



Photodiode

EPD-440-0/2.5

Preliminary

11.04.2007

rev. 03/07

Wavelength	Type	Technology	Case
UV	Schottky Contact	GaP	TO-39 + UV-glass

<p>The side view shows a cylindrical package with a diameter of 9.90 mm and a height of 5.08 mm. The top view shows a square chip with a side length of 3.25 mm, centered on a circular base with a diameter of 9.90 mm. The chip is located at a distance of 0.45 mm from the top edge. The package has a 45.00 degree angle on the side. The anode is located at the bottom of the package, and the chip location is marked with a red square.</p>	<p>Description</p> <p>Wide bandwidth and high spectral sensitivity in the UV and visible range (190 nm - 570 nm), mounted in hermetically sealed TO-39 package with UV-glass window</p> <p>Applications</p> <p>Medical engineering (dermatology), output check of UV - lamps and oil or gas burner flame, measurement and control of ecological parameters, radiation control for a solarium, UV water purification facilities</p>
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Miscellaneous Parameters

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	4.8	mm ²
Temperature coefficient of I _D		T _C (I _D)	7.0	%/K
Operating temperature range		T _{amb}	-40 to +125	°C
Storage temperature range		T _{stg}	-40 to +125	°C
Acceptance angle at 50% S _λ		φ	135	deg.

Optical and Electrical Characteristics

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Breakdown voltage ¹⁾	I _R = 10 μA	V _R	5			V
Dark current	V _R = 5 V	I _D		15	40	pA
Peak sensitivity wavelength	V _R = 0 V	λ _p		440		nm
Responsivity at λ _p	V _R = 0 V	S _λ		0.17		A/W
Sensitivity range at 1%	V _R = 0 V	λ _{min} , λ _{max}	190		570	nm
Spectral bandwidth at 50%	V _R = 0 V	Δλ _{0.5}		180		nm
Shunt resistance	V _R = 10 mV	R _{SH}	80	100		GΩ
Noise equivalent power	λ = 440 nm	NEP		1.3x10 ⁻¹⁴		W/√Hz
Specific detectivity	λ = 440 nm	D*		1.7x10 ¹³		cm·√Hz·W ⁻¹
Junction capacitance	V _R = 0 V	C _J		1000		pF
Switching time (R _L = 50 Ω)	V _R = 5 V	t _r , t _f		1/60		ns
Photo current at λ = 440 nm ^{1,2)}	V _R = 0 V E _e = 1 mW/cm ²	I _{Ph}		6.5		μA

¹⁾for information only

²⁾measured with common halogen lamp source and appropriate filter



Typical responsivity

EPD-440-0

