

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

	typ. dimensions in µm	
	<u>typ. thickness</u> 330 (±20) µm <u>anode (pin 1)</u> bond gold 1.0 µm <u>cathode (rear*)</u> gold alloy, 0.5 µm *also pin 2, for measuring purposes	Description Broadband photodiode with maximum response in the NIR-region (800-1750 nm) 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	0.78	mm ²
Operating temperature range		T_{amb}	-40 to +125	°C
Storage temperature range		T_{stg}	-40 to +125	°C
Temperature coefficient of I_D	$T = -40 \dots 120^{\circ}\text{C}$	$T_C(I_D)$	7.4	%/K

Optical and Electrical Characteristics

$T_{amb} = 25^{\circ}\text{C}$, 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 ²⁾	$I_R = 10 \text{ µA}$	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		0.5	10	nA
Shunt resistance	$V_R = 10 \text{ mV}$	R_{SH}	15	30		MΩ
Noise equivalent power	$\lambda = 1300 \text{ nm}$	NEP		3.0×10^{-14}		W/√Hz
Specific detectivity	$\lambda = 1300 \text{ nm}$	D^*		2.9×10^{12}		cm · √Hz · W ⁻¹
Junction capacitance	$V_R = 0 \text{ V}$	C_J		130		pF

¹⁾ measured on bare chip on TO-18 header

²⁾ for information only

Labeling

Type	Typ. I_D [nA]	Typ. S_λ [A/W]	Lot N°	Quantity
EPC-1300-1.0-1				

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

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

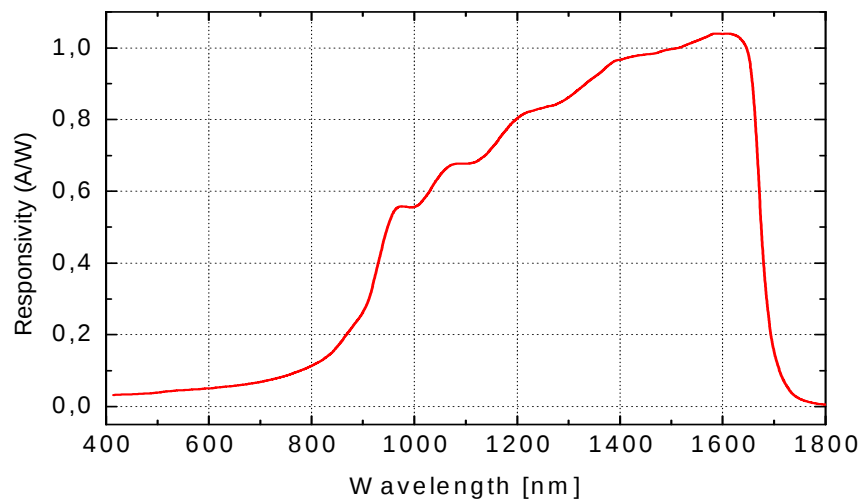
We reserve the right to make changes to improve technical design and may do so without further notice.

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

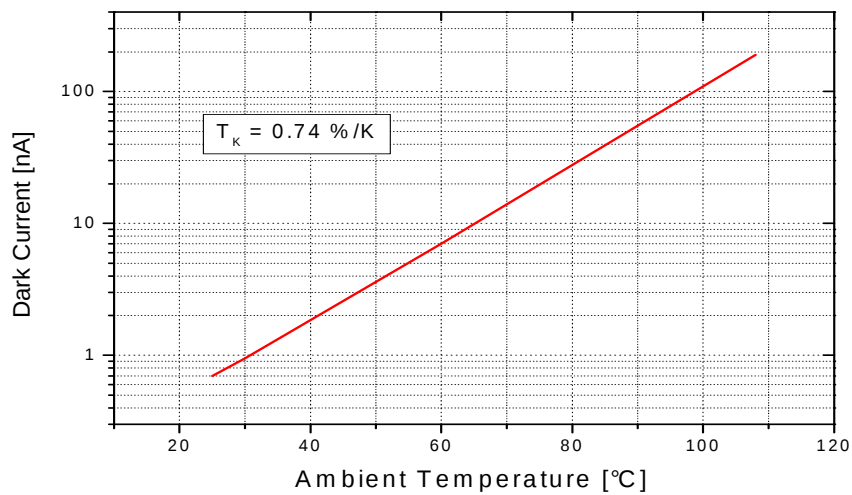
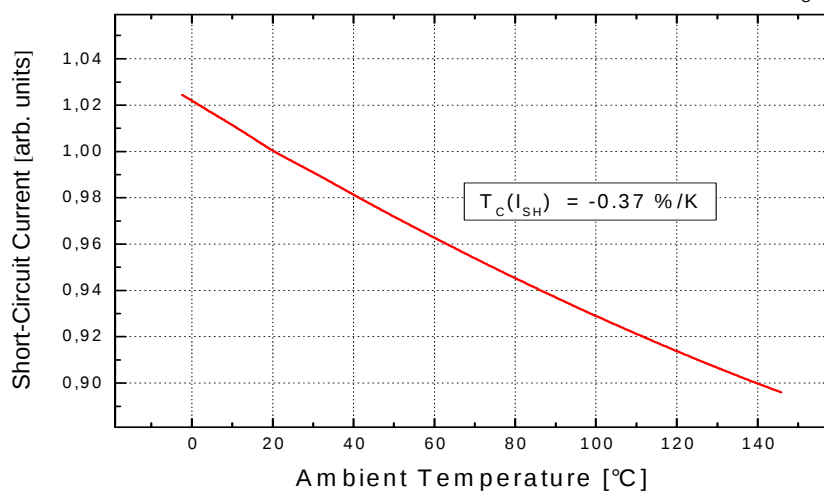
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Typical Optical Responsivity



Dark Current vs. Ambient Temperature

Short-Circuit Current vs. Ambient Temperature [T_c]

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