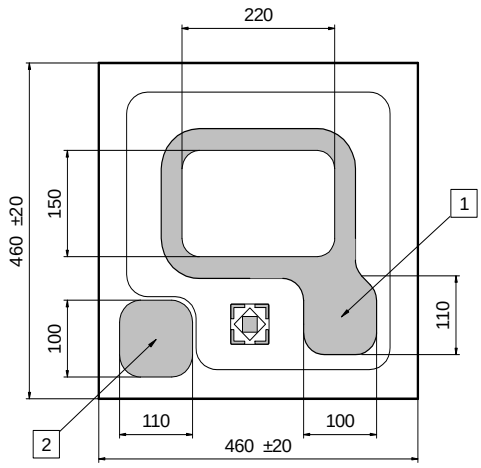
Photodiode-Chip EPC-1300-0.22-3

19.05.2008 rev. 03

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



typ. dimensions in µm

typ. thickness
330 (±20) µm

top side*
bond gold 1.0 µm

rear side
no metalization

* Bond pad assigment:
Pos. 1 - Anode
Pos. 2 - Cathode

Description
Broadband photodiode with maximum response in the NIR-region, no rear side metalization

Applications
Optical communications, safety equipment, light barriers

Miscellaneous Parameters

T_{amb} = 25℃, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.032	mm²
Operating temperature range		T_{amb}	-40 to +125	℃
Storage temperature range		T_{stg}	-40 to +125	℃
Temperature coefficient of I_D	T = -40…120℃	$T_C(I_D)$	7.4	%/K

Optical and Electrical Characteristics

T_{amb} = 25℃, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 10 mA	V_F		1.7		V
Breakdown voltage[2)]	I_R = 10 µA	V_R	5			V
Sensitivity range at 10 %	V_R = 0 V	λ	800		1750	nm
Spectral bandwidth at 50 %	V_R = 0 V	$\Delta\lambda_{0,5}$		680		nm
Responsivity at 1300 nm[1)]	V_R = 0 V	S_λ		0.9		A/W
Dark current	V_R = 5 V	I_D		30	200	pA
Shunt resistance	V_R = 10 mV	R_{SH}	3	5		GΩ
Noise equivalent power	λ = 1300 nm	NEP		4.0×10^{-15}		$W/\sqrt{Hz}$
Specific detectivity	λ = 1300 nm	D*		4.5×10^{12}		$cm \cdot \sqrt{Hz} \cdot W^{-1}$
Junction capacitance	V_R = 0 V	C_J		11		pF

[1)] measured on bare chip on TO-18 header
[2)] for information only

Labeling

Type	Typ. I_D [pA]	Typ. S_λ[A/W]	Lot N°	Quantity
EPC-1300-0.22-3				

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

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

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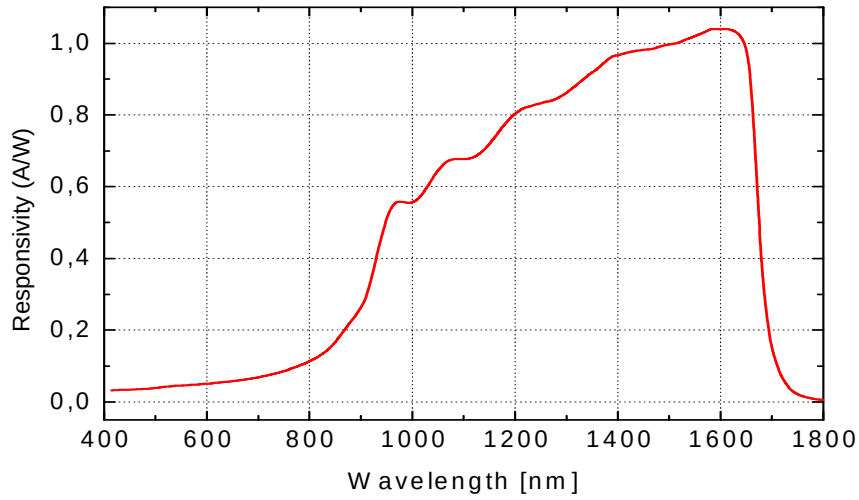
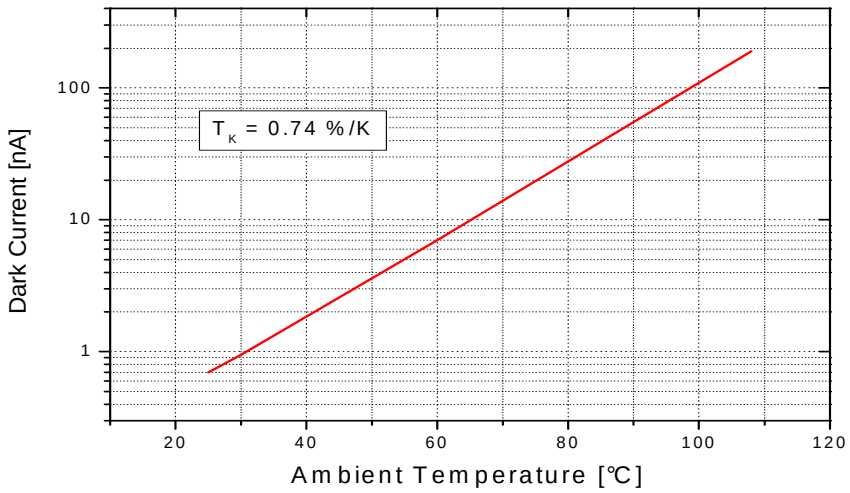
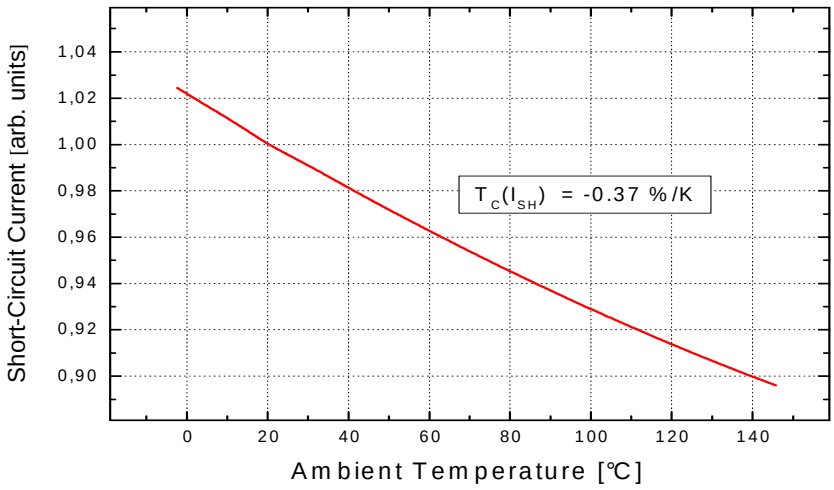
Typical Optical Responsivity



Dark Current vs. Ambient Temperature



Short-Circuit Current vs. Ambient Temperature [T_C]



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