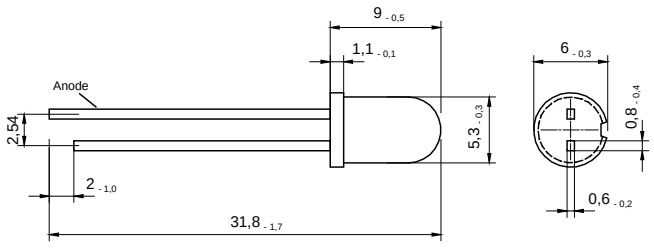
Photodiode EPD-740-5-0.9

Preliminary 6/28/2007 rev. 02/07

Wavelength	Type	Technology	Case
Infrared	water clear	AlGaAs/GaAs	5 mm plastic lens



Description

Selective photodiode mounted in standard 5 mm package without standoff. Narrow response range (740 nm peak) by means of integrated filter

Note: Special packages with standoff available on request

Applications

Optical communications, safety equipment, light barriers

Miscellaneous Parameters

T_{amb} = 25℃, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.62	mm²
Temperature coefficient of I_D		$T_C(I_D)$	5	%/K
Operating temperature range		T_{amb}	-20 to +85	℃
Storage temperature range		T_{stg}	-40 to +125	℃
Soldering Temperature	t ≤ 3 s, 3 mm from case	T_{sld}	260	℃
Acceptance angle at 50% S_λ		φ	20	deg.

Optical and Electrical Characteristics

T_{amb} = 25℃, 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 = 5 V	I_D		40	200	pA
Peak sensitivity wavelength	V_R = 0 V	λ_p		740		nm
Responsivity at λ_P	V_R = 0 V	S_λ		0.5		A/W
Spectral range at 10 %	V_R = 0 V	$\lambda_{0.5}$	680		770	nm
Spectral bandwidth at 50%	V_R = 0 V	$\Delta\lambda_{0.4}$		80		nm
Shunt resistance	V_R = 10 mV	R_{SH}		300		GΩ
Noise equivalent power	λ = 740 nm	NEP		$7.2x10^{-15}$		$W/\sqrt{Hz}$
Specific detectivity	λ = 740 nm	D*		$1.1x10^{13}$		$cm \cdot \sqrt{Hz} \cdot W^{-1}$
Junction capacitance	V_R = 0 V	C_J		120		pF
Switching time (R_L = 50 Ω)	V_R = 5 V	t_r, t_f		170		ns
Photo-current at λ_P [2)]	V_R = 0 V E_e = 1mW/cm²	I_{Ph}		15		µA

[1)] for information only

[2)] Halogen lamp source with appropriate filter

Note: All measurements carried out with *EPIGAP* equipment

Labeling

Type	Lot N°	R_D (typ.) [GΩ]	Quantity
EPD-740-5-0.9			

EPIGAP Optoelektronik GmbH, D-12555 Berlin, Köpenicker Str.325 b, Haus 201
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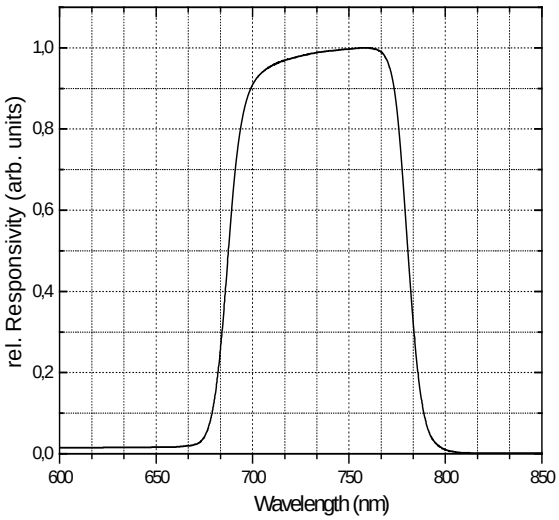
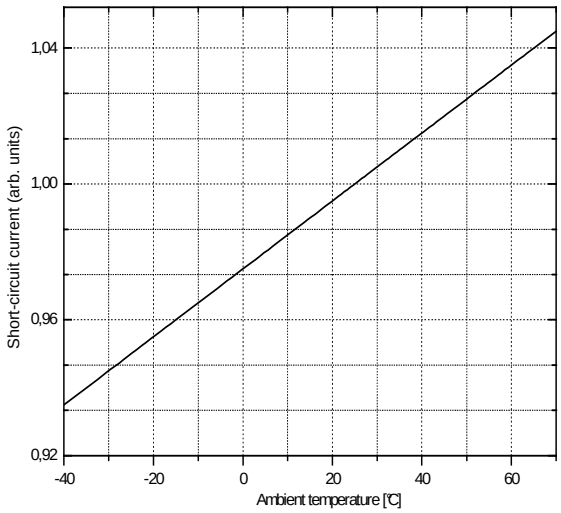
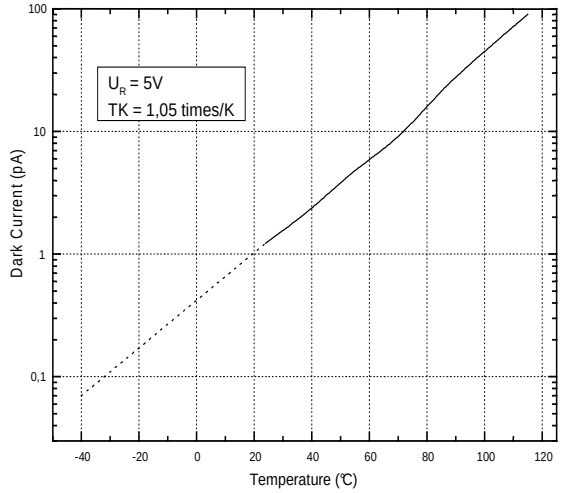
Typical responsivity spectrum



Short-circuit current vs. ambient temperature



Dark Current vs. Temperature



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