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 [Si]	L1.7 [Si] ***	L1.9 [Ch]	L2.1 [Si]	L4.0 [Ge] *	L5.0 [Ge] *	L5.0 [Ge] **
FoV [°]	96	120	99	94	40	33	33
Length of cap [mm]	4.3	6.97 ***	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

* Ge optics ensure the best performance thus command a higher price.
** Same optics but an external aperture for better performance is added.
*** Preliminary
Other optics are available upon request.

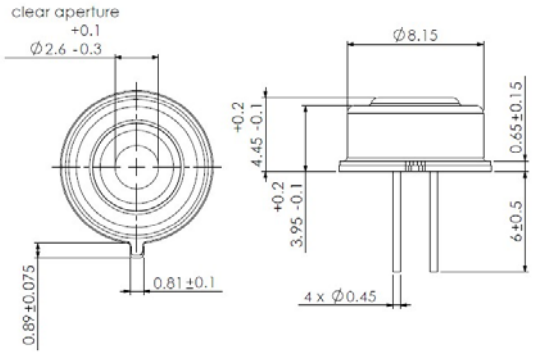
Pin Configuration*

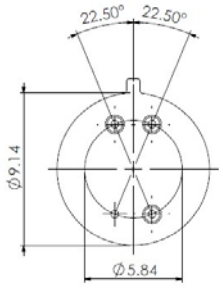
Pin	Function
1	Clock (I²C)
2	3.3 VSupply
3	Ground
4	SDA (I²C)

* HTPA32x32L2.1, TO39 housing (other optics are available)

Dimensions

HTPA32x32L2.1, TO39 housing





Characteristics

Parameter	Value	Tolerance	Unit
Supply voltage (DC)	3.3	+0.3/-0.0	V
Current consumption	5.5	± 1.0	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.13 / 2023-05-03

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