

Datasheet Thermopile Module

Type HIS Ax1 Fx Gx 6PIN



Features and Benefits

- Small size, low cost, integrated ASIC with analog outputs
- 6-pin metal housing TO5/TO39 with access to programming options
- Operating range 4.5V to 5.5V , -40°C to 120°C
- Selectable sensor gain factor within range 150 to 5600
- Integrated linear temperature reference with a sensitivity of typical 15mV/°C
- Large variety of available filter types for different applications

Ordering Information

HIS -> Heimann thermopile sensor and ASIC in TO39 housing with 6 pins
 Ax1 -> „A” standard cap TO39 ; „X” sensor chip (list) ; „1” ASIC type HTIA
 Fx -> selectable filter type (list)
 Gx -> sensor gain factor selectable (gas detecting application)

Samples: HIS A21 F4.26-180 G4000 6PIN

Sensor Chip Selection			
Parameter	Sensor chip "1"	Sensor chip "1C"	Sensor chip "2"
Absorbing area	0.61x 0.61mm ²	0.76 x 0.76mm ²	1.2 x 1.2mm ²
Sensitivity	58 V/W	52 V/W	44 V/W
Voltage response	22 Vmm ² /W	30 Vmm ² /W	63 Vmm ² /W
Time constant	5ms	7ms	10ms

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	Long Wave Pass Cut On 5.5µm
F8-14	temperature detection	Bandpass HPP 8µm to 14µm

Please contact Heimann customer service for special filter requirements.

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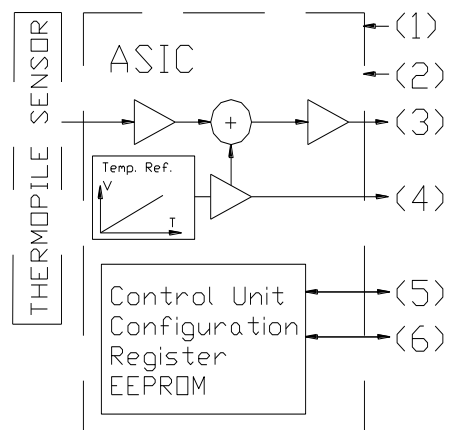
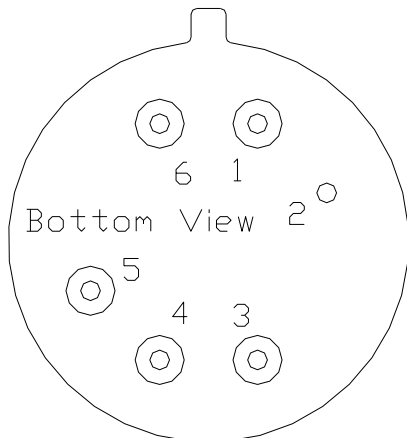


Operating Conditions

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
Output load	> 20	kOhm	For optimal operation
Output resistance	< 10	Ohm	F < 100Hz
Zero input sensor signal	1.225	V	Output AOT
Sensor gain setting range	150 .. 5500	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..100	degree	Sensor TP1 to TP2
Operating temperature	-40.. 120	°C	

Pin Assignment

Pin No.	Symbol	Description
1	VDD	Positive supply voltage (+5V)
2	VSS	Negative supply voltage / Ground (0V)
3	AOT	Amplified analogue sensor output voltage
4	AOR	Analogue temperature reference output voltage
5	SCLK	Programming mode only – serial clock input
6	CM	Programming mode only - mode selection



HEIMANN Sensor GmbH
 Grenzstr. 22
 D-01109 Dresden
 Rohrbergstr. 7
 D-65343 Eltville

Managing Director
 Dr. J. Schieferdecker
 Reg. at District Court
 Dresden HRB20692
 VAT-ID DE813444739

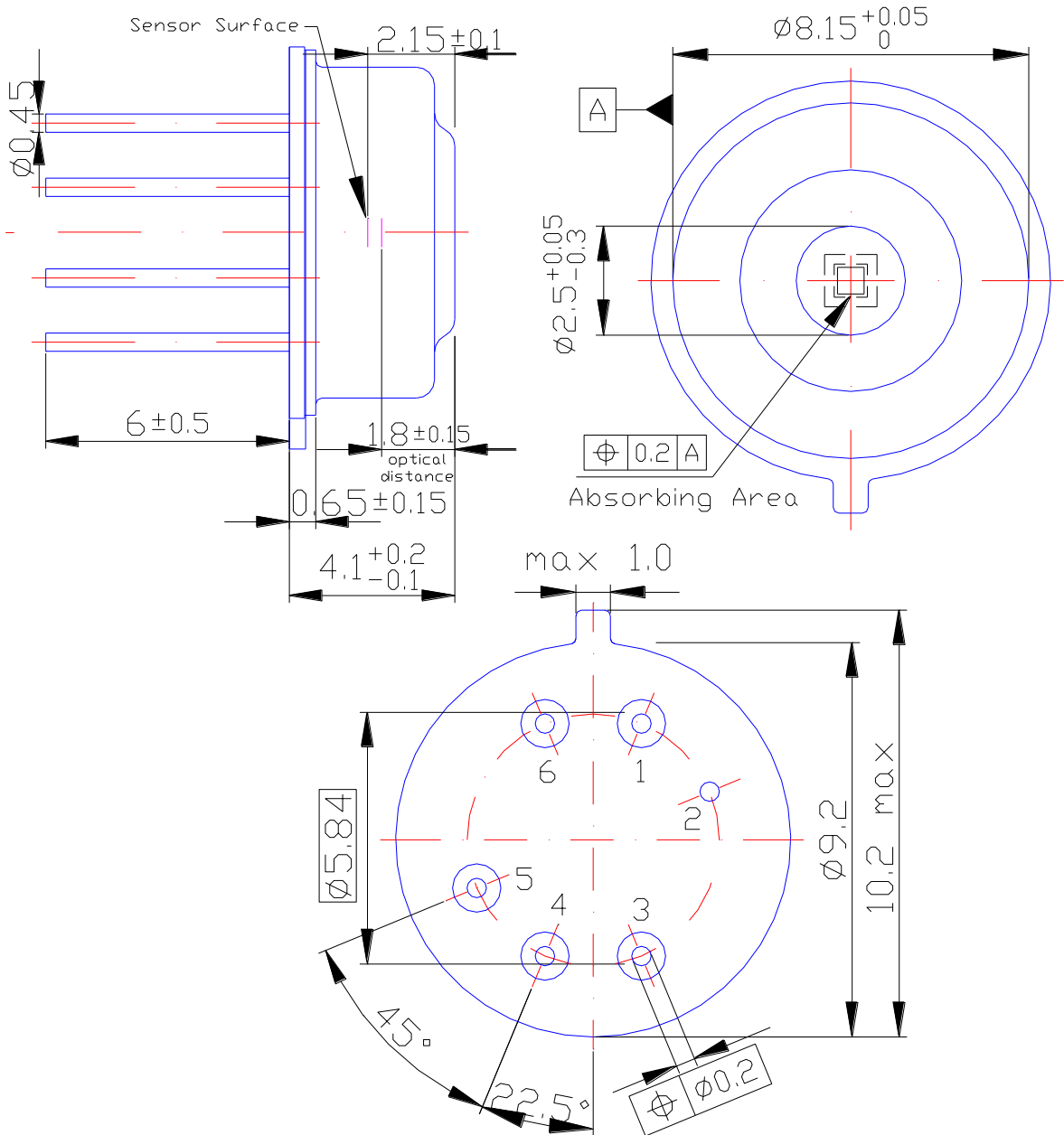
Internet: www.heimannsensor.com
 Mail: info@heimannsensor.com
 Phone 49 (0) 6123 60 50 30
 Fax 49 (0) 6123 60 50 39

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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.

HEIMANN Sensor GmbH
Grenzstr. 22
D-01109 Dresden
Rohrbergstr. 7
D-65343 Eltville

Managing Director
Dr. J. Schieferdecker
Reg. at District Court
Dresden HRB20692
VAT-ID DE813444739

Internet: www.heimannsensor.com
Mail: info@heimannsensor.com
Phone 49 (0) 6123 60 50 30
Fax 49 (0) 6123 60 50 39