

Picture of two people

HTPA16x16d

Infrared Thermopile Array Sensors for Remote Temperature Measurement and Imaging Applications

The HTPA16x16d is an infrared array sensor with a resolution of 16x16 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 40 Hz (highest resolution) and 70 Hz (lower resolution).

Available Optics

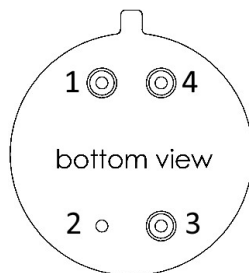


Optic	L1.0	L1.6	L2.1	L5.0*
FoV [°]	>90 x 90**	46 x 46	44 x 44	16 x 16
Length of cap [mm]	3.48	4.45	4.45	16.3
F-number	0.8	0.8	0.8	0.7

* Same optics but an external aperture for better performance is added.
** Estimated FOV

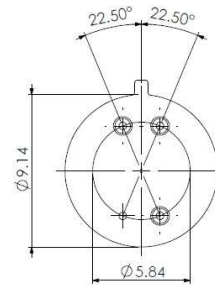
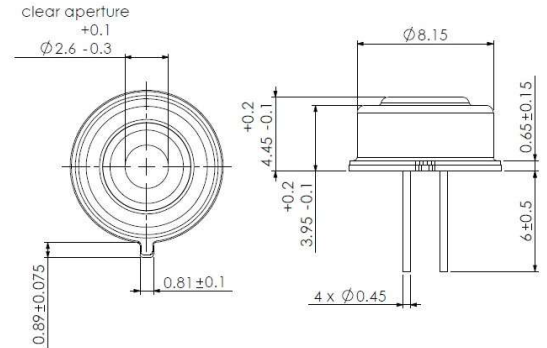
Pin Configuration

Pin	Function
1	SDA
2	VSS
3	VDD
4	SCL



Dimensions

HTPA16x16L2.1, TO39 housing



Characteristics

Parameter	Value	Tolerance	Unit
Supply voltage (DC)	3.3	+0.3/-0.0	V
Current consumption	3.9	± 0.9	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 70		Hz
Framerate (quarter frame)	8 to 140		Hz
NETD (best optics)	130/30**		mK@1Hz*

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