YY-M8A-V4
8*8 Thermopile Array Module

General Description

YY-M8A-V4 is an 8*8 thermopile array module having a digital output through UART-TTL interface. The module has the characteristics of non-contact, accurate temperature measurement and quick response. Not only the module can measure temperature in its FOV , but also having the function of Living-things such as human-body detected with long distance.

Features and Benefits

- Factory Pre-calibrated
- Low Cost And 4-Pin Common Connector
- 5V Power Supply,3.3-TTL UART Interface With Current Consumption Less Than 25mA
- FOV Options- 24°×24°
- Programmable Refresh Rate From 0.5Hz To 5Hz
- Operating Temperature Range: 0℃ To +50℃
- Human-Body Detected Up To 6M Long

Applications

- Gesture control for interactive appliance
- Temperature measurements
- Household electrical appliances
- Movement detection

Block Diagram
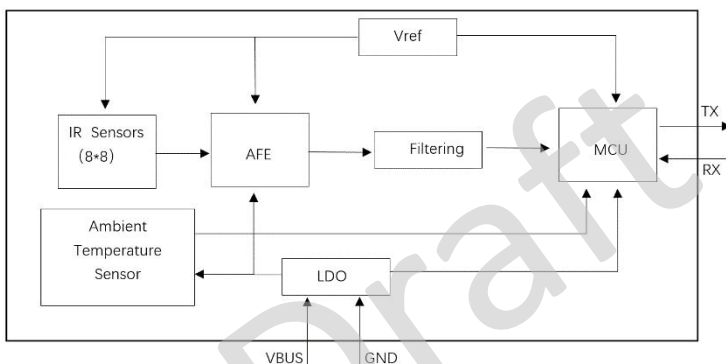
Electrical Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{dd}	Supply voltage		4.5	5.0	5.5	V
I_d	Working current	VDD=5.0V	20	22	25	mA
I_{sleep}	Sleep current	VDD=5.0V	80	85	100	uA
FOV	Filed of view			24		°
B	Baud rate		9600	115200	912600	bps
V_{ttl_h}	I/O high voltage		2.8	3.3	3.6	V
V_{ttl_h}	I/O low voltage		-0.3	0	0.3	V
T_{wake}	Wake up time		90	100	110	ms

Thermometer Sensing Characteristics

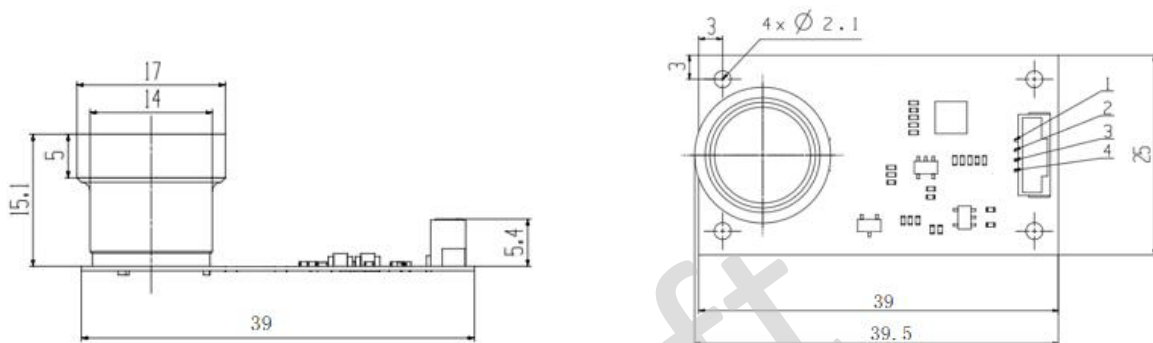| Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
T_{amb_range}	Ambient reading range	VDD=5.0V	0		60	℃
T_{amb_res}	Ambient resolution			0.1		℃
T_{obj_range}	Object temperature range	VDD=5.0V	0		300	℃
T_{obj_res}	Object resolution			0.1		℃
T_{obj_acc}	Sensing accuracy			±1		℃

Optical Characteristics

Optical characteristics
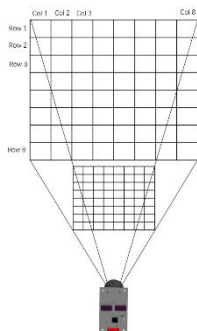
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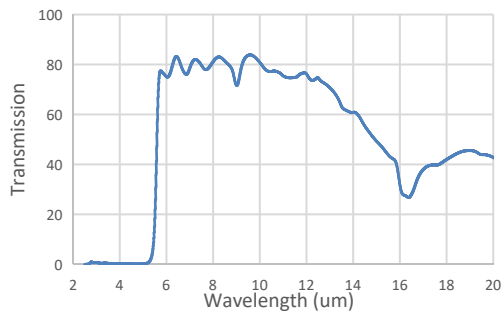
Mechanical Drawings (Unit : mm)

Pin Definitions and Descriptions

Pin Name	Pin No.	Type	Description
GND	1	Source	Power Ground
RXD	2	TTL-3.3V	Module UART Receiving Data
TXD	3	TTL-3.3V	Module UART Sending Data
VDD	4	Source	Power Supply

Revision History

Revision Number	Release Date	Description
V1.0	2022/9/29	Initial Release