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.

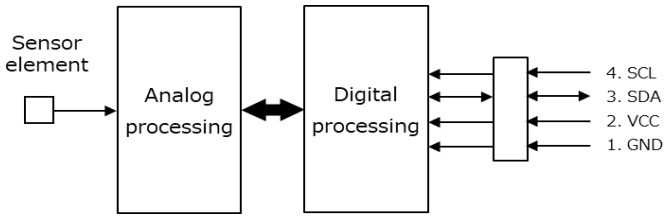
For reference, +/-2.0℃ at -10℃

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

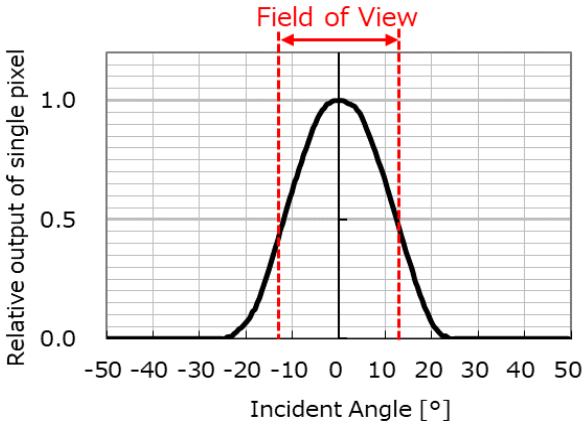
*1 NETD : Noise-equivalent temperature difference
*2 Calibration point : ①Ta= 5℃, Tx= 5℃ ②Ta= 5℃, Tx=25℃
③Ta=25℃, Tx=25℃
Ta: Reference temperature, Tx: Object temperature
*3 Connector is included.

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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