

**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**

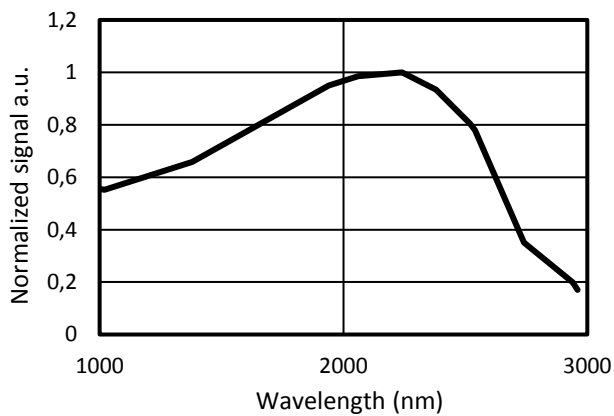
Type No.	Package	Active area [mm x mm]	Operating temperature [°C]	Storage temperature [°C]
PbS010010TO5	TO5	1 x 1	-30 to +70	-55 to +70

**Electrical and optical characteristics**

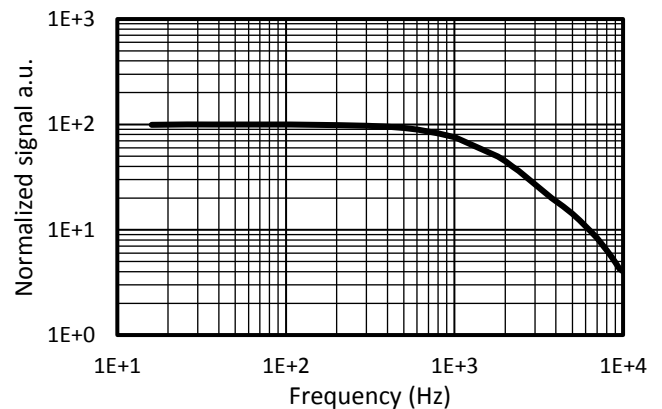
Type No.	Element temperature [°C]	Peak wave-length $\lambda_p$ [ $\mu\text{m}$ ]	20% cut-off wavelength $\lambda_c$ [ $\mu\text{m}$ ]	Peak responsivity S [V/W]		Peak D* (606 Hz, 1 Hz) [ $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$ ]		Time constant [ $\mu\text{s}$ ]	Dark resistance $R_D$ [M $\Omega$ ]
				Typ.	Min.	Typ.	Min.		
PbS010010TO5	26	2.2	2.9	$8 \cdot 10^5$	$4 \cdot 10^5$	$1 \cdot 10^{11}$	$5 \cdot 10^{10}$	200	0.3 – 3

- Measured with 1550 nm LED, incident power 22  $\mu\text{W}/\text{cm}^2$
- 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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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)

PbS010010T05

