

L14/L24 Series Quad-Channel Current Mode Pyroelectric Detectors

Description

Our L14/L24 series of pyroelectric detectors are a collection of quad-channel LiTaO_3 devices operating in current mode with an integrated Op-Amp.

TFC (Temperature Fluxuation Compensation) is incorporated into all of our L24-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

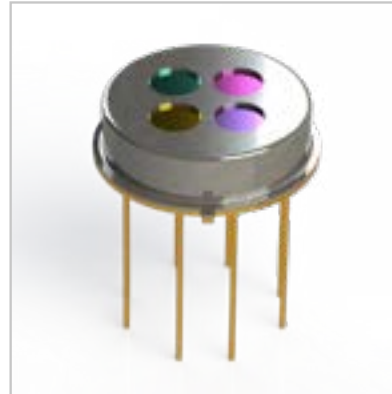
- Integrated Op-Amp
- Low and high speed devices available
- Wide range of filter options



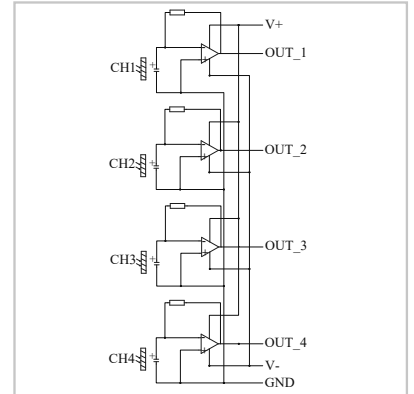
L1410D2020

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

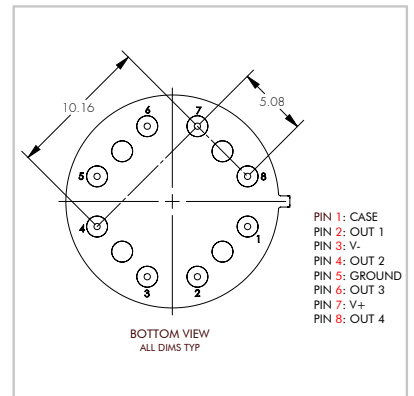
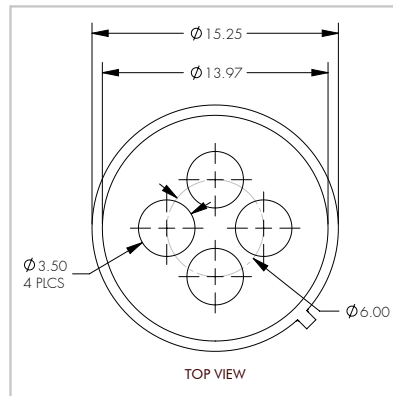
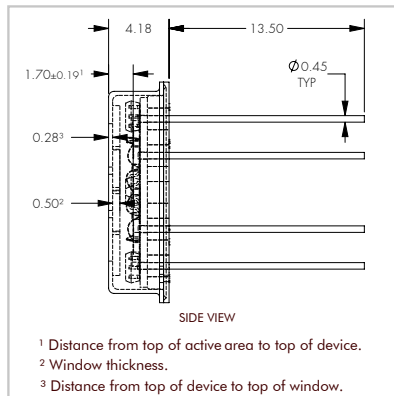
Isometric Drawing



Circuit Diagram



Technical Drawing



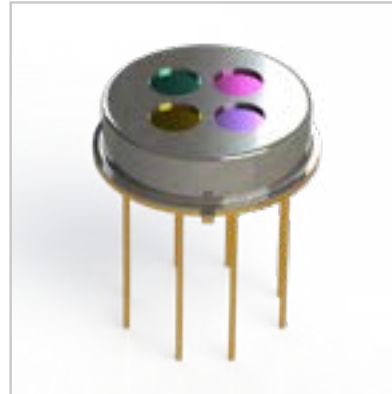
Element Size	Aperture Size*	Package	Absorber	
2.0 mm x 2.0 mm	dia. 3.5 mm	TO-8	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
27 GOhm	Op-Amp 7	TBD	Dual Supply $\pm 0.9 - \pm 2.75$ V (± 2.5 V recommended)	
Responsivity [V/W]**	D* [Jones]** @ 10 Hz	Noise Density [μ V/ \sqrt Hz]	NEP [W/ \sqrt Hz]	Output Polarity
Min: 40,000 Typ: 45,000	Min: 3×10^8 Typ: 3.8×10^8	Max: 30	N/A	Negative

* Please refer "Filters and Windows" datasheet for all available options
** Without filter / window

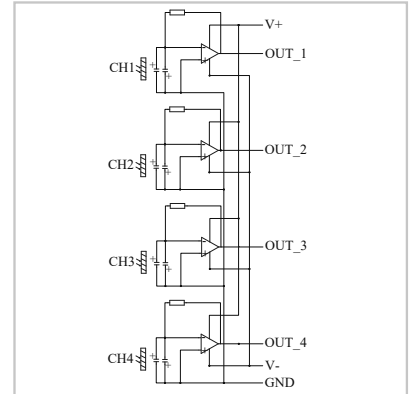
L2410D2020

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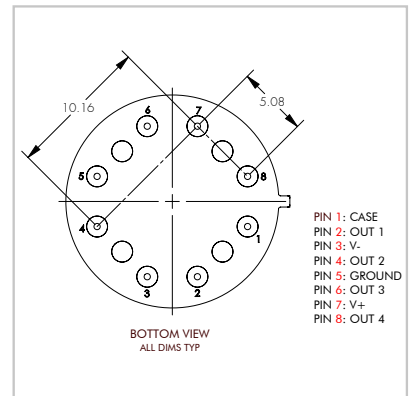
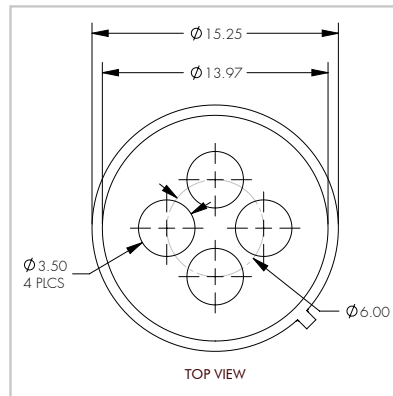
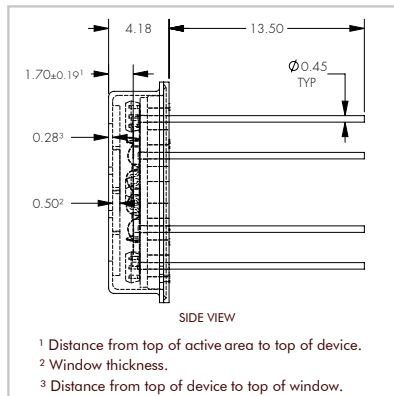
Isometric Drawing



Circuit Diagram



Technical Drawing



Element Size	Aperture Size*	Package	Absorber	
2.0 mm x 2.0 mm	dia. 3.5 mm	TO-8	Organic Black	
Feedback Resistor	Amplifier	-3dB Freq [Hz]	Supply Voltage [V]	
100 GOhm	Op-Amp 7	TBD	Dual Supply ±0.9 - ± 2.75 V (± 2.5 V recommended)	
Responsivity [V/W]**	D* [Jones]** @ 10 Hz	Noise Density [µV/√Hz]	NEP [W/√Hz]	Output Polarity
Min: 90,000 Typ: 110,000	Min: 5 x 10 ⁸ Typ: 6 x 10 ⁸	Max: 65	N/A	Negative

* Please refer "Filters and Windows" datasheet for all available options
** Without filter / window

Absolute Maximum Ratings

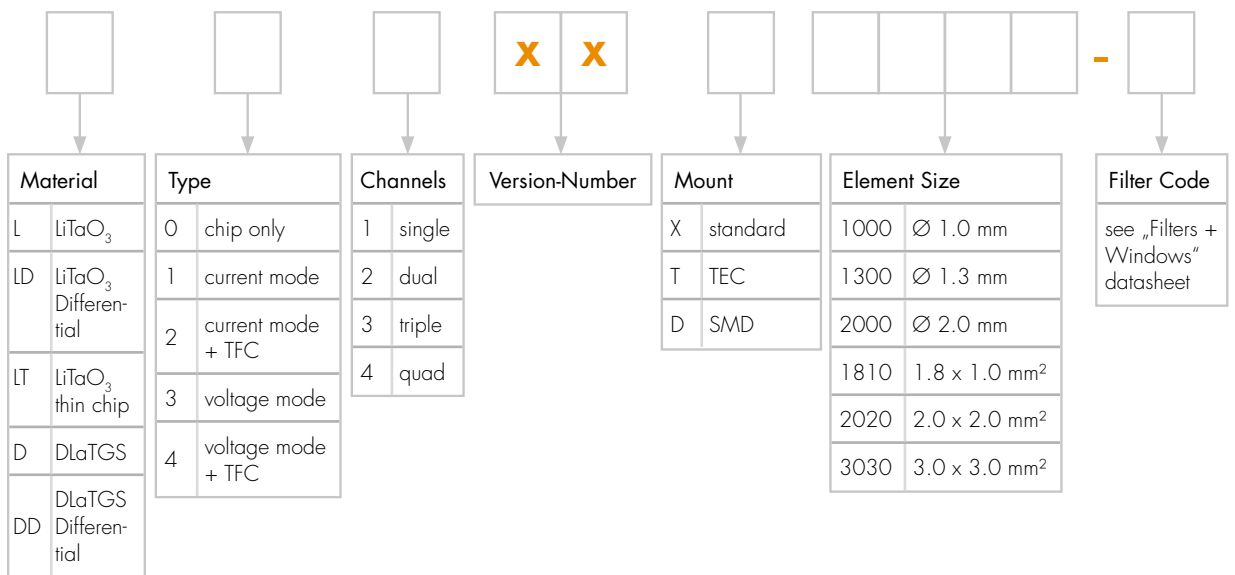
	Min	Max
Storage temperature [°C]	- 25	+ 60 ^{**}
Operating temperature [°C]	- 20	+ 85
Soldering temperature, 5 sec [°C]	+ 280	+ 300
ESD damage threshold, Human Body Model Class* [V]	0	< 250

- * 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