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Datasheet

Thermopile Module With Lens Optics
Type HIS Lx FL5.5 (LS) Tx

General information about HTIA models are described in

"Application Note Thermopile Module Analog" .

Features and Benefits

- Small size of standard TO39 package with 6 pins
- 5V supply voltage
- 2 analogue voltage outputs (thermopile sensor and temperature reference)
- Low response time of 5ms
- Lens optics of focal length 5.5mm resulting in 8:1 D:S ratio
- Absorber size 0.61mm x 0.61mm
- Factory calibrated to default object temperature range upto 300°C
- IR transmission 50% within wavelength range 5.5µm to 13.5µm
- Optional with internal temperature compensation (type HIS LC)

Ordering Information

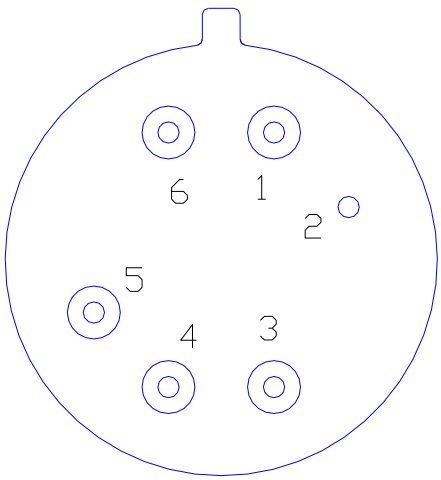
HIS -> Heimann thermopile sensor and integrated circuit in TO39 housing
Lx -> „L" cap TO39 for lens FL5.5
x->„U" sensor signal not compensated ;
x->„C" sensor signal internal compensated
FL5.5 -> lens type – silicon uncoated , focal length 5.5mm
(LS) -> optional: „LS" with lens shade, standard without
Tx -> object temperature upper limit

Sample: HIS LU FL5.5 T100 : without internal compensation , object temperature range up to 100°C within output voltage range

Pin Configuration

Pin	*Symbol*	*Description*
1	VDD	Positive supply voltage
2	VSS	Negative supply voltage / Ground (0V) (connected to housing)
3	AOT	Analogue output voltage Thermopile sensor
4	AOR	Analogue output voltage Temperature reference
5 6	SCLK CM	Programming pins for factory setting

Bottom View



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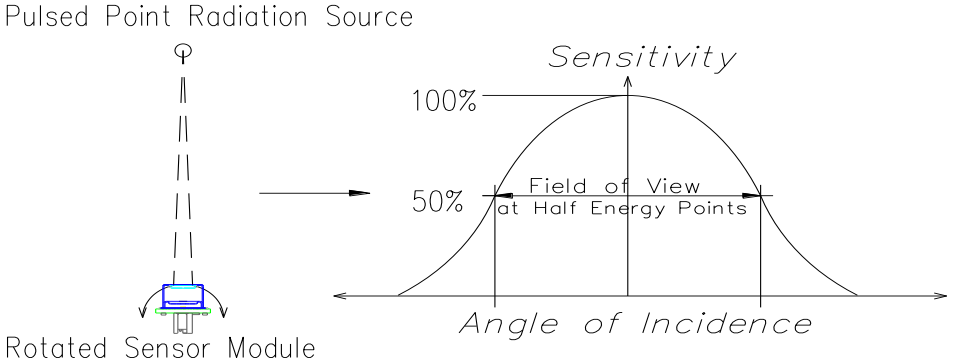
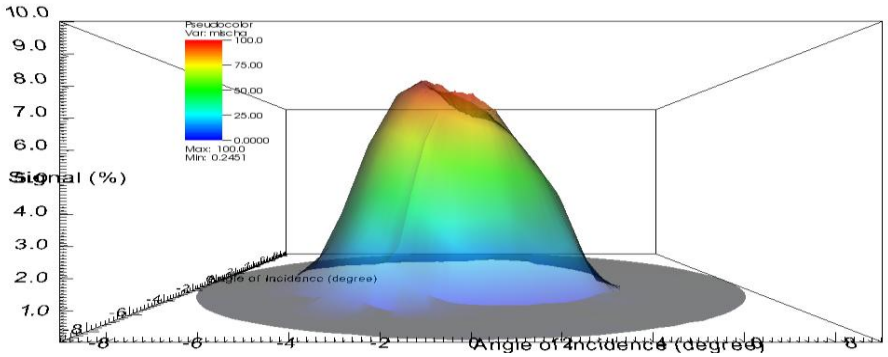
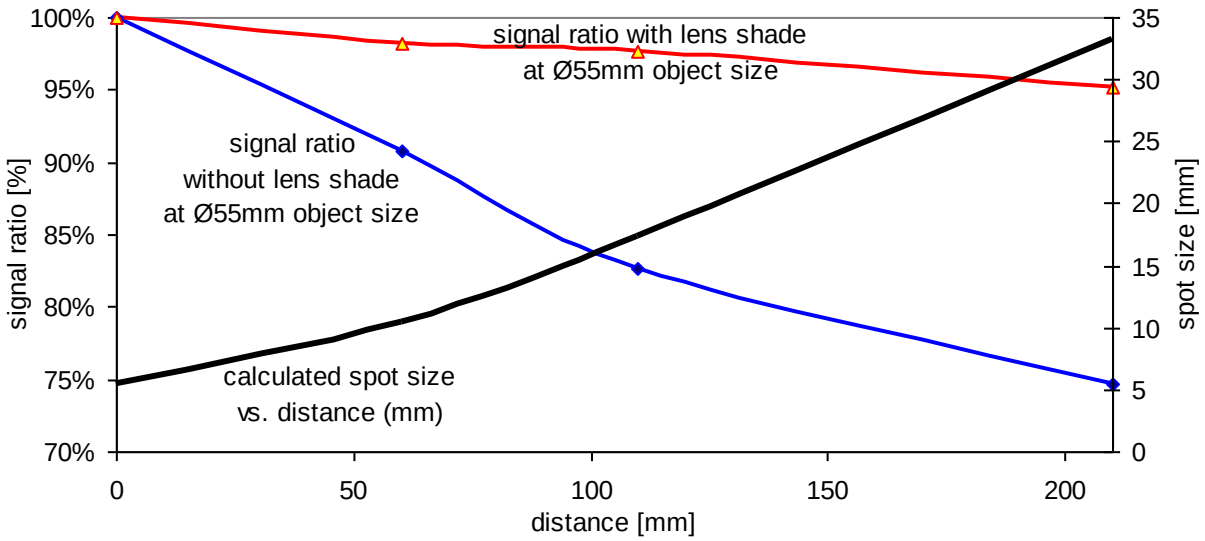
Field of View, Spot Size and Attenuation of Stray Light





parameter	limits			unit	conditions
	Min	Typ	Max		
Optical axis		0		degree	Sensor view direction
Field of View		6		degree	50% energy points
D:S Ratio		8:1			Distance to spot size



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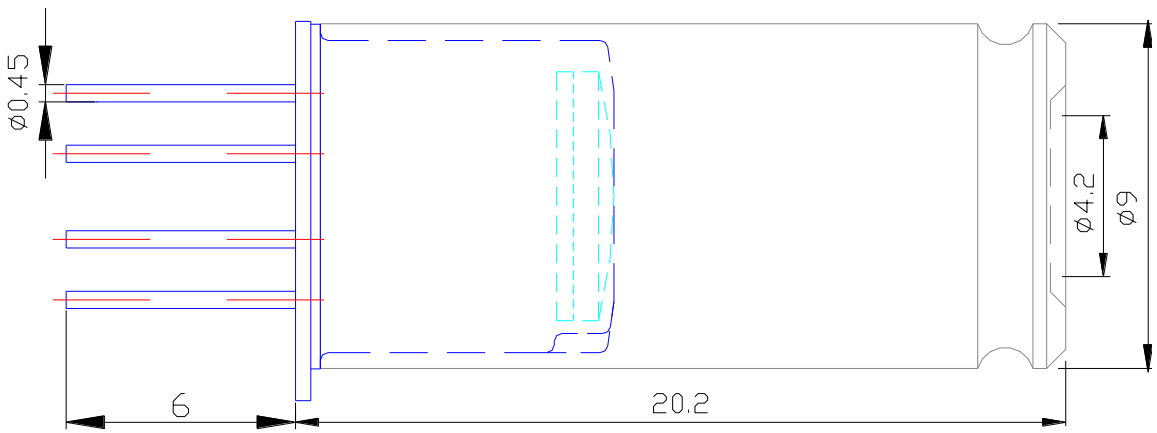
Electrical Specifications

Parameter	*Typical Value*	*Unit*	*Condition*
Supply voltage VDD	4.5 .. 5 .. 5.5	V	+Vs
Supply voltage VSS	0	V	-Vs , Ground
Supply current	1 .. 1.7 .. 2.2	mA	Without load
Output voltage range	0.3 .. VDD-0.3	V	
Start up time after POR	Max. 0.5	sec	Electrical start up
Sensor absorbing area	0.61 x 0.61	mm²	Type TP1
Sensor gain	150 .. 5500		Output AOT , preadjusted
Response time sensor	5	msec	t/T = 63%
Temperature reference voltage at 25°C	1.225	V	Output AOR
Sensitivity temperature reference	15 (10..16)	mV/°C	Linear ; output AOR ; type "U" ; (type "C")
Infrared transmission (Silicon uncoated)	50	%	Wavelength range 5.5µm .. 13.5µm
Operating temperature	-20.. 120	°C	

Dimensions with Lens Shade



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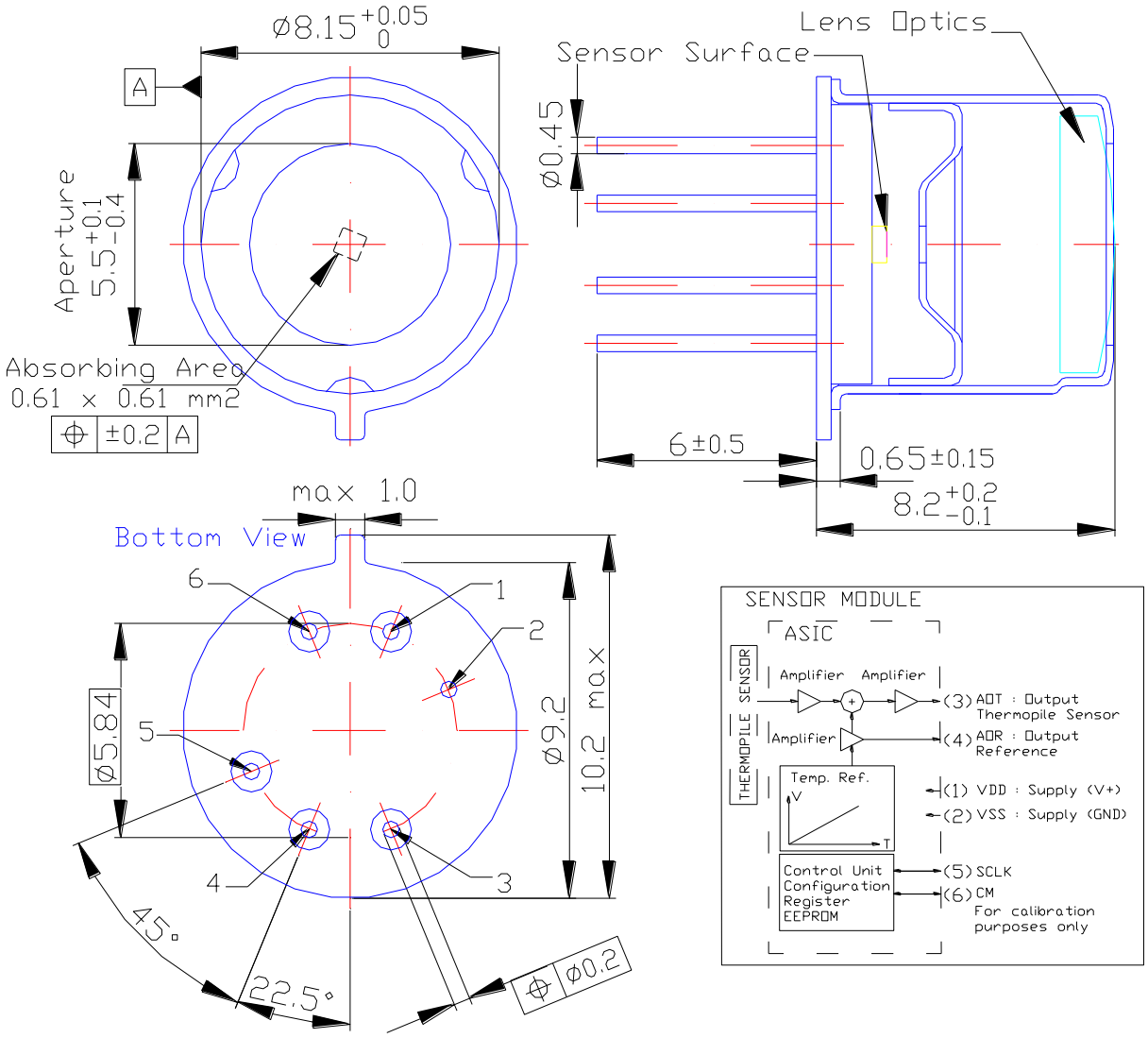
Dimensions



Liability

Changes or modifications at the product which haven't influence to the performance and/or quality of the device haven't to be announced to the customers in advance. Customers are requested to consult with Heimann Sensor representatives before the use of Heimann Sensor products in special applications where failure or abnormal operation may directly affect human lives or cause physical injury or property damage. The company or their representatives will not be responsible for damage arising from such use without prior approval.

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