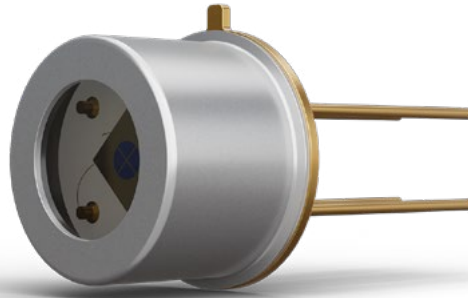


DALUT31 SERIES VOLTAGE MODE DIFFERENTIAL ULTRATHIN LTO Pyroelectric Detectors



Our DALUT31 series pyroelectric detectors are offered with a ultrathin LTO crystal element operating in voltage mode with an integrated low noise 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 certified facility
- / 1.3 mm diameter with absorbing metal black
- / Two outputs with opposite polarity
- / Variety of infrared windows available

APPLICATIONS

- / FTIR spectroscopy
- / Non-dispersive infrared spectroscopy
- / THz detection

/ **Germany and Other Countries** LASER COMPONENTS Germany GmbH Tel +49 8142 2864-0 info@lasercomponents.com www.lasercomponents.com
/ **France** LASER COMPONENTS S.A.S. Tel +33 1 39 59 52 25 info@lasercomponents.fr www.lasercomponents.fr
/ **United Kingdom** LASER COMPONENTS (UK) Ltd. Tel +44 1245 491 499 info@lasercomponents.co.uk www.lasercomponents.co.uk
/ **Nordic Countries** LASER COMPONENTS Nordic AB Tel +46 31 703 71 73 info@lasercomponents.se www.lasercomponents.se
/ **USA** LASER COMPONENTS USA, Inc. Tel +1 603 821-7040 info@laser-components.com www.laser-components.com

DALUT31 SERIES VOLTAGE MODE DIFFERENTIAL ULTRATHIN LTO Pyroelectric Detectors



PRELIMINARY

SPECIFICATIONS DALUT3151X

- / Single channel DALUT3151X pyroelectric detector
- / Voltage mode
- / Without TFC
- / For FTIR, TDLS
- / High frequency applications

All values are typical, except for Combined Responsivity and D* which are the minimum values.

Part	DALUT3151X1300
Element size Ø [mm]	1.3
Aperture size Ø [mm] ¹	5.3
Package	TO-39 4-pin
Absorber	Metal black
Load Resistor [GOhm]	10
Amplifier	JFET 2
Supply Voltage [V]	+9 (recommended; max. 25)
Combined Noise Density [nV/Hz ^{1/2}] @ 1 kHz	<25
Responsivity Channel 1 [V/W] @ 1 kHz	15
Responsivity Channel 2 [V/W] @ 1 kHz	15
Combined Responsivity [V/W] @ 1 kHz	>35
Combined Detectivity D* [cmHz ^{1/2} /W] @ 1 kHz	>2.0 E+08

¹ Please refer to »Filters and Windows« datasheet for all available options (aperture size depends on filter/window option chosen)

Absolute Maximum Ratings

DALUT31	Min.	Max.
Storage temperature [°C]	-25	+55 ²
Operating temperature [°C]	-20	+55
Soldering temperature, 5 seconds [°C]	280	+300
ESD damage threshold, Human Body Model Class [V] ¹	0	<250

¹ ANSI/ESD STN5.1-2007

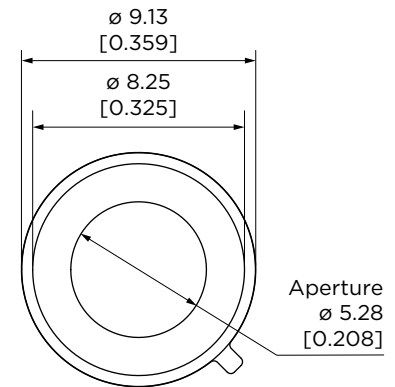
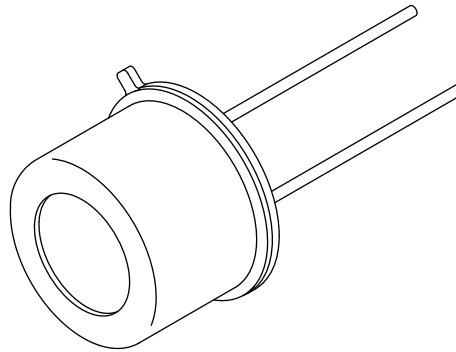
² Limited by packing materials

/ Germany and Other Countries LASER COMPONENTS Germany GmbH Tel +49 8142 2864-0 info@lasercomponents.com www.lasercomponents.com
 / France LASER COMPONENTS S.A.S. Tel +33 1 39 59 52 25 info@lasercomponents.fr www.lasercomponents.fr
 / United Kingdom LASER COMPONENTS (UK) Ltd. Tel +44 1245 491 499 info@lasercomponents.co.uk www.lasercomponents.co.uk
 / Nordic Countries LASER COMPONENTS Nordic AB Tel +46 31 703 71 73 info@lasercomponents.se www.lasercomponents.se
 / USA LASER COMPONENTS USA, Inc. Tel +1 603 821-7040 info@laser-components.com www.laser-components.com

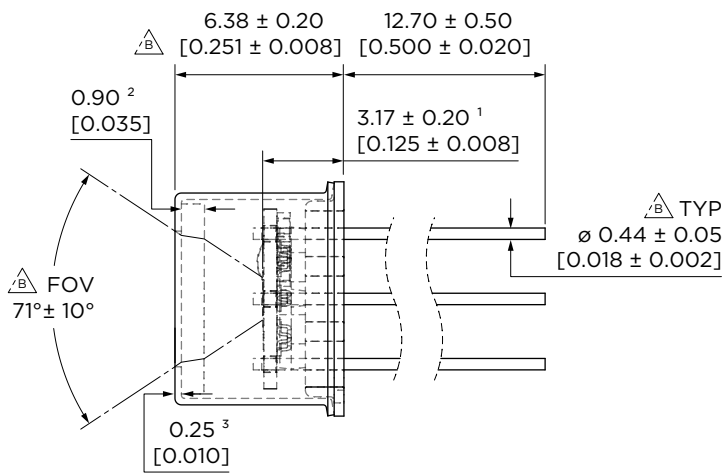
**DALUT31 SERIES VOLTAGE MODE
DIFFERENTIAL ULTRATHIN LTO**
Pyroelectric Detectors



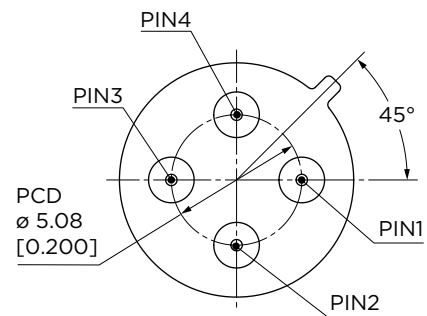
PRELIMINARY



Top View



Side View



Bottom View

100592-POD

Pin out:

1. Output 1
2. Ground
3. Output 2
4. V+

Units: mm [inch]

Dimensions are in millimeters - [inches] and are for reference only.

¹ Distance from top of active area to bottom of header

² KBr window thickness, 0.2° wedged, measured at thickest edge

³ Distance from top of device to top of window

DALUT31 SERIES VOLTAGE MODE DIFFERENTIAL ULTRATHIN LTO

Pyroelectric Detectors



PRELIMINARY

ORDERING CODE

Material	Type	Channels	Version Number	Mount	Element Size	Filter Code
X	X	X	X	X	X	X
ALUT LTO DALUT LTO + Differential	0 Chip only 1 Current mode 2 Current mode + TFC 3 Voltage mode 4 Voltage mode + TFC	1 Single 2 Dual 3 Triple 4 Quad		X Standard T TEC D SMD	1000 Ø1.0mm 1300 Ø1.3mm 2000 Ø2.0mm 1810 1.8x1.0 mm ² 2020 2.0x2.0 mm ² 3030 3.0x3.0 mm ²	see »Filters and Windows« datasheet

PRODUCT CHANGES AND LIABILITY

LASER COMPONENTS reserves the right to make changes to the product specifications and/or discontinue products without prior notice. While every effort has been made to ensure the accuracy and reliability of the information provided in this datasheet, LASER COMPONENTS accepts no liability for any errors, omissions, or the consequences of product use. It is the responsibility of the customer to ensure that the product is suitable for their specific application and to comply with all applicable laws and regulations.

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

Custom designed products are available on request.

SAFETY AND HANDLING INFORMATION

Handling Precautions

Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Use proper ESD handling precautions.

A detailed guide into how to safely handle IR component with optical windows, can be located on the LASER COMPONENTS website.

