



## Photodiode

## EPD-1300-0-0.5

Preliminary

6/21/2007

rev. 03/07

Wavelength	Type	Technology	Case
Infrared	Planar	InGaAs/InP	TO-18

	<p><b>Description</b></p> <p>InGaAs-Photodiode mounted in TO-18 standard package covered with epoxy. High spectral sensitivity in the infrared range (NIR, SWIR).</p> <p><b>Applications</b></p> <p>Optical communications, safety equipment, light barriers</p>
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### Miscellaneous Parameters

T<sub>amb</sub> = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.196	mm <sup>2</sup>
Temperature coefficient		T <sub>C</sub> (I <sub>D</sub> )	0.074	1/K
Operating temperature range		T <sub>amb</sub>	-40 to +85	°C
Storage temperature range		T <sub>stg</sub>	-40 to +100	°C

### Optical and Electrical Characteristics

T<sub>amb</sub> = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>		0.8		V
Breakdown voltage <sup>2)</sup>	I <sub>R</sub> = 10 μA	V <sub>R</sub>	5			V
Sensitivity range at 10 %	V <sub>R</sub> = 0 V	λ	800		1750	nm
Spectral bandwidth at 50 %	V <sub>R</sub> = 0 V	Δλ <sub>0.5</sub>		680		nm
Responsivity at 1300 nm <sup>1)</sup>	V <sub>R</sub> = 0 V	S <sub>λ</sub>		0.9		A/W
Dark current	V <sub>R</sub> = 5 V	I <sub>D</sub>		250	1000	pA
Shunt resistance	V <sub>R</sub> = 10 mV	R <sub>SH</sub>	0.5	1.0		GΩ
Noise equivalent power	λ = 1300 nm	NEP		1.1x10 <sup>-14</sup>		W/√Hz
Specific detectivity	λ = 1300 nm	D*		4.0x10 <sup>12</sup>		cm·√Hz·W <sup>-1</sup>
Junction capacitance	V <sub>R</sub> = 0 V	C <sub>J</sub>		45		pF

<sup>1)</sup> measured on bare chip on TO-18 header

<sup>2)</sup> for information only



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