

Features

- Thin-film encapsulation
- Very high sensitivity
- Suitable for automated wire-bonding

Applications

- NIR spectrometry
- Fire and spark detection
- Flame and moisture monitoring

Electrical and optical characteristics per pixel

Element temperature [°C]	Peak wave-length λ_p [μm]	20% cut-off wavelength λ_c [μm]	Peak D* (620 Hz, 1 Hz) [$\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$]		Time constant [μs]	Dark resistance R_D [$\text{M}\Omega/\text{sq}$]
	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

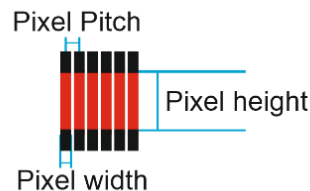
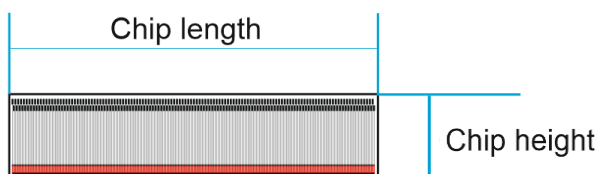
Possible mechanical characteristics

- Number of pixels 17 - 512
- Minimum pixel width $20 \mu\text{m}$
- Minimum pixel height $20 \mu\text{m}$
- Minimum pixel gap $20 \mu\text{m}$
- Minimal chip length $3000 \mu\text{m}$
- Minimal chip height $3000 \mu\text{m}$

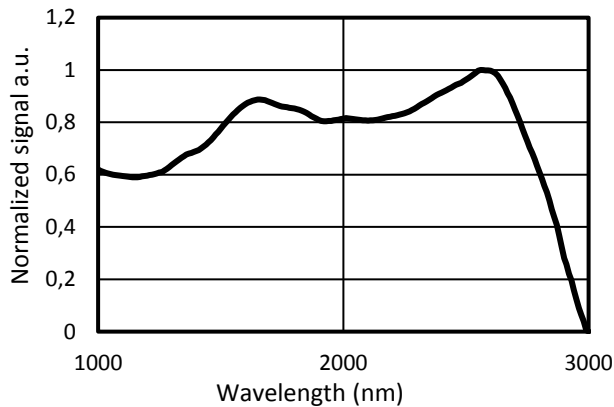
Please contact us to get an individual design: info@hertzstueck.de

Exemplary mechanical characteristics

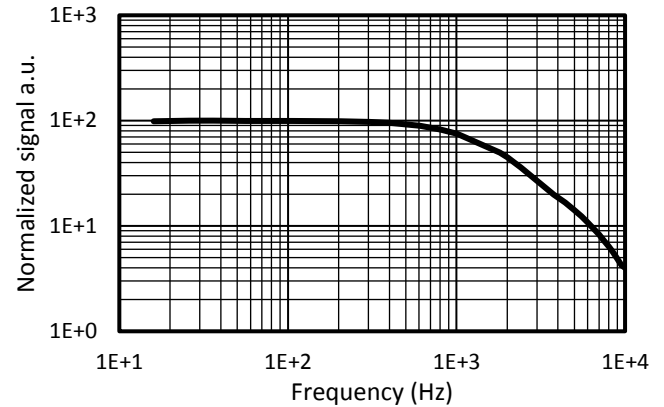
Type No.	Number of Pixels	Pixel pitch [μm]	Pixel width [μm]	Pixel height [μm]	Operating temperature [°C]
PbS_Arr_256_0050_0040x0380	256	50	40	380	-30 to 70



Typical spectral response per pixel



Typical frequency response per pixel



Die attach

- Use clean, soft rubber tip for pick and place handling
- UV-curing is not suitable due to permanent damage by UV light exposure
- Element temperature should never exceed 70°C

Wire-bonding

- Electrodes are optimized for room temperature Al-wire-bonding
- Element temperature should never exceed 70°C

Options

- Individual housing
- Bonding on PCB
- Integrated optics

Storage

- Storage temperature: -30°C to 70°C
- Exposure to UV light results in permanent damage
- Prolonged exposure to visible light results in low dark resistance

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.