

PbS Detectors Uncooled PB25-Series

Description

The PB25 series is a collection of uncooled photoconductive single element PbS detectors that operate at room temperature with a 20% cut-off of 3.0 μm . This series is widely used in analytic, safety and radiometric applications especially when large active areas are requested.

Features

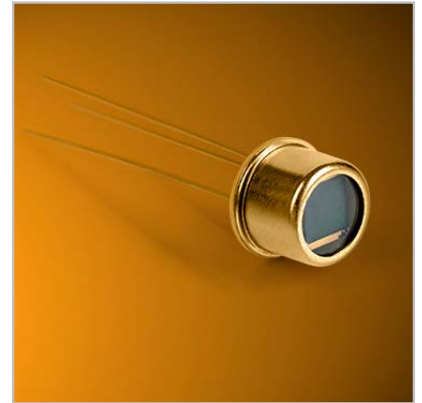
- Spectral range from 1 to 3.0 μm
- State of the art performance
- 100% test data

Applications

- Pulp and paper industry
- Non-contact temperature measurement
- Spark detection
- Flame control
- Moisture monitoring
- FTNIR

Versions

- TO-can (TO-46, TO-39, TO-8)
- Sapphire window as standard
- Custom versions available



Basic Characteristics, Specifications @ 23 °C

For all PB25 versions	20% Cut-off Wavelength [μm] ^b	Peak Wavelength [μm] ^b	Time Constant [μs] ^b	
	typ.	typ.	typ.	max.
	2.6	2.4	200	400

Part number	Element Size [mm ²]	Aperture Size [mm]	Features	Peak Responsivity [V/W] ^{ac}		Noise Density (rms)	
				min	typ	90 Hz	650 Hz
						typ	typ
PB25S10104S	1.0 x 1.0	dia. 3.0	TO-46, short cap	560000	800000	4.2	1.4
PB25G10104	1.0 x 1.0	dia. 3.81	TO-46, glass cap	560000	800000	4.2	1.4
PB25S10109S	1.0 x 1.0	dia. 6.35	TO-39, short cap	560000	800000	4.2	1.4
PB25G10109	1.0 x 1.0	dia. 6.60	TO-39, glass cap	560000	800000	4.2	1.4
PB25G10254	1.0 x 2.5	dia. 3.81	TO-46, glass cap	220000 ^{a1}	330000 ^{a1}	TBD	TBD
PB25G10259	1.0 x 2.5	dia. 6.60	TO-39, glass cap	220000 ^{a1}	330000 ^{a1}	TBD	TBD
PB25S20209S	2.0 x 2.0	dia. 6.35	TO-39, short cap	280000	400000	4.2	1.4
PB25G20209	2.0 x 2.0	dia. 6.60	TO-39, glass cap	280000	400000	4.2	1.4
PB25S30309S	3.0 x 3.0	dia. 6.35	TO-39, short cap	185000	260000	TBD	TBD
PB25G3030	3.0 x 3.0	dia. 6.60	TO-39, glass cap	185000	260000	TBD	TBD
PB25G20509	2.0 x 5.0	dia. 6.60	TO-39, glass cap	80000 ^{a1}	12000 ^{a1}	TBD	TBD
PB25G38389	3.8 x 3.8	dia. 6.60	TO-39, glass cap	115000	172000	TBD	TBD
PB25S50508M	5.0 x 5.0	dia. 9.53	TO-8, medium cap	110000	160000	TBD	TBD
PB25S60608M	6.0 x 6.0	dia. 9.53	TO-8, medium cap	90000	140000	TBD	TBD
PB25G20209X-Si	2.0 x 2.0	dia. 6.35	Si-Sandwich	280000	400000	4.2	1.4

Notes:

- ^a Measured with 500 K blackbody. Bias is 50 V/mm with 1 MOhm load series. Bandwidth of test setup is 1 Hz.
- ^{a1} 0.5 MOhm load series
- ^b Parameter not 100% tested.
- ^c without filter / window

Electro-Optical Characteristics, Specifications @ 23 °C

Part number	Peak D* ^{abc}		Peak D* ^{ac}		Dark Resistance [MΩm/square]		
	90 Hz	90 Hz	650 Hz	650 Hz	min	typ	max
	min	typ	min	typ			
PB25S10104S	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G10104	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25S10109S	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G10109	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G10254	2.5 E+10 ^{a1}	3.5 E+10 ^{a1}	8.0 E+10 ^{a1}	1.1 E+11 ^{a1}	0.1	0.32	1.0
PB25G10259	2.5 E+10 ^{a1}	3.5 E+10 ^{a1}	8.0 E+10 ^{a1}	1.1 E+11 ^{a1}	0.1	0.32	1.0
PB25S20209S	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G20209	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25S30309S	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G3030	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25G20509	2.5 E+10 ^{a1}	3.5 E+10 ^{a1}	8.0 E+10 ^{a1}	1.1 E+11 ^{a1}	0.1	0.32	1.0
PB25G38389	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5
PB25S50508M	2.2 E+10	3.0 E+10	7.0 E+10	9.0 E+10	0.2	0.8	2.5
PB25S60608M	2.2 E+10	3.0 E+10	7.0 E+10	9.0 E+10	0.2	0.8	2.5
PB25G20209X-Si	2.5 E+10	3.5 E+10	8.0 E+10	1.1 E+11	0.25	0.8	2.5

Notes:

- ^a Measured with 500 K blackbody. Bias is 50 V/mm with 1 MΩ load series. Bandwidth of test setup is 1 Hz.
- ^{a1} 0.5 MΩ load series
- ^b Parameter not 100% tested.
- ^c without filter / window

Package Drawings

All standard packages, dimensions and tolerances are shown in our supplementary datasheet „PbS- / PbSe Detectors - Package Drawings & Cooling Specifications“.

Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

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

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