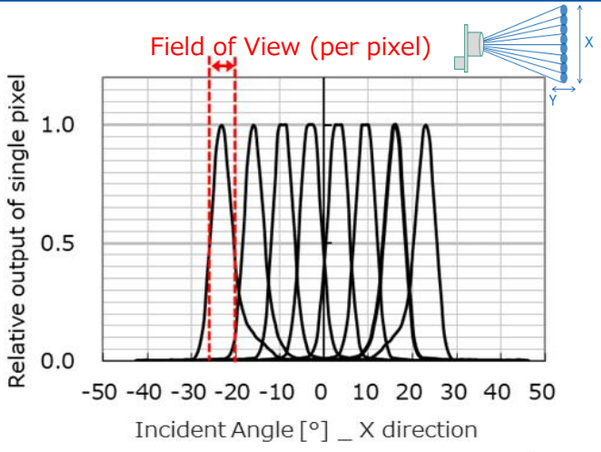
*1 Flexible on the temperature range spec.
*2 NETD : Noise-equivalent temperature difference
*3 Calibration point : ①Ta=25℃, Tx=25℃ ②Ta=25℃, Tx=45℃
③Ta=45℃, Tx=45℃
Ta: Reference temperature, Tx: Object temperature
*4 Connector is included.

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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