

L11/21 Series Single Channel Current Mode Pyroelectric Detectors

Description

Our L11/21 series of pyroelectric detectors are a collection of single channel LiTaO_3 devices operating in current mode with an integrated Op-Amp.

TFC (Temperature Fluxuation Compensation) is incorporated into all of our L21- series detectors via. the use of a optically blind element.



Features

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

Applications

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

Versions

- Integrated Op-Amp (Split and Single Supply)
- Low and high speed devices available
- 9 Standard window options
- 17 standard filter options (including small and large apertures)

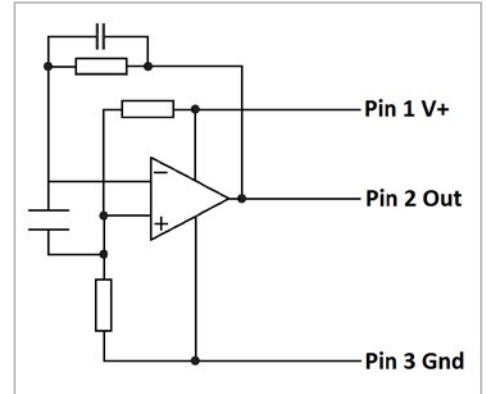
L1100X2020

- Single Channel Pyroelectric Detector
- Current Mode
- Single Supply
- Without TFC

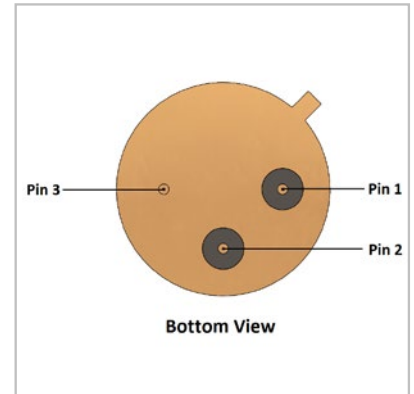
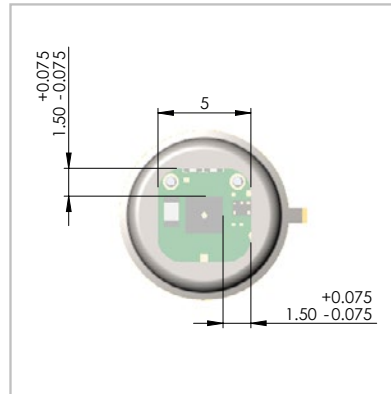
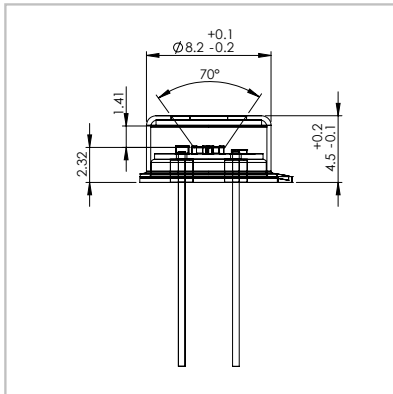
Isometric Drawing (with cutaway)



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber
2 mm x 2 mm	5.0 mm Sq. 3.5 mm Sq.	TO-39 3-pin	Organic Black

Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]
27 GOhm	Op-Amp 3	TBD	2.7-10 V (3 V recommended)

Responsivity [V/W]	D* (Jones) @ 10 Hz	Noise Density [$\mu\text{V}/\sqrt{\text{Hz}}$]	NEP [W/ $\sqrt{\text{Hz}}$]	Polarity
Min: 30,000 Typ: 40,000	Min: 3×10^8 Typ: 4×10^8	Max: 25	Max: 6×10^{-10}	Negative



Similar Model: LME-352, PY-ITV-SINGLE

* Please refer "Filters and Windows" datasheet for all available options
(aperture size depends on filter/window option chosen)

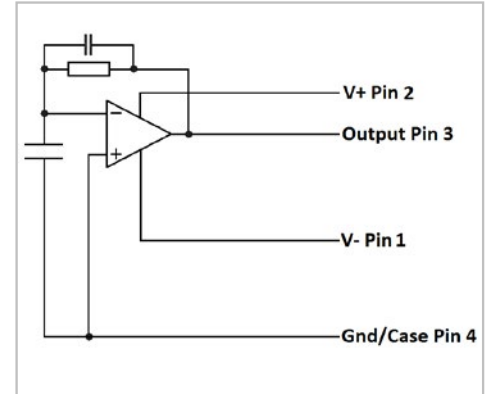
L1120X2020

- Single Channel Pyroelectric Detector
- Current Mode
- Without TFC
- High Speed

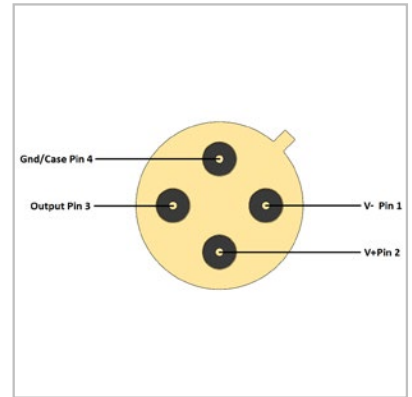
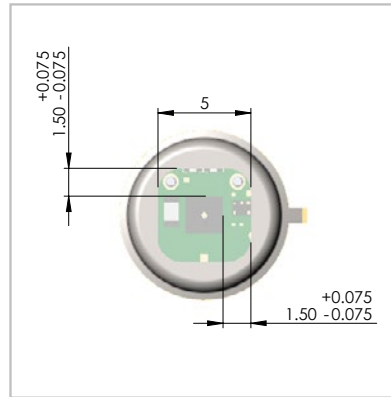
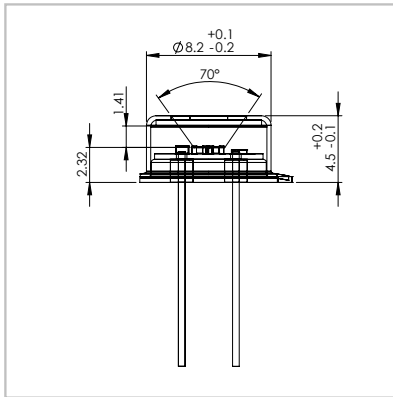
Isometric Drawing (with cutaway)



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber	
2 mm x 2 mm	5.0 mm Sq. 3.5 mm Sq.	TO-39 4-pin	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
11 MOhm	Op-Amp 4	TBD	max. 26 (V+ = +6 V; V- = -6 V recommended)	
Responsivity [V/W]	D* (Jones) @ 10 Hz	Noise Density [$\mu\text{V}/\sqrt{\text{Hz}}$]	NEP [W/ $\sqrt{\text{Hz}}$]	Polarity
Min: 20 Typ: 25	Min: 7×10^6 Typ: 1×10^7	Max: 0.5	Max: 2.5×10^{-8}	Negative



Similar Model: LIE-382

* Please refer "Filters and Windows" datasheet for all available options
(aperture size depends on filter/window option chosen)

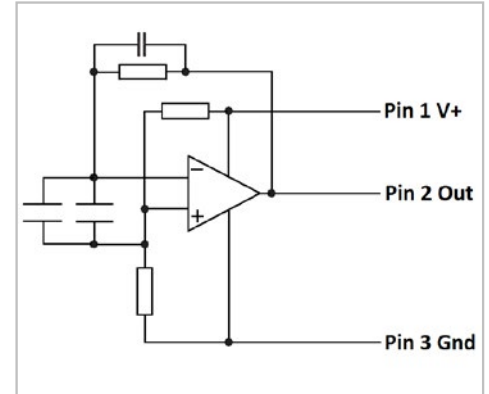
L2100X2020

- Single Channel Pyroelectric Detector
- Current Mode
- Single Supply
- With TFC

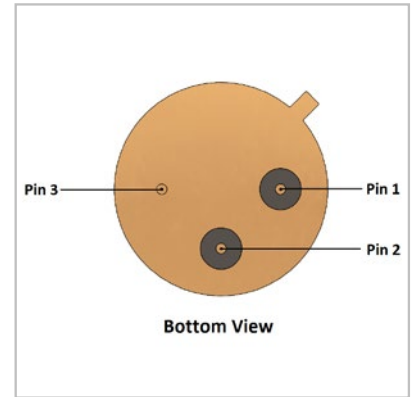
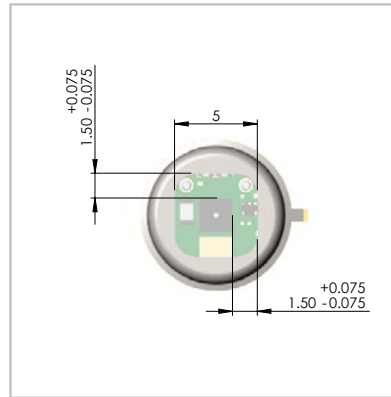
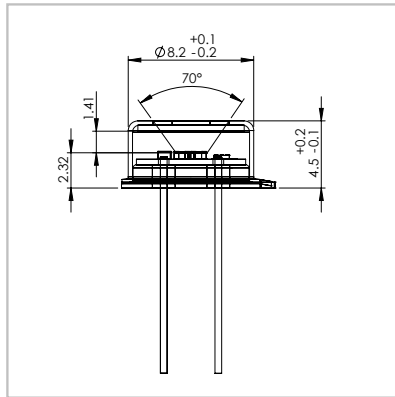
Isometric Drawing (with cutaway)



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber	
2 mm x 2 mm	5.0 mm Sq. 3.5 mm Sq.	TO-39 3-pin	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
100 GOhm	Op-Amp 3	TBD	2.7-10 V (3 V recommended)	
Responsivity [V/W]	D* (Jones) @ 10 Hz	Noise Density [μV/sqrt(Hz)]	NEP [W/√Hz]	Polarity
Min: 100,000 Typ: 150,000	Min: 4.5x10 ⁸ Typ: 6x10 ⁸	Max: 60	Max: 4.5x10 ⁻¹⁰	Negative



Similar Model: LME-336

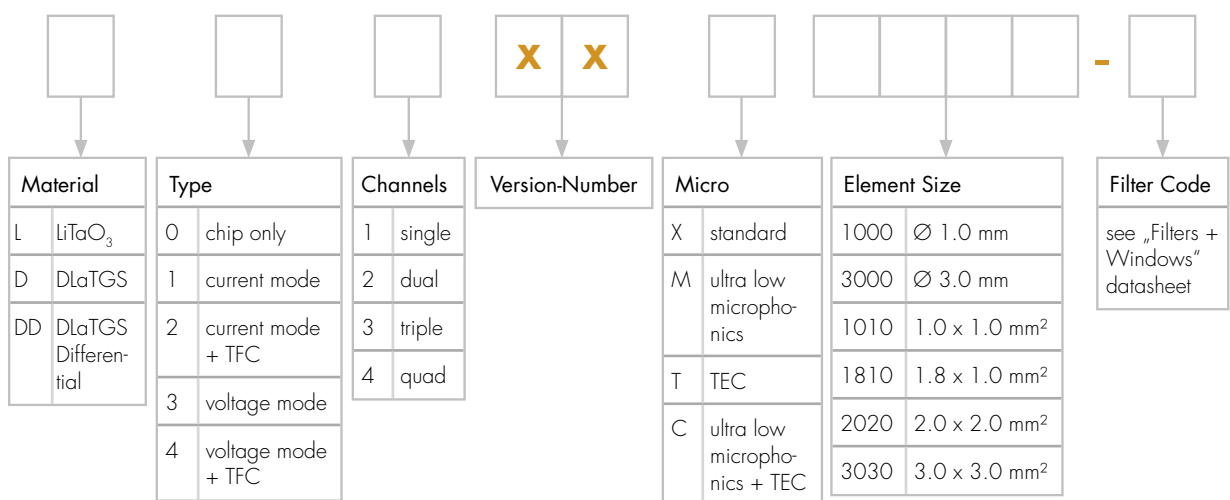
* Please refer "Filters and Windows" datasheet for all available options
(aperture size depends on filter/window option choosen)

Absolute Maximum Ratings

	Min	Max
Storage Temperature [°C]	- 25	+ 85
Operating Temperature [°C]	- 20	+ 55
Soldering Temperature, 5 sec [°C]	+ 280	+ 300
ESD Damage Threshold, Human Body Model Class* [V]		TBD

* ANSI/ESD STN5. 1-2007

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