

Datasheet Integrated Sensor

Type HIS Ax1 Fx G5600



Features and Benefits

- Small size, low cost, integrated ASIC with analog outputs
- 4-pin metal housing TO-39 / TO-5
- Operating range 4.5V to 5.5V , -40°C to 120°C
- Sensor gain preset to 5600
- Integrated linear temperature reference with sensitivity of typical 15mV/°C
- Large variety of available filter types for different application

Ordering Information

HIS -> Heimann thermopile sensor and ASIC in a TO39 housing
 Ax1 -> „A” standard cap TO39 ; „X” sensor chip (list) ; „1” ASIC HTIA
 Fx -> application-specific filter type (list)
 G5600 -> sensor gain factory setting 5600

Sensor Chip Selection			
Parameter	Sensor chip "1"	Sensor chip "2"	Sensor chip "3"
Absorbing area	0.61x 0.61mm ²	1.2 x 1.2mm ²	2.1 x 2.1mm ²
Sensitivity	50 V/W	38 V/W	22 V/W
Voltage response	19 Vmm ² /W	55 Vmm ² /W	97 Vmm ² /W
Resistance	85 kOhm	85 kOhms	85 kOhm
Time constant	5ms	8ms	15ms

Filter Selection		
Filter Type	Application	Specification
F4.26	CO2 gas detection	NBP CWL 4.26µm HPB 180nm
F4.27	CO2 gas detection	NBP CWL 4.27µm HPB 90nm
F4.43	CO2 gas detection	NBP CWL 4.43µm HPB 60nm
F4.64	CO gas detection	NBP CWL 4.64µm HPB 180nm
F3.3	HC gas detection	NBP CWL 3.30µm HPB 160nm
F3.4	HC gas detection	NBP CWL 3.375µm HPB 190nm
F3.91	gas reference	NBP CWL 3.91µm HPB 90nm
F5.30	NOx gas detection	NBP CWL 5.30µm HPB 180nm
F5.5	temperature detection	LWP Cut On 5.5µm
F8-14	temperature detection	BP HPP 8µm to 14µm

Please contact Heimann customer service for special filter requirements.

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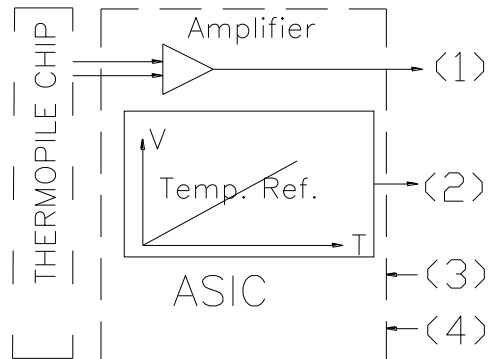
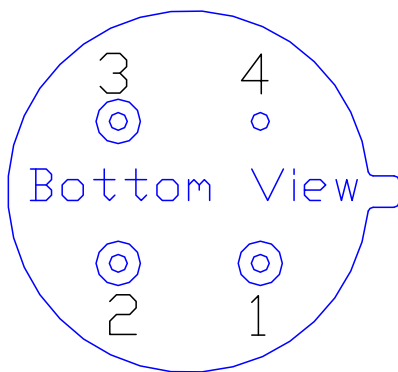


Operating Conditions

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
PSRR	>40	dB	
Output voltage range	0.15 .. (VDD-0.15)	V	
Start up time after POR	Max. 0.5	sec	Electrical start up
Zero input sensor signal	1.225	V	Output AOT
Sensor gain preset	5600	V/V	Output AOT
Temp. ref. voltage at 25°C	1.225	V	Output AOR
Sensitivity temp. reference	15	mV/°C	Linear ; Output AOR
Field of view	70	degree	Sensor chip TP1
Operating temperature	-40.. 120	°C	

Pin Assignment

Pin No	Symbol	Description
1	AOT	Amplified analog thermopile sensor output voltage
2	AOR	Analog temperature reference output voltage
3	VDD	Positive supply voltage
4	VSS	Negative supply voltage / Ground (0V)



Liability

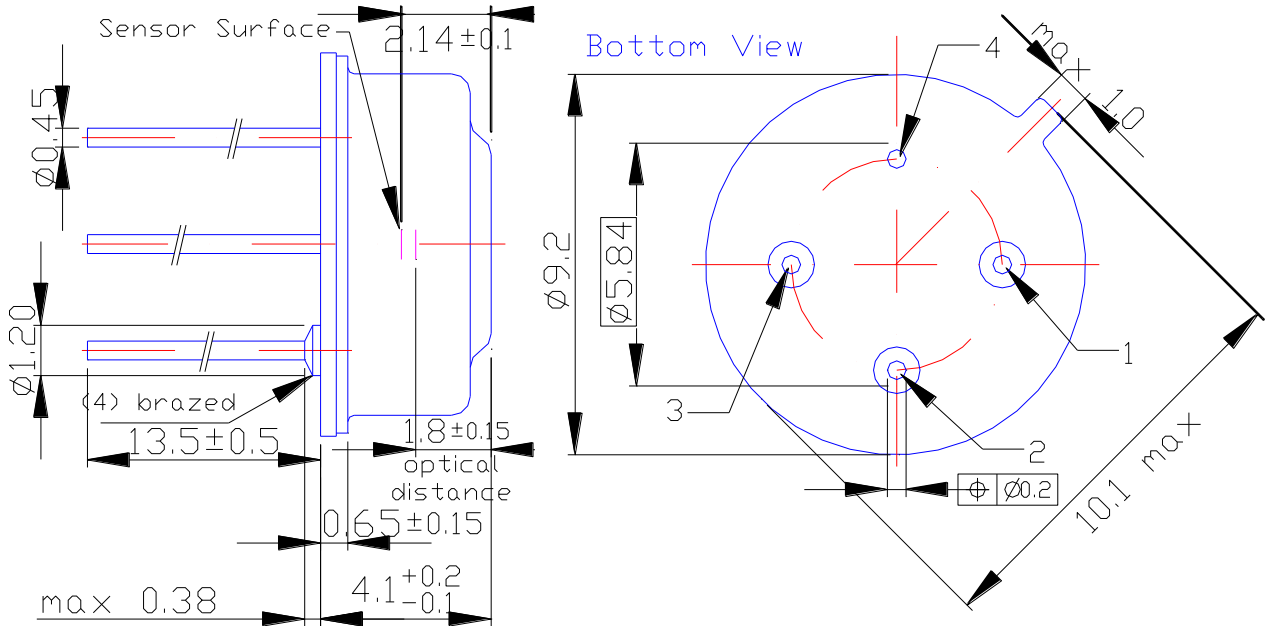
Changes or modifications at the product which haven't influence to the performance and/or quality of the device haven't to be announced to the customers in advance. Customers are requested to consult with Heimann Sensor representatives before the use of Heimann Sensor products in special applications 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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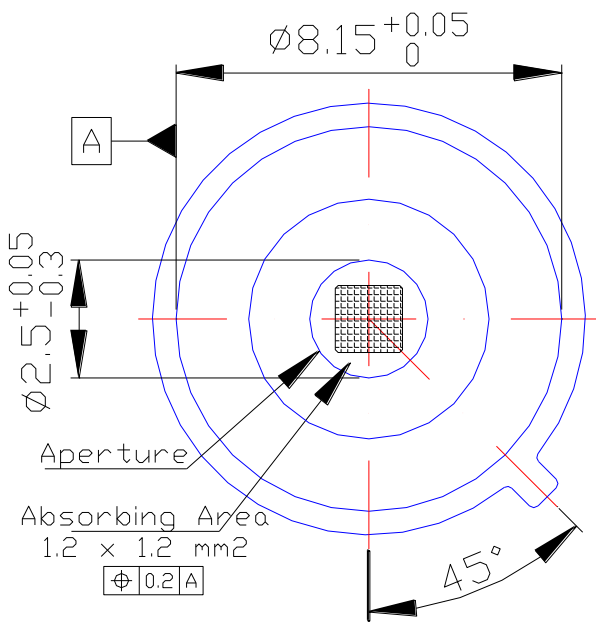
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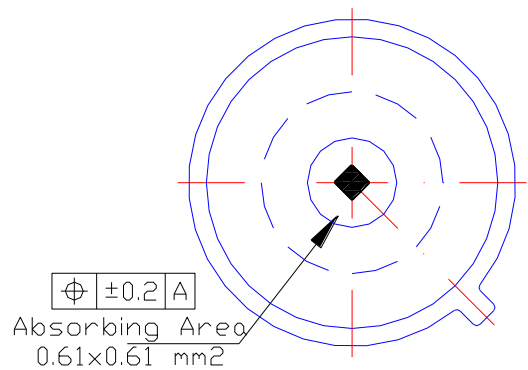
Dimensions



HIS A21 ..



HIS A11 ..



HIS A31 ..

