



Photodiode

EPD-880-0-1.4

Preliminary

6/28/2007

rev. 01/07

Wavelength	Type	Technology	Case
Infrared	Integrated filter	AlGaAs/GaAs	TO-46

	<p>Description</p> <p>Selective photodiode mounted in hermetically sealed TO-46 package. Narrow bandwidth and high spectral sensitivity in the infrared range (810...950 nm).</p> <p>Note: Special packages with standoff available on request</p> <p>Applications</p> <p>Alarm systems, light barriers, special sensors, analytics, optical communication</p>
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Miscellaneous Parameters

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

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	1.2	mm ²
Temperature coefficient of I _D		T _C (I _D)	5	%/K
Operating temperature range		T _{amb}	-30 to +100	°C
Storage temperature range		T _{stg}	-40 to +125	°C
Soldering Temperature	t ≤ 3 s, 3 mm from case	T _{slid}	260	°C
Acceptance angle at 50% S _λ		φ	45	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 = 1 V	I _D		1.0	2.5	nA
Peak sensitivity wavelength	V _R = 0 V	λ _p		890		nm
Responsivity at λ _p	V _R = 0 V	S _λ	0.3	0.55		A/W
Sensitivity range at 10% ¹⁾	V _R = 0 V	λ _{min} , λ _{max}	800		960	nm
Spectral bandwidth at 50%	V _R = 0 V	Δλ _{0.5}		115		nm
Shunt resistance	V _R = 10 mV	R _{SH}		205		GΩ
Noise equivalent power	λ = 880 nm	NEP		3.3x10 ⁻¹⁴		W/√Hz
Specific detectivity	λ = 880 nm	D*		2.4x10 ¹²		cm·√Hz·W ⁻¹
Junction capacitance	V _R = 0 V	C _J		590		pF
Switching time (R _L = 50 Ω)	V _R = 1 V	t _r , t _f		200		ns
Photo-current at λ _p = 875 nm	V _R = 0 V E _e = 1mW/cm ²	I _{Ph}		4.8		μA

¹⁾for information only

²⁾Halogen lamp source with appropriate filter



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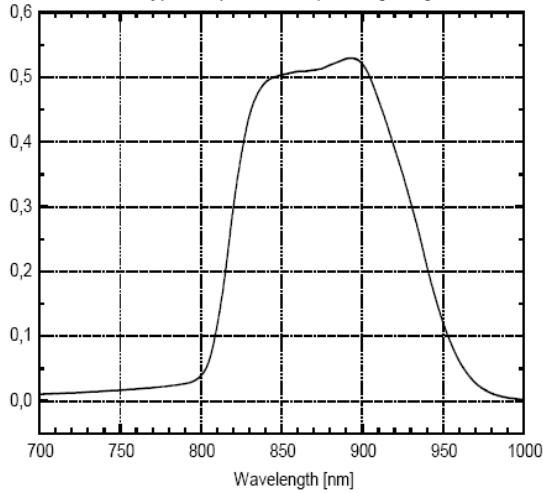
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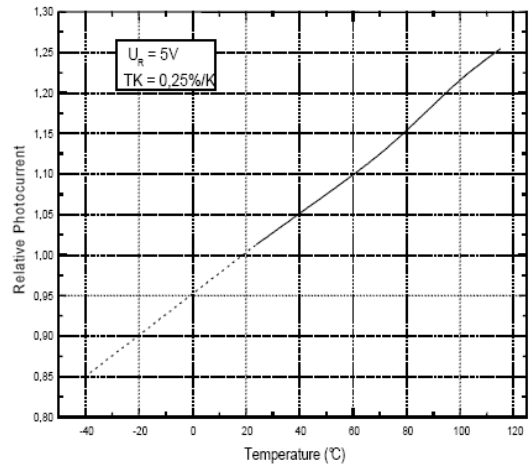
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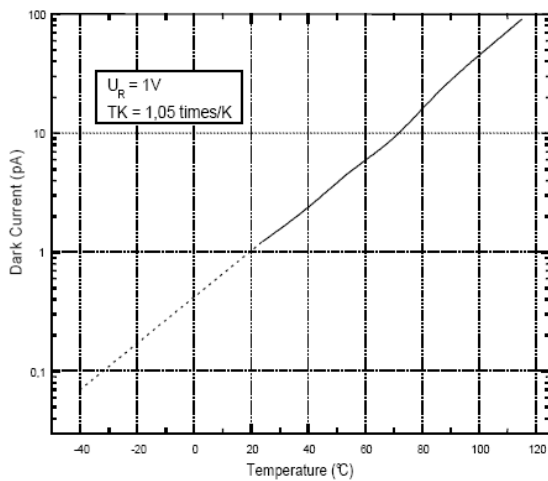
Typical spectral response [A/W]



Relative Photocurrent vs. Temperature



Dark Current vs. Temperature



Short-circuit current vs. irradiance (typical)²⁾

