

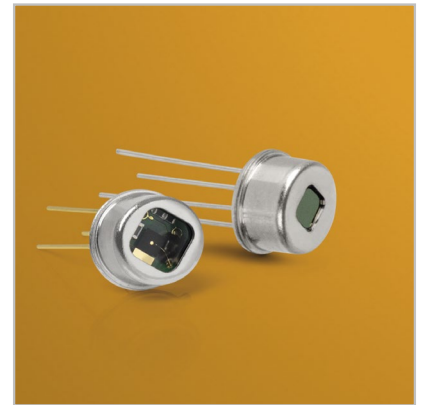
L31/41 Series Single Channel Voltage Mode Pyroelectric Detectors

Description

Our L31/41 series of pyroelectric detectors are a collection of single channel LiTaO_3 devices operating in voltage mode with an integrated JFET.

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

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

Versions

- Low and high speed devices available
- Wide range of filter and window option

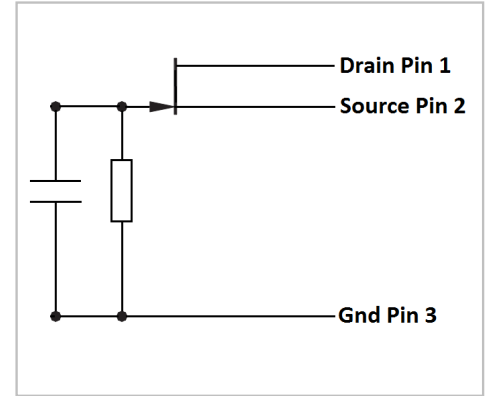
L3100X2020

- Single channel Pyroelectric detector
- Voltage mode
- Without TFC

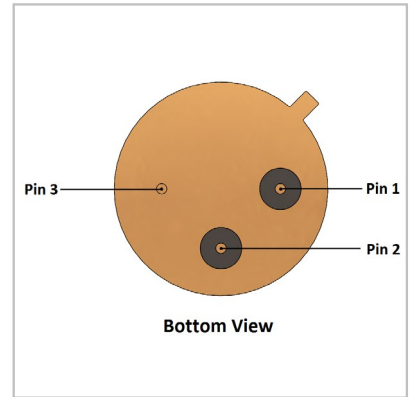
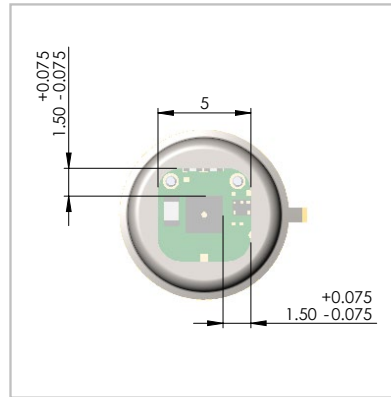
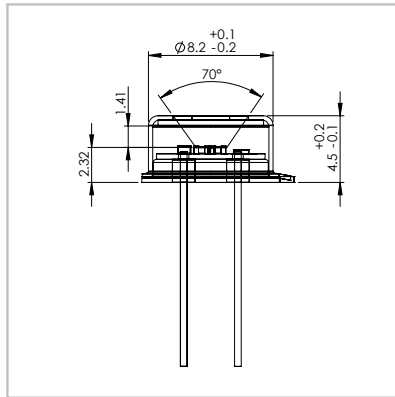
Isometric Drawing (with cutaway)



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	
Load Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
100 GOhm	JFET 3	TBD	Max. +30 V (9 V recommended)	
Responsivity [V/W]	D* (Jones) @ 10 Hz	Noise Density [$\mu\text{V}/\sqrt{\text{Hz}}$]	NEP [W/ $\sqrt{\text{Hz}}$]	Polarity
Min: 340 Typ: 400	Min: 6×10^8 Typ: 9×10^8	Max: 0.15	Max: 3.4×10^{-10}	Positive

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

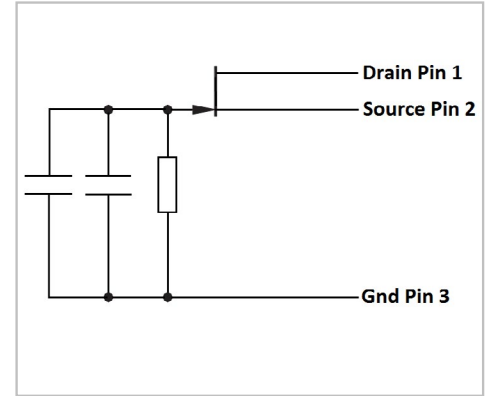
L4100X2020

- Single Channel Pyroelectric Detector
- Voltage Mode
- With TFC

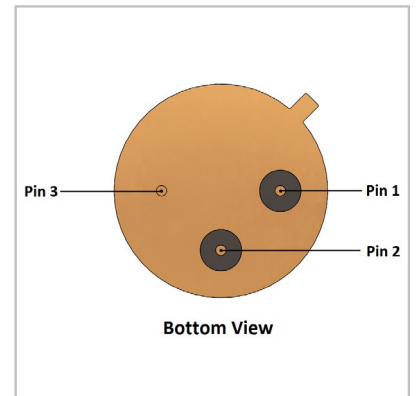
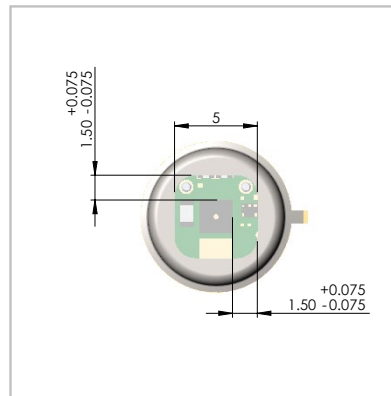
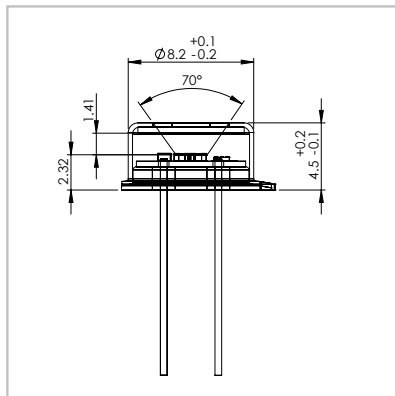
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Circuit Diagram



Technical Drawing



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2 mm x 2 mm	5.0 mm Sq. 3.5 mm Sq.	TO-39 3-pin	Organic Black	
Load Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
100 GOhm	JFET 3	TBD	Max. +30 V (9 V recommended)	
Responsivity [V/W]	D* (Jones) @ 10 Hz	Noise Density [μV/sqrt(Hz)]	NEP [W/√Hz]	Polarity
Min: 160 Typ: 200	Min: 4.0x10 ⁸ Typ: 5.0x10 ⁸	Max: 0.13	Max: 6x10 ⁻¹⁰	Positive

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

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

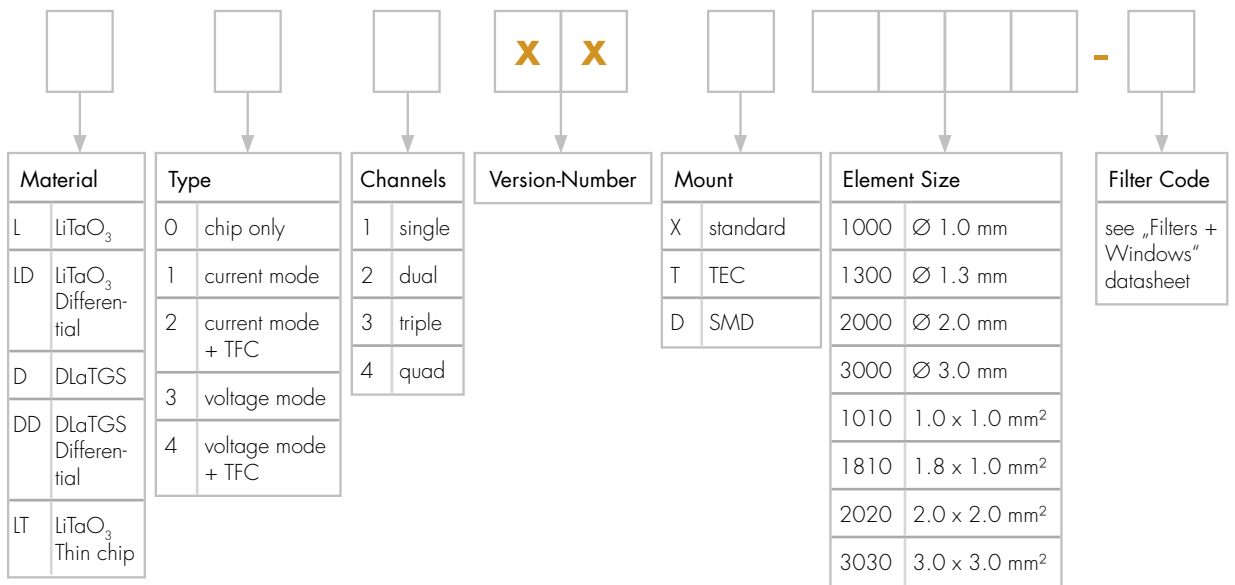
* ANSI/ESD STN5. 1-2007

** 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