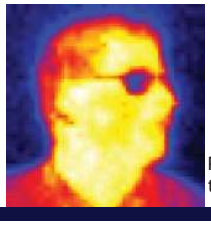
Infrared Thermopile Array Sensors

HEIMANN Sensor
HEIMANN SENSOR GMBH



Picture of a face profile,
taken with the HTPA32x32d L5.0

HTPA32x32d

Infrared Thermopile Array Sensors for Remote Temperature Measurement and Imaging Applications

The HTPA32x32d is an infrared array sensor with a resolution of 32x32 pixel in a TO39 housing.

Due to the digital I²C interface only 4 pins are needed. It has a built-in EEPROM to store all calibration data and a 16 bit ADC. The speed can be set internally via the sensor clock and ADC-resolution between 15 Hz (highest resolution) and 27 Hz (lower resolution).

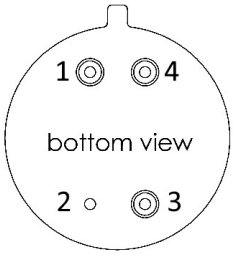
Available Optics

Optic	L1.6	L1.7	L1.9	L2.1	L4.0	L5.0	L5.0*
FoV [°]	105x105	120x120	100x100	94x94	41x41	34x34	34x34
Length of cap [mm]	4.3	6.7	7.47	4.45	16.3	7.63	10.41
F-number	0.8	0.8	0.8	0.8	0.7	0.85	0.85

* Same optics but an external aperture for better performance is added.
Other optics are available upon request.

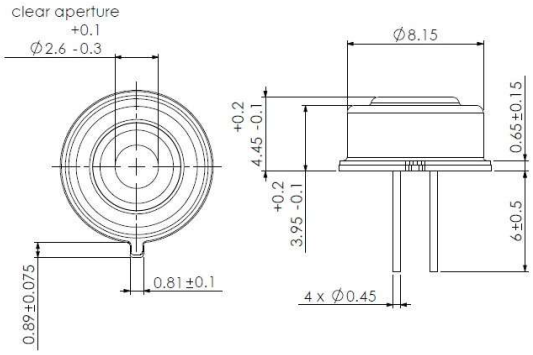
Pin Configuration

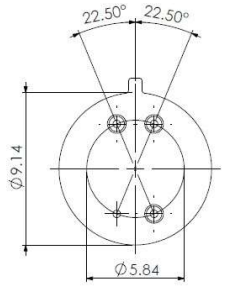
Pin	Function
1	SDA
2	VSS
3	VDD
4	SCL



Dimensions

HTPA32x32L2.1,TO39 housing





Characteristics

Parameter	Value	Tolerance	Unit
Supply voltage (DC)	3.3	+0.3/-0.0	V
Current consumption	6.2	± 1.2	mA
Clock frequency (Sensor)	5	± 3	MHz
Ambient temperature range	-20 to 85		°C
Object temperature range	-20 to >1000		°C
Framerate (full frame)	2 to 27		Hz
Framerate (quarter frame)	8 to 110		Hz
NETD (best optics)	135		mK@1Hz*

* NETD for required framerate: $NETD@1\,Hz \times \sqrt{Framerate}$

Modifications reserved Rev.17 / 2025-04-04

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