

PbSe IR Detector

Model: OPR1000-PBSE-O

Features

- With a 20% cut-off of 4.7um
- Single element
- TO package



Applications

- Flame monitoring
- Gas detection and analysis

Absolute Maximum Ratings ($T_a=23^{\circ}\text{C}$)

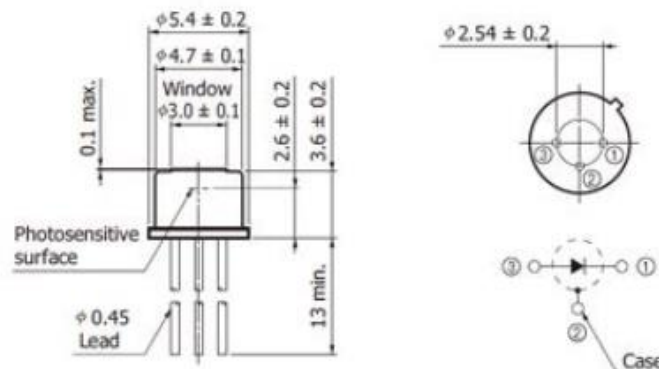
Parameter	Symbol	Value			Unit	Test conditions
		Min.	Typ.	Max.		
Chip Size	size	1000*1000			μm	
Peak responsivity	S	44000			V/W	I _{pk} , 1050Hz
Peak Wavelength	λ_p		3.8		μm	
20% cut-off wavelength	λ_c		4.5		μm	
Time constant	T		2	5	μs	
Min. D*	λ_{mk}	9.0×10^9			$\text{cm}^2 \cdot \text{Hz}^{1/2} / \text{W}$	@1050Hz, 1Hz
Peak D	λ_{pk}	1.2×10^{10}	1.8×10^{10}		$\text{cm}^2 \cdot \text{Hz}^{1/2} / \text{W}$	@1050Hz, 1Hz
Dark Resistance	R _d	0.1	0.8	3.5	M Ω /Square	
Rated element Temperature				+85	$^{\circ}\text{C}$	
Detector operating temperature			+23		$^{\circ}\text{C}$	

Measured with 500K blackbody.

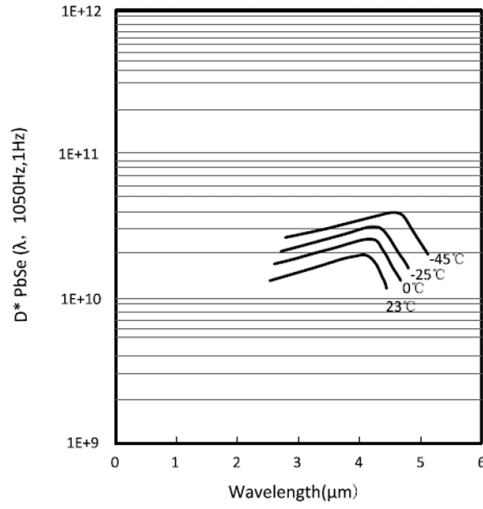
Detector tested using 50V/mm across the detector and 1M Ω load resistor.

Block Diagram and Pin description

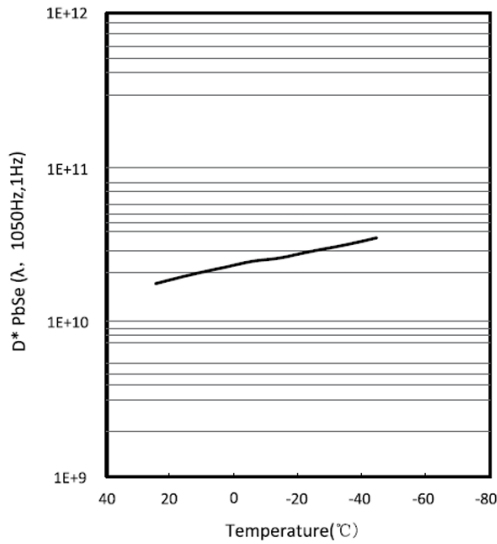
Note: All dimension are in millimeters



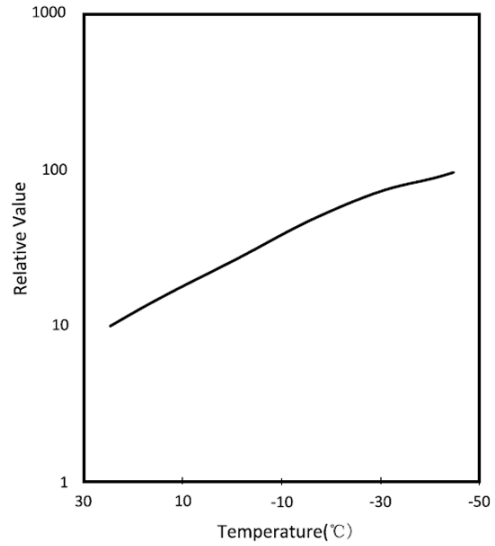
Typical Spectral Response



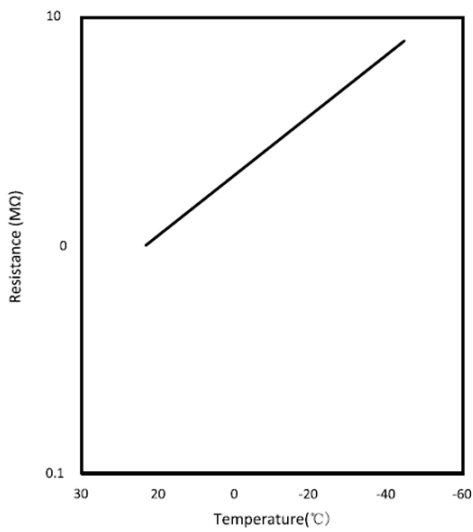
D* vs. Temperature



Responsivity vs. Temperature



Resistance vs. Temperature



Time Constant vs. Temperature

