

Wavelength range	Type	Technology	Electrodes
Infrared	Planar	InGaAs/InP	Both on top side

	typ. dimensions in $\mu\text{m}$	
	<u>typ. thickness</u> 330 ( $\pm 20$ ) $\mu\text{m}$ <u>top side*</u> bond gold 1.0 $\mu\text{m}$  <u>rear side</u> no metalization  * Bond pad assignment: Pos. 1 - Anode Pos. 2 - Cathode	<b>Description</b> Broadband photodiode with maximum response in the NIR-region, no rear side metalization  <b>Applications</b> Optical communications, safety equipment, light barriers

## Miscellaneous Parameters

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

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.78	$\text{mm}^2$
Operating temperature range		$T_{\text{amb}}$	-40 to +125	$^\circ\text{C}$
Storage temperature range		$T_{\text{stg}}$	-40 to +125	$^\circ\text{C}$
Temperature coefficient of $I_D$	$T = -40 \dots 120^\circ\text{C}$	$T_C(I_D)$	7.4	%/K

## Optical and Electrical Characteristics

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

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 10 \text{ mA}$	$V_F$		0.6		V
Breakdown voltage <sup>2)</sup>	$I_R = 10 \mu\text{A}$	$V_R$	5			V
Sensitivity range at 10 %	$V_R = 0 \text{ V}$	$\lambda$	800		1750	nm
Spectral bandwidth at 50 %	$V_R = 0 \text{ V}$	$\Delta\lambda_{0,5}$		680		nm
Responsivity at 1300 nm <sup>1)</sup>	$V_R = 0 \text{ V}$	$S_\lambda$		0.9		A/W
Dark current	$V_R = 5 \text{ V}$	$I_D$		0.5	10	nA
Shunt resistance	$V_R = 10 \text{ mV}$	$R_{SH}$	15	30		$\text{M}\Omega$
Noise equivalent power	$\lambda = 1300 \text{ nm}$	NEP		$3.0 \times 10^{-14}$		$\text{W}/\sqrt{\text{Hz}}$
Specific detectivity	$\lambda = 1300 \text{ nm}$	$D^*$		$2.9 \times 10^{12}$		$\text{cm} \cdot \sqrt{\text{Hz}} \cdot \text{W}^{-1}$
Junction capacitance	$V_R = 0 \text{ V}$	$C_J$		130		pF

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

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

## Labeling

Type	Typ. $I_D$ [nA]	Typ. $S_\lambda$ [A/W]	Lot N°	Quantity
EPC-1300-1.0-3				

**Packing:** Chips on adhesive film with wire-bond side on top

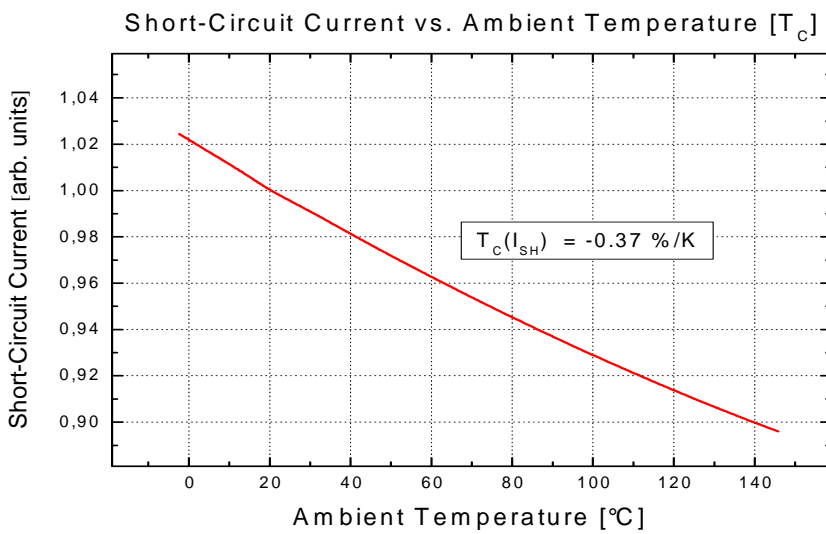
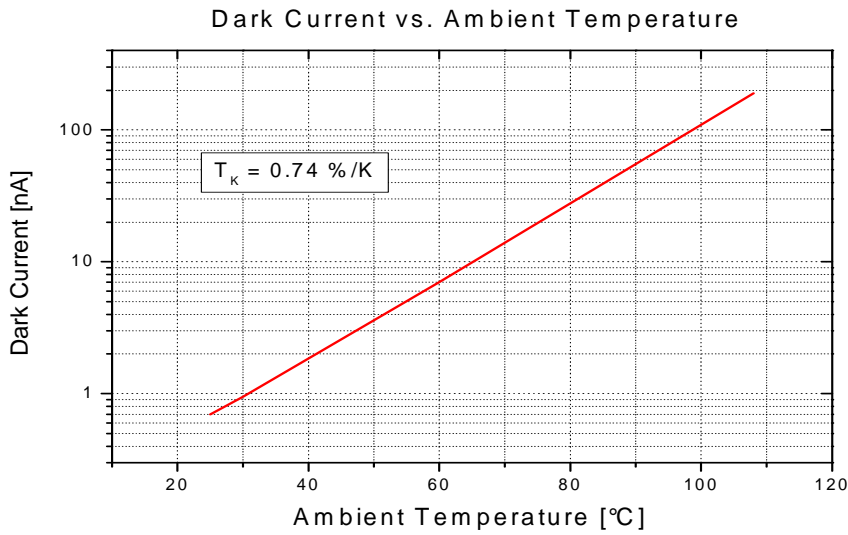
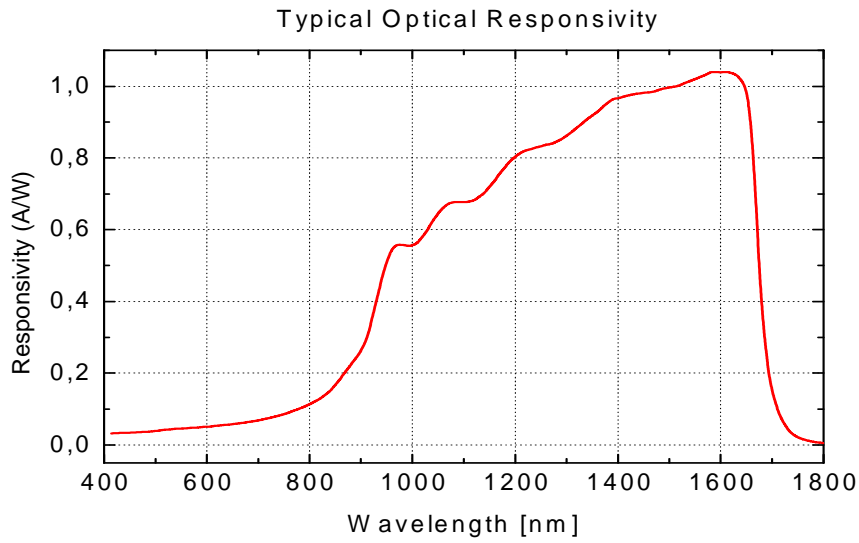
\*Note: All measurements carried out with *EPIGAP* equipment

We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each application by the customers themselves.

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