

L12/L22 Series Dual-Channel Current Mode Pyroelectric Detectors

Description

Our L12/L22 series of pyroelectric detectors are a collection of dual-channel LiTaO_3 devices operating in current mode with an integrated Op-Amp.

TFC (Temperature Fluxuation Compensation) is incorporated into all of our L22- series detectors via the use of an optically blind element.



Features

- Thermal detector, any radiation absorbed produces a signal
- Wide Spectral Coverage from the UV to LWIR
- Modular design principle
- Microphonics reduction as standard
- Assembled in an ISO:9001 certified facility

Applications

- Non-dispersive infrared gas analysis
- Flame and fire detection
- Non-contact temperature measurement
- Flame control
- Moisture monitoring

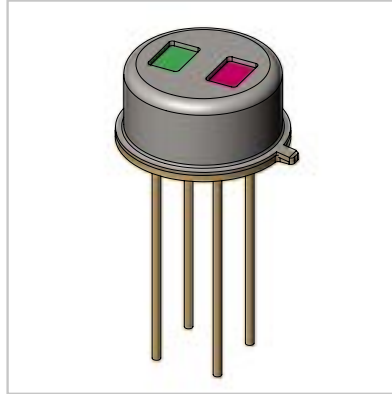
Versions

- Integrated Op-Amp
- Low and high speed devices available
- Wide range of filter options

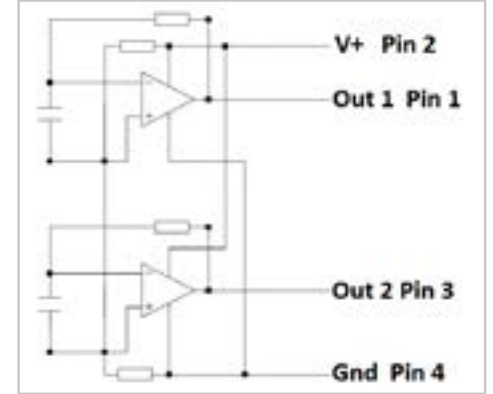
L1200D1810

- Dual channel Pyroelectric detector
- Current mode
- Single supply
- Without TFC

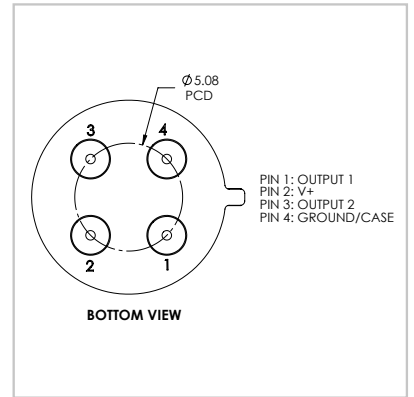
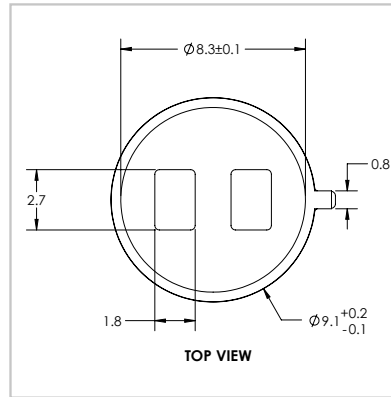
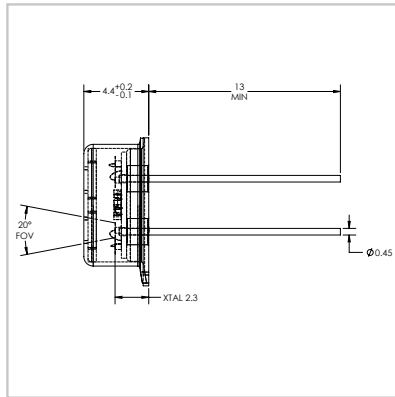
Isometric Drawing (with cutaway)



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber	
1.8 mm x 1.0 mm	2.7 mm x 1.8 mm	TO-39 4-pin	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
27 GOhm	Op-Amp 7	TBD	1.8 - 5.5 V (3 V recommended)	
Responsivity [V/W]**	D* [Jones]** @ 10 Hz	Noise Density [μV/√(Hz)]	NEP [W/√Hz]	Output Polarity
Min: 25,000 Typ: 35,000	Min: 2 × 10 ⁸ Typ: 3 × 10 ⁸	Max: 20	Max: 4 × 10 ⁻¹⁰	Negative

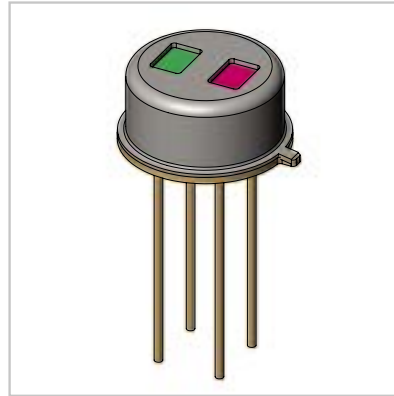
* Please refer "Filters and Windows" datasheet for all available options.

** Without filter / window

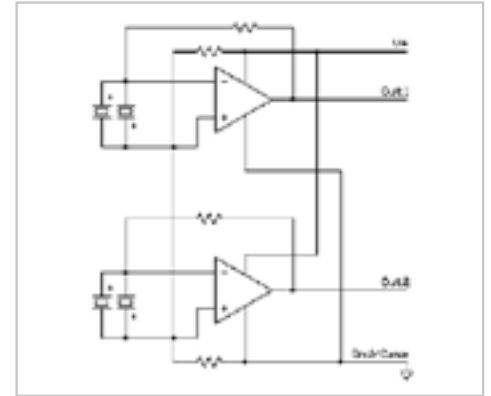
L2200D1810

- Dual channel Pyroelectric detector
- Current mode
- Single supply
- With TFC

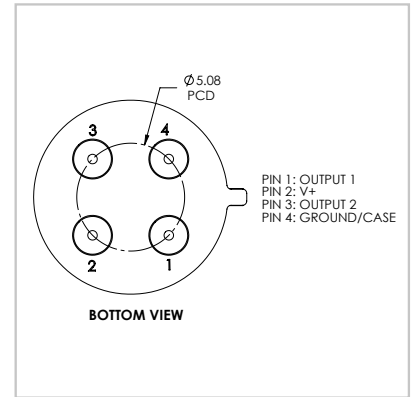
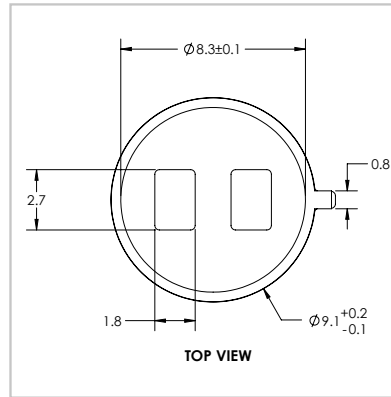
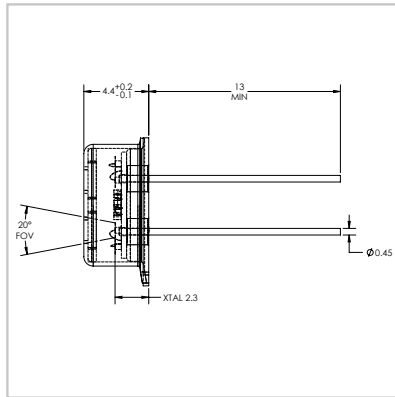
Isometric Drawing (with cutaway)



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber	
1.8 mm x 1.0 mm	2.7 mm x 1.8 mm	TO-39 4-pin	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
100 GOhm	Op-Amp 7	TBD	1.8 - 5.5 V (3 V recommended)	
Responsivity [V/W]**	D* [Jones]** @ 10 Hz	Noise Density [µV/√Hz]	NEP [W/√Hz]	Output Polarity
Min: 60,000 Typ: 120,000	Min: 3 x 10 ⁸ Typ: 5 x 10 ⁸	Max: 50	Max: 3.85 x 10 ⁻¹⁰	Negative

* Please refer "Filters and Windows" datasheet for all available options.

** Without filter / window

Absolute Maximum Ratings

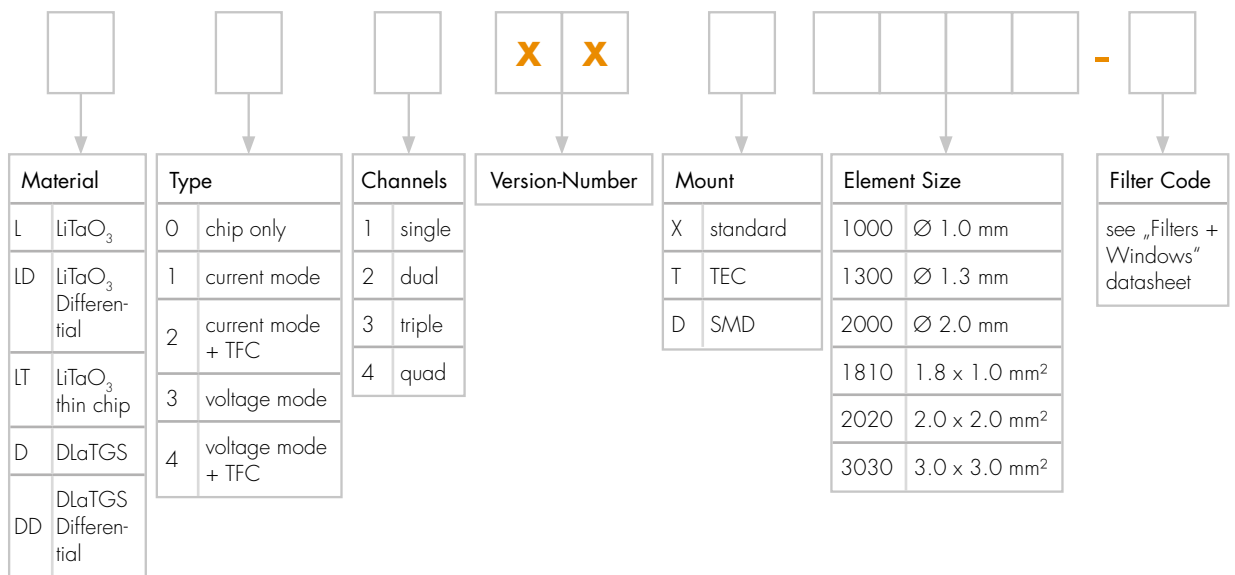
	Min	Max
Storage temperature [°C]	- 25	+ 60 ^{**}
Operating temperature [°C]	- 20	+ 85
Soldering temperature, 5 sec [°C]	+ 280	+ 300
ESD damage threshold, Human Body Model Class* [V]	0	< 250

- * ANSI/ESD STN5. 1-2007
- ** Limited by packing materials.

Handling

ESD sensitive device. High electrostatic discharge can damage or degrade the device. Use proper ESD handling precautions.

Part Number Designation



Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

Ordering Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at www.lasercomponents.com