



Photodiode

EPD-1300-0-0.5

Preliminary

6/21/2007

rev. 03/07

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

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

Miscellaneous Parameters

 $T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.196	mm ²
Temperature coefficient		$T_c(I_D)$	0.074	1/K
Operating temperature range		T_{amb}	-40 to +85	°C
Storage temperature range		T_{stg}	-40 to +100	°C

Optical and Electrical Characteristics

 $T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 10\text{ mA}$	V_F		0.8		V
Breakdown voltage ²⁾	$I_R = 10\text{ }\mu\text{A}$	V_R	5			V
Sensitivity range at 10 %	$V_R = 0\text{ V}$	λ	800		1750	nm
Spectral bandwidth at 50 %	$V_R = 0\text{ V}$	$\Delta\lambda_{0.5}$		680		nm
Responsivity at 1300 nm ¹⁾	$V_R = 0\text{ V}$	S_λ		0.9		A/W
Dark current	$V_R = 5\text{ V}$	I_D		250	1000	pA
Shunt resistance	$V_R = 10\text{ mV}$	R_{SH}	0.5	1.0		GΩ
Noise equivalent power	$\lambda = 1300\text{ nm}$	NEP		1.1×10^{-14}		W/√Hz
Specific detectivity	$\lambda = 1300\text{ nm}$	D^*		4.0×10^{12}		cm·√Hz·W ⁻¹
Junction capacitance	$V_R = 0\text{ V}$	C_J		45		pF

¹⁾ measured on bare chip on TO-18 header

²⁾ for information only



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