

Wavelength range	Type	Technology	Electrodes
Infrared	Planar	InGaAs/InP	P (anode) up

	typ. dimensions in $\mu\text{m}$	
	<u>typ. thickness</u> 330 ( $\pm 20$ ) $\mu\text{m}$ <u>anode (pin 1)</u> bond gold 1.0 $\mu\text{m}$ <u>cathode (rear*)</u> gold alloy, 0.5 $\mu\text{m}$ *also pin 2, for measuring purposes	<b>Description</b> Broadband photodiode with maximum response in the NIR-region and enhanced responsivity in the visible range  <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	0.196	$\text{mm}^2$
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	$I_F = 10 \text{ mA}$	$V_F$		0.8		V
Breakdown voltage <sup>2)</sup>	$I_R = 10 \mu\text{A}$	$V_R$	5			V
Sensitivity range at 10 %	$V_R = 0 \text{ V}$	$\lambda$	440		1710	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	$V_R = 5 \text{ V}$	$I_D$		250	1000	pA
Shunt resistance	$V_R = 10 \text{ mV}$	$R_{SH}$	0.5	1.0		G $\Omega$
Noise equivalent power	$\lambda = 1300 \text{ nm}$	NEP		$1.1 \times 10^{-14}$		$\text{W}/\sqrt{\text{Hz}}$
Specific detectivity	$\lambda = 1300 \text{ nm}$	$D^*$		$4.0 \times 10^{12}$		$\text{cm} \cdot \sqrt{\text{Hz}} \cdot \text{W}^{-1}$
Junction capacitance	$V_R = 0 \text{ V}$	$C_J$		45		pF

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

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

### Labeling

Type	Typ. $I_D$ [pA]	Typ. $S_\lambda$ [A/W]	Lot N°	Quantity
EPC-1300-0.5-2				

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

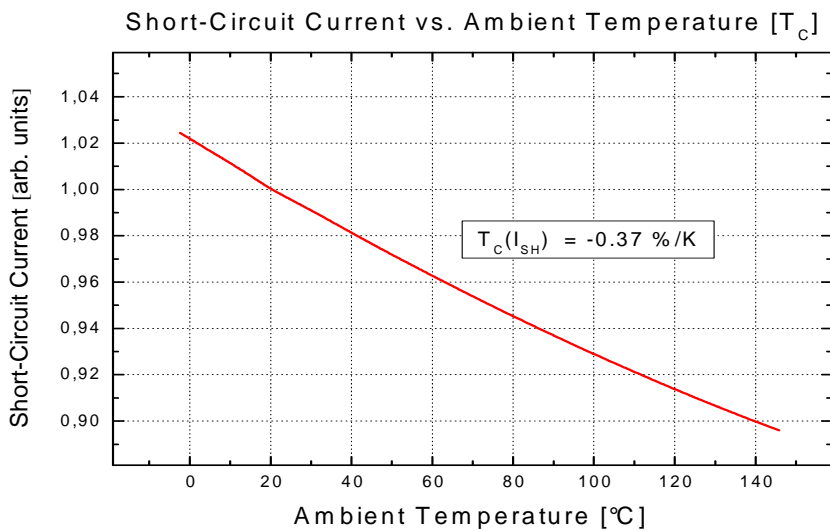
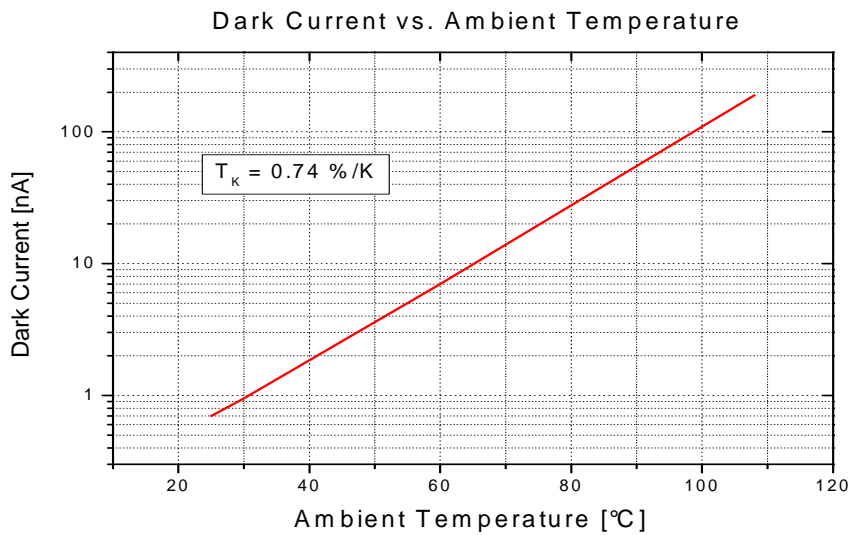
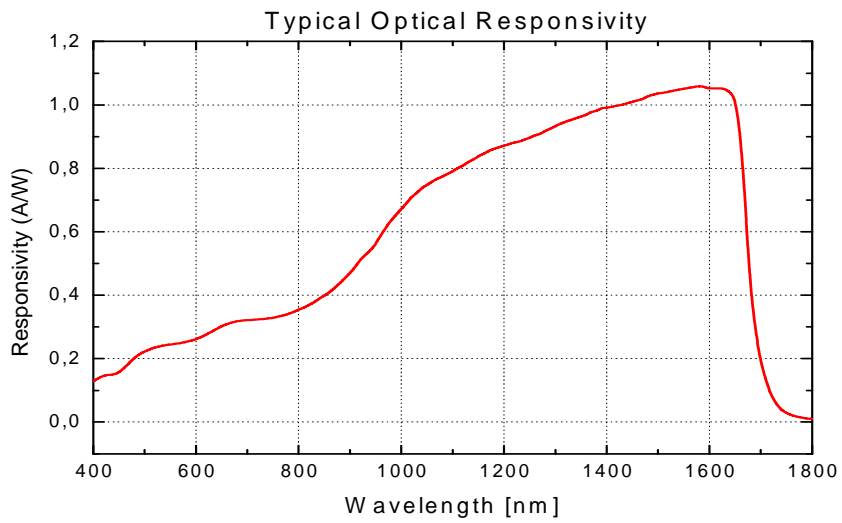
\*Note: All measurements carried out with *EPIGAP* equipment

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.

**EPIGAP** Optoelektronik GmbH, D-12555 Berlin, Köpenicker Str.325 b, Haus 201

Tel.: +49-30-6576 2543, Fax : +49-30-6576 2545



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