

Picture of two persons

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	L10 [Si]	L16 [Si]	L21 [Si]	L50 [Ge]*
FoV [°]	>90***	46	44	16
Length of cap [mm]	3.48	4.45	4.45	16.3
F-number	0.8	0.8	0.8	0.7

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

Pin Configuration*

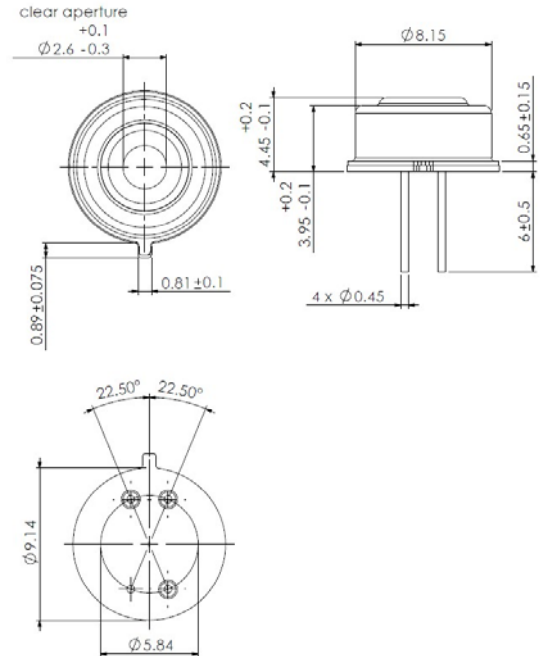
Pin	Function
1	Clock (I ² C)
2	3.3 VSupply
3	Ground
4	SDA (I ² C)

* HTPA16x16L2.1, TO39 housing (other optics are available)



Dimensions

HTPA16x16L2.1, 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 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