

General Description

The YY-MDB-M is a digital infrared thermopile sensor that facilitates the non-contact temperature measurement. Housed in a small TO-5 package with digital interface, the sensor integrates thermopile sensor, amplifier, A/D, DSP, MUX and communication protocol.

The YY-MDB-M is factory calibrated in wide temperature ranges: -40°C~85°C for the ambient temperature and -20°C~300°C for the object temperature. The measured temperature value is the average temperature of all objects in the Field of View of the sensor.

The YY-MDB-M offers a standard accuracy of $\pm 2\%$ around room temperatures. The digital platform supports easy integration. Its low power budget makes it ideal for battery powered applications, including household electrical appliances, environmental monitoring, HVAC, smart home/building control and IOT.

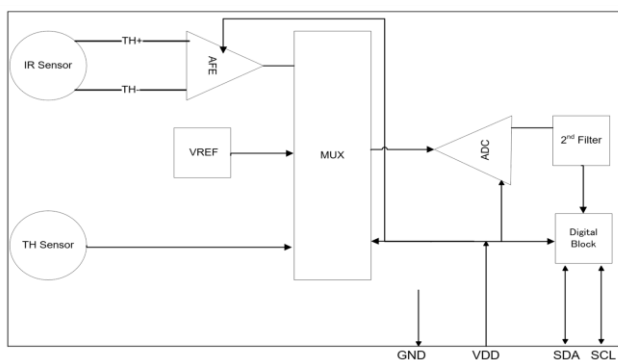
Features and Benefits

- Digital temperature output
- Factory calibrated in wide temperature ranges
- Communication protocol and Easy integration
- Reduced system component
- 2.7V to 5.5V Wide Supply Voltage Range
- Operating Temperature Range: -40°C to +85°C
- Field of View 13 degree (Typ)

Applications

- Consumer electronic
- Household electrical appliances
- HVAC
- IOT

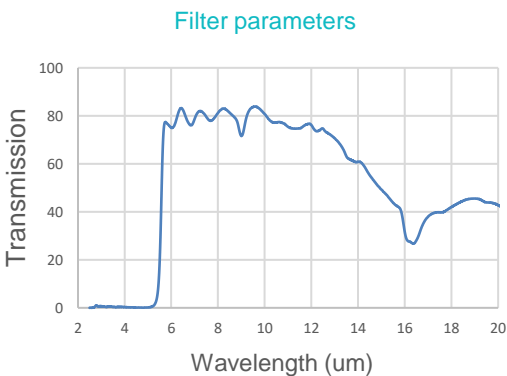
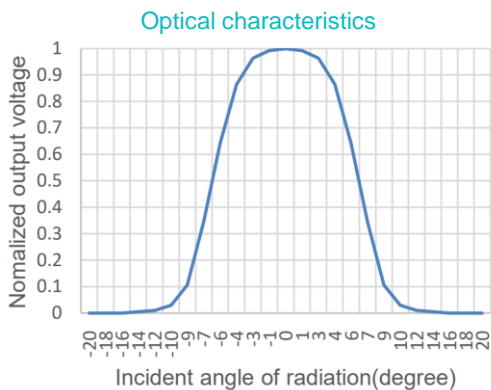
Block Diagram(Optional)



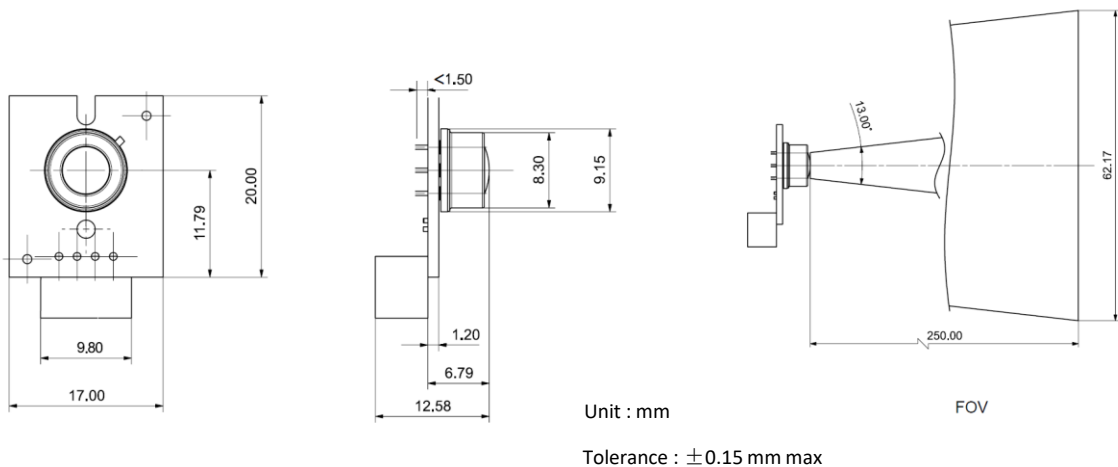
Electrical Characteristics($V_S = 5.0V$, $T_A = +25^\circ C$, unless otherwise noted.)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
VDD	Supply voltage		2.7	3.3	5.5	V
IDD	Supply current	Continuous mode@3V		1		mA
		Sleep Mode@3V		28		μA
T _{obj}	Object temperature range		-20	-	300	°C
T _{Res}	Resolution of reading			0.1		°C
I ² S	Interface speed			50		kHz
SA	Slave address			0x20		
DRR	Data refresh rate			1		Hz
I _{leak}	SCL,SDA Leakage			0.1		μA
	SDA Output logic low	IOL=3 mA			VDD*0.2	V
	SDA Output logic high	IOH=-50 μA	VDD*0.9			V
	SCL,SDA Input logic low				VDD*0.2	V
	SCL,SDA Input logic high		VDD*0.8			V

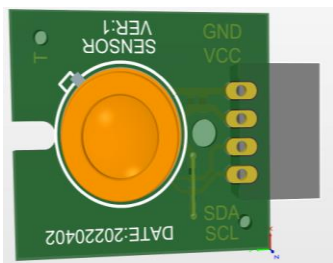
Optical Characteristics



Mechanical Drawings



Connector Pin Assignment



Pin Name	Pin Type	Functions description
GND	P	Connect to VSS
VDD	P	Connect to VDD
SDA	IO	IIC Serial Data Input/Output
SCL	IO	I ² C Serial Clock Input/Output

Connector P/N: 292250-4 TE/AMP

Revision History

Revision Number	Release Date	Description
Rev1	2022.05.25	Initial Release