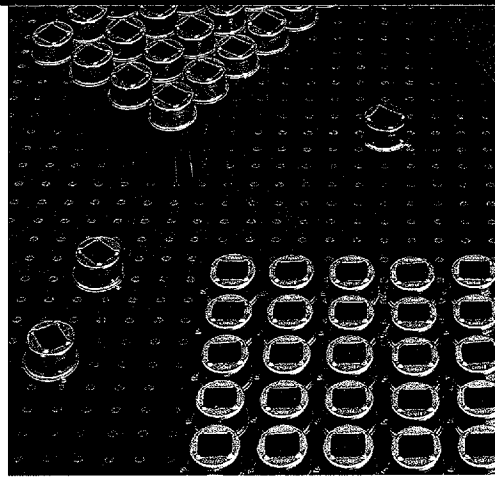
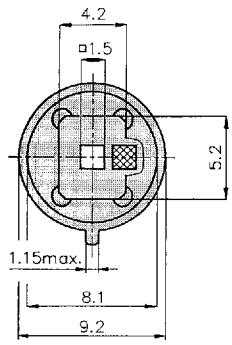
PYROELECTRIC IR-DETECTORS

LHi 807/LHi 807-TC



- **Single Element Type/Compensated Type**
- **Special Filters available**
- **Designed for Gas Analysis and Non-Contact Measurement**

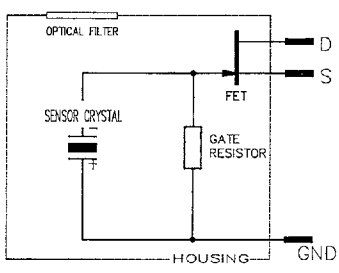
The single element series consists of a rectangular sensing element and FET source follower, hermetically sealed into a TO-5 housing with optical filter. The characteristic feature of this series is the available range of high quality narrow band optical filters. The specific filter allows measurement and analysis of a selected range of gases, with characteristic absorbtion lines in the infrared spectrum.
For non contact temperature measurements, standard window and broadband filters are available. The complete series is also available in a thermally compensated form: The LHi 807-TC is equipped with an additional compensating element, which is shielded from direct radiation by gold plating.

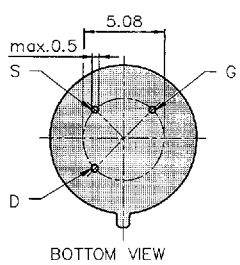


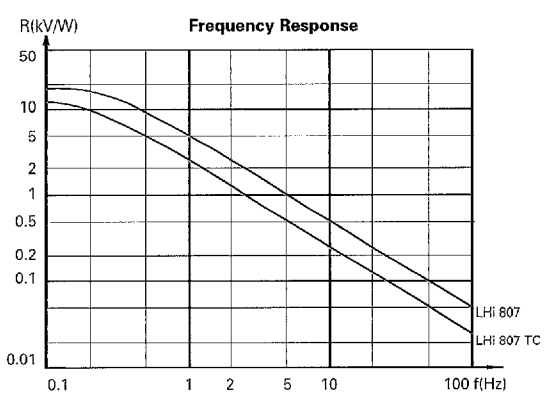
PARAMETER LHi 807/LHi 807-TC

	min	typ	max	units	condition
Element Size		1,5 x1,5		mm^2	
Spacing				mm	
Responsivity R	500/250	640/320		V/W	10 Hz
Noise		600/300	1200/600	nV/√Hz	25 °C, 10 Hz, 1 Hz BW
Offset Voltage	0,2		1,5	V	25 °C, Rs = 47 kΩ
NEP		9,4	24	10^{-10} W/√Hz	10 Hz, 1 Hz BW
D*	6	16		10^{7} cm √Hz/W	10 Hz, 1 Hz BW
Output Impedance		5	10	kΩ	Rs = 47 kΩ
Operating Voltage	2		15	V	
Drain - Source Voltage	0,5			V	
Unobstructed FOV					
Horizontal		135			
Vertical		120			
Operating Temperature	-40		70	°C	
Storage Temperature	-40		80	°C	

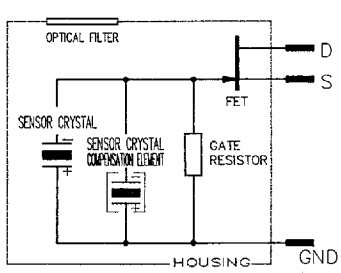
LHi 807

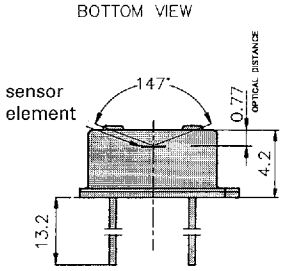






LHi 807-TC





EG&G HEIMANN Optoelectronics

EG&G Heimann Optoelectronics GmbH, Germany, Weher Köppel 3, 65199 Wiesbaden, Tel.: ++49(0)611-492-0, Fax ++49(0)611-492-228

AVAILABLE FILTERS

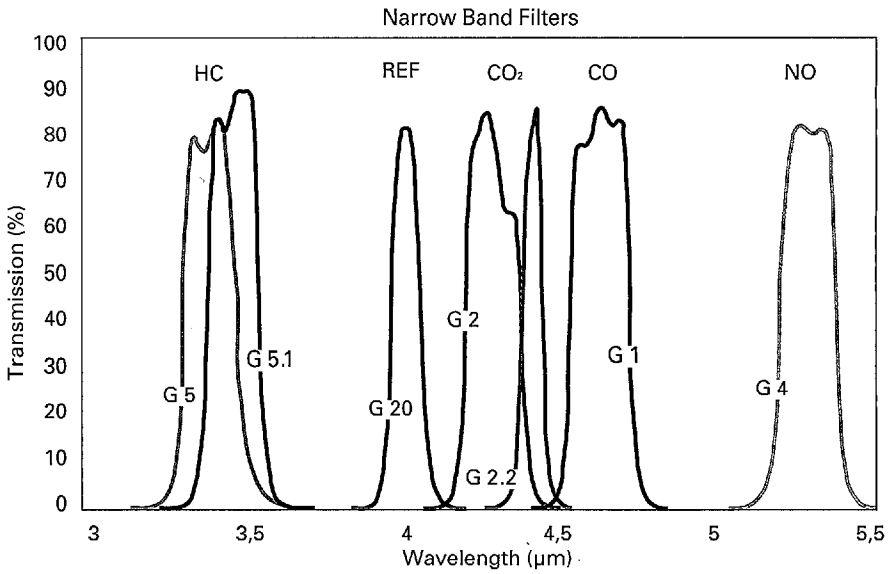
The Heimann range of infrared detectors includes various types suitable for different aplications. The individual types come with filters fit for their specific use. All dual element types are fitted with the standard window, which will allow transmissions between 5 - 14 µm. The single element series can be obtained with either broad band filters or very narrow band filters.

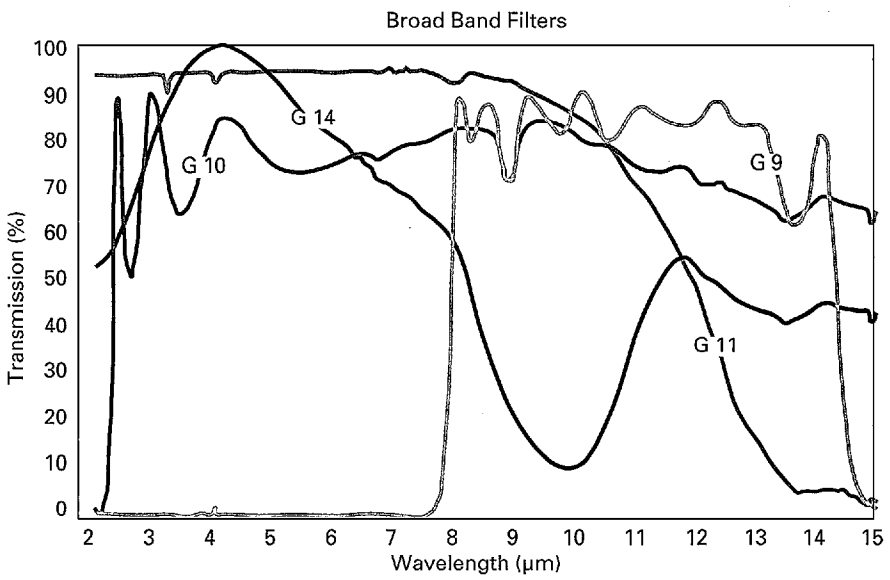
Narrow Band Filters

Narrow band filters are designed for the detection and measurement of atmospheric gases. Many gases show a specific absorption line in the mid to far infrared range. With a filter which allows the monitoring of this specific gas absorption, the measurement of gas concentration is possible. Filters G1 to G9 are variants, which can be built into LHi 807 or LHi 807-TC. All these filters are made of coated silicon.

Broad Band Filters

A number of broad band filters are available for users who like to fit their own filter in front of the detector. Broad band filters can be made of either substrate filters, which use the material's transmission property or coated silicon.





Type	Application	Centre Wave Length CWL (µm)	HPB (µm)	Rest Transmission in Blocking range below CWL	above CWL
LHi 807-G1	CO	4,64 (±1,0%)	0,18 (±0,02)	0,1%	1,0%
LHi 807-G2	CO_2	4,26 (±1,0%)	0,18 (±0,02)	0,1%	1,0%
LHi 807-G2.2	CO_2	4,43 (+1,0%)	0,06 (±0,005)	0,1%	1,0%
LHi 807-G4	NO	5,30 (±1,0%)	0,18 (±0,02)	0,1%	1,0%
LHi 807-G5	HC	3,40 (±2,0%)	0,18 (±0,02)	0,1%	1,0%
LHi 807-G5.1	HC	3,46 (±1,5%)	0,163 (±0,01)	0,1%	1,0%
LHi 807-G7	Freon	10,90 (±0,5%)	0,24 (±0,03)	0,1%	1,0%
LHi 807-G20	Reference	4,00 (±2,0%)	0,09 (±0,02)	0,1%	1,0%

Type	Application	Transmission Range	
LHi 807-G9	Pyrometrics	8-14 µm	Coated Silicon
LHi 807-G10	Broadband	3-13 µm	Coated Silicon
LHi 807-G11	Broadband	0,1-9 µm	CaF_2 Substrate Filter
LHi 807-G12	Broadband	1-16 µm	Silicon
LHi 807-G14	IR-Window	3-5 µm	Silicon

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