PRELIMINARY

Product image for illustration purposes only.

Digital output infrared sensor

MMS701 (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. I2C is adopted for the interface. Temperature of the sensor itself can also be measured.

Applications

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

Features

① Low noise level

Noise-equivalent temperature (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).

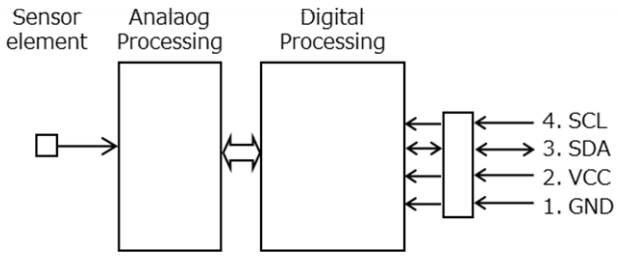
Specification (Draft)

ITEM	SPECIFICATION
Supply Voltage Range	4.5 to 5.5VDC (5.0V typ.)
Object Temperature Range	-40℃ to 80℃
Operating Temperature Range	-40℃ to 80℃
Field of View (FOV)	25°
Pixels	1 pixel
Noise-equivalent temperature (NETD)	0.06℃
Temperature Accuracy	±1.5℃ max. (@calibration point)
Current Consumption	3.5mA typ.
Interface	I2C
Size	11.6(W)x12(D)x8.8(H)mm*

Calibration point : ①Tx=5℃、Ta=5℃ ②Tx=25℃、Ta=5℃
③Tx=25℃、Ta=25℃ Tx:The object temp.、Ta:The reference temp.

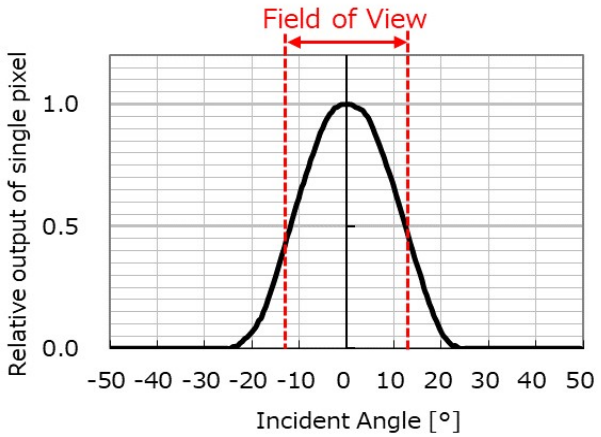
*Connector is included.

Block Diagram



Typical Performance Characteristics

In case of 1 pixel product



Field of View (FOV): defined as the angular range of inceident infrared ray at half signal point.

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Mitsumi Electric CO.,LTD.
Semiconductor Business Division
Strategy Engineering Department
tel:+81-46-230-3470

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Non-contact sensor module capable of "directly" capturing infrared energy emitted from an object

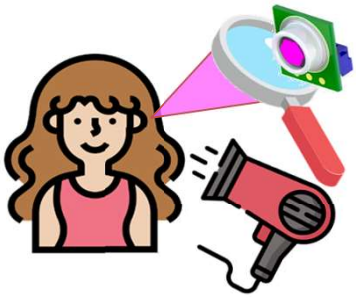
The infrared energy emitted from the object can be converted to temperature and output together with the temperature sensor output of the sensor itself. We have developed a non-contact IR (infrared) sensor module that can output digital signals (I2C).

◆Example of use(How sensors are used)

●Microwave Oven
・Uneven heating solution

●Refrigerator (ice box)
・Reduce ice making time/quick cooling

●Hair dryers
・Adjustment of hot air temperature
・Reduction of hair damage



●Facial beauty equipment
・Skin temperature measurement

●Clothes dryer

●Non-contact thermometers

◆Development Schedule

MMS701	TS	ES	MP
	Feb.'23	Mar.'23	Jun.'23

＊Please understand that the schedule is subject to change without notice.
＊Other specifications Please contact us individually for more information.