Infrared detector
PbS photoconductive detector
Double encapsulated TO-package

Features

- **Double encapsulation (thin film + TO)**
- High durability for rugged operation
- Very high sensitivity
- Sapphire window

Applications

- Gas analysis
- Spectroscopy
- Process control
- Temperature control

Specification

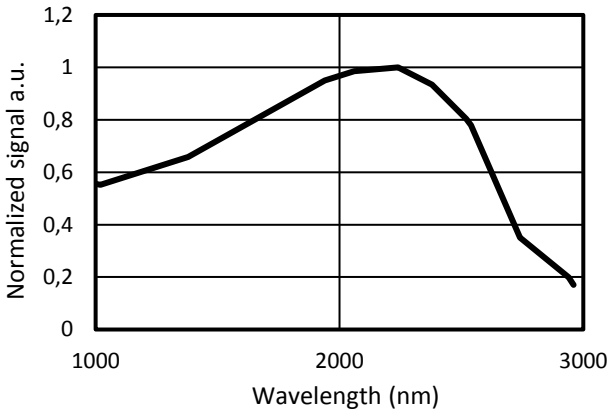
Type No.	Package	Active area [mm x mm]	Operating temperature [°C]	Storage temperature [°C]
PbS010050TO5	TO5	1 x 5	-30 to +70	-55 to +70

Electrical and optical characteristics

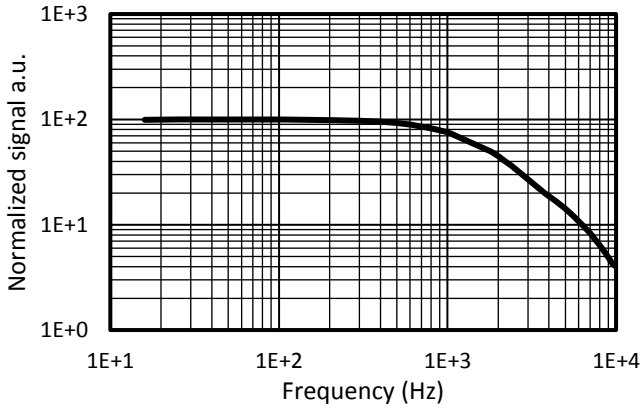
Type No.	Element temperature [°C]	Peak wave-length λ_P [µm]	20% cut-off wavelength λ_C [µm]	Peak responsivity S [V/W]		Peak D* (606 Hz, 1 Hz) [cm·Hz^{½}/W]		Time constant [µs]	Dark resistance R_D [MΩ]
				Typ.	Min.	Typ.	Min.	Typ.	
PbS010050TO5	25	2.2	2.9	$3.5*10^5$	$1*10^5$	$1*10^{11}$	$5*10^{10}$	200	0.05 – 1

- Measured with 1550 nm LED, incident power 11 µW/cm²
- Measured in a voltage divider circuit with 10 V/mm and linearly extrapolated to 50 V/mm
- Photo responsivity and detectivity are measured with matched load resistance ($R_L = R_D$)

Typical spectral response



Typical frequency response



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Release Date: 2018.01.05
ver. 1.1

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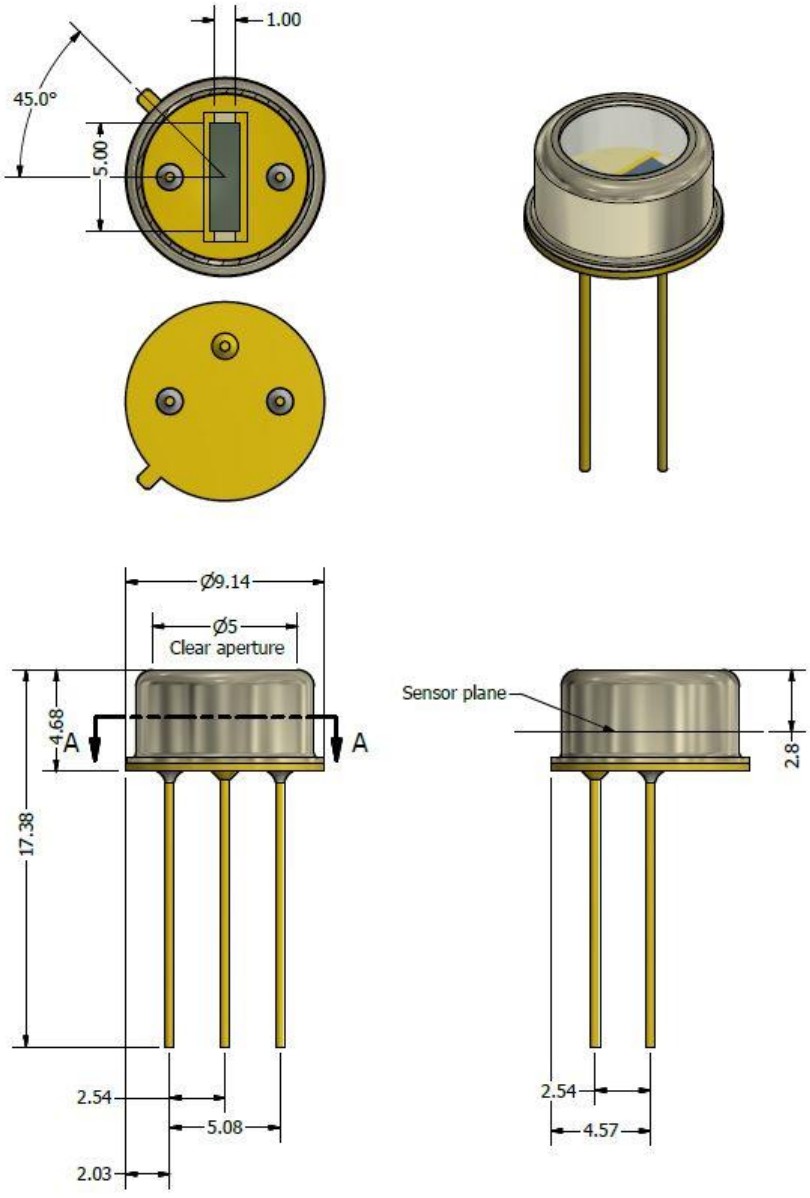
Storage

- Storage temperature: -55°C to 70°C
- Exposure to UV light results in permanent damage
- Prolonged exposure to visible light results in low dark resistance

Mechanical outline (dimensions in mm)

PbS010050TO5



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