



## trinamiX

A brand of  
BASF – We create chemistry

### PbS near-infrared detector

### Multi-Single-Pixel thin-film encapsulated

#### Features

- Wire-bonded on PCB
- Very high sensitivity
- Room temperature operation

#### Applications

- NIR spectroscopy
- Fire and spark detection
- Flame and moisture monitoring
- Rapid prototyping
- Gas detection

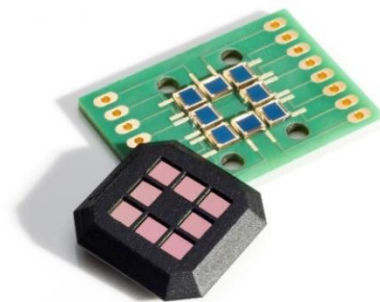
#### Electrical and optical characteristics per pixel

Element temperature [°C]	Peak wavelength $\lambda_P$ [ $\mu\text{m}$ ]	20% cut-off wavelength $\lambda_C$ [ $\mu\text{m}$ ]	Peak $D^*$ (620 Hz, 1 Hz) [ $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$ ]		Time constant [ $\mu\text{s}$ ]	Dark resistance $R_D$ [ $\text{M}\Omega$ ]
	Typ.	Typ.	Typ.	Min.	Typ.	
22	2.7	2.9	$1 \cdot 10^{11}$	$0.5 \cdot 10^{11}$	200	0.3 - 3

- Measured with 1550 nm LED, incident power  $16 \mu\text{W}/\text{cm}^2$
- Measured in a voltage divider circuit with 50 V/mm
- Photo responsivity and detectivity are measured with constant load resistance ( $R_L = 1 \text{ M}\Omega$ ) and calculated for matched resistance

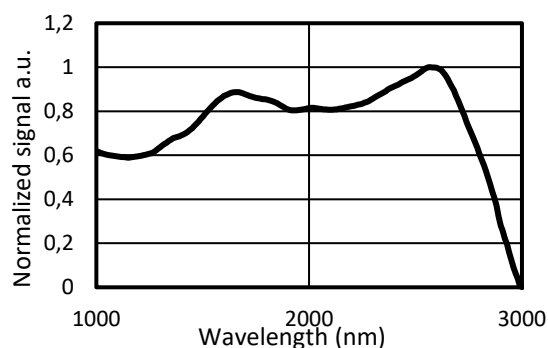
#### Mechanical characteristics

- Number of lines 1 - 3
- Number of pixels 2 - 8
- Minimum pixel width 1000  $\mu\text{m}$
- Minimum pixel height 1000  $\mu\text{m}$

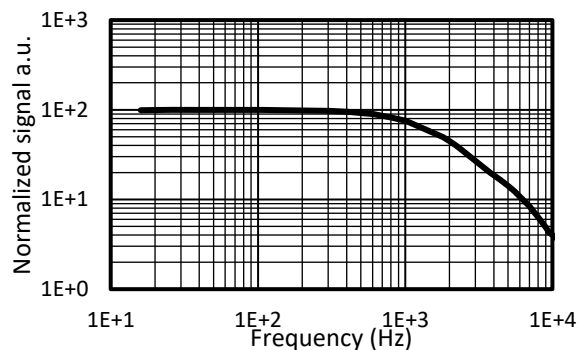


Please contact us for an individual design: [info@hertzstueck.de](mailto:info@hertzstueck.de)

#### Typical spectral response per pixel



#### Typical frequency response per pixel



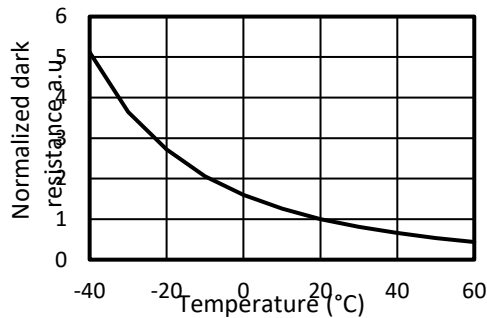
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### Typical resistance change over temperature



### Options

- Individual housing
- Integrated filters
- Individual PCB
- Optional with PbSe detectors
- Evaluation Kit available

### Storage

- Storage temperature: -30°C to +70°C
- Exposure to UV light results in permanent damage
- Prevent exposure to UV and visible light

### Handling

- Ensure dust-free environment for device handling
- Operating temperature: -30°C to +70°C

### Regulatory

For the use of Hertzstück™ PbS and PbSe infrared photodetectors in medical devices, monitoring and control instruments and consumer applications RoHS exemptions apply.

For automotive applications Hertzstück™ PbS and PbSe infrared photodetectors fall under ELV exemption.

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