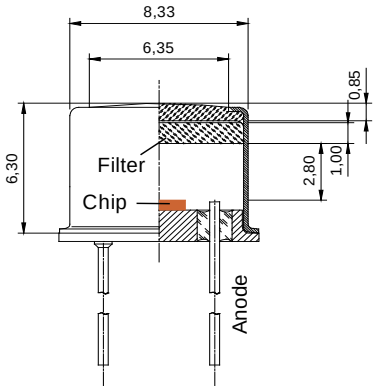
Photodiode EPD-360-0-0.3-1

Preliminary 10.05.2007 rev. 02/07

Wavelength	Type	Technology	Case
UV-A	clear UV-glass + filter	SiC	TO-39



Description

Selective photodiode with high spectral sensitivity in the UVA range (330 nm - 400 nm), mounted in hermetically sealed TO-39 package with clear UV-glass window and filter

Note: housing with diffuse glass window available on request

Applications

Environmental technology, analytical techniques, medical applications, industrial sensors, inspecting and controlling of UV radiation as well as for more general purposes

Miscellaneous Parameters

T_{amb} = 25℃, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	0.056	mm²
Temperature coefficient of I_{Ph}		$T_C(I_{Ph})$	0.1	%/K
Operating temperature range		T_{amb}	-40 to +70	℃
Storage temperature range		T_{stg}	-40 to +100	℃
Acceptance angle at 50% S_λ		φ	70	deg.

Optical and Electrical Characteristics

T_{amb} = 25℃, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Breakdown voltage[1)]	I_R = 100 µA	V_R		20		V
Dark current	V_R = 1 V	I_D		10	100	fA
Peak sensitivity wavelength	V_R = 0 V	λ_p		360		nm
Responsivity at λ_P	V_R = 0 V	S_λ		0.02		A/W
Sensitivity range at 10%	V_R = 0 V	λ_{min}, λ_{max}	330		400	nm
Spectral bandwidth at 50%	V_R = 0 V	$\Delta\lambda_{0.5}$		42		nm
Shunt resistance	V_R = 10 mV	R_{SH}		1		TΩ
Noise equivalent power	λ = 360 nm	NEP		7.0×10^{-15}		$W/\sqrt{Hz}$
Specific detectivity	λ = 360 nm	D*		3.4×10^{12}		$cm \cdot \sqrt{Hz} \cdot W^{-1}$
Junction capacitance	V_R = 0 V	C_J		20		pF
Photo current at λ = 360 nm[1,2)]	V_R = 0 V E_e = 100 µW/cm²	I_{Ph}		1.0		nA

[1)] for information only

[2)] measured with Phillips UV-lamp TL 4W/08

Note: All measurements carried out with *EPIGAP* equipment

Labeling

Type	Lot N°	R_D (typ.) [TΩ]	Quantity
EPD-360-0-0.3-1			

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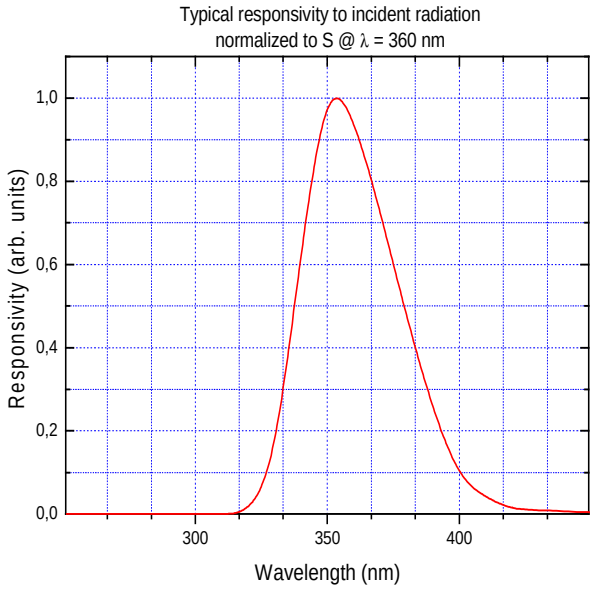
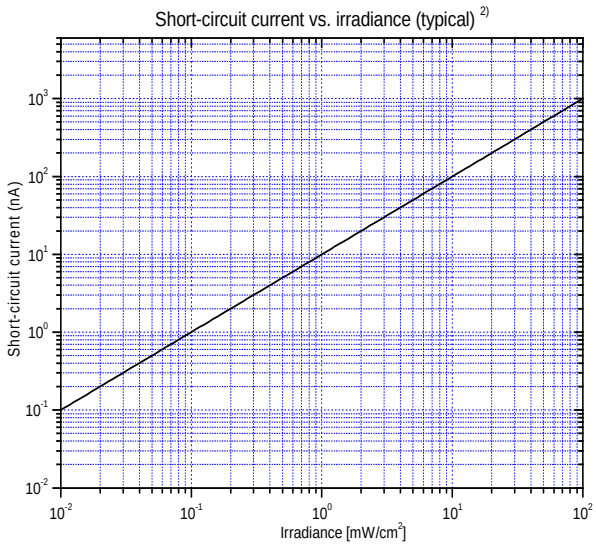
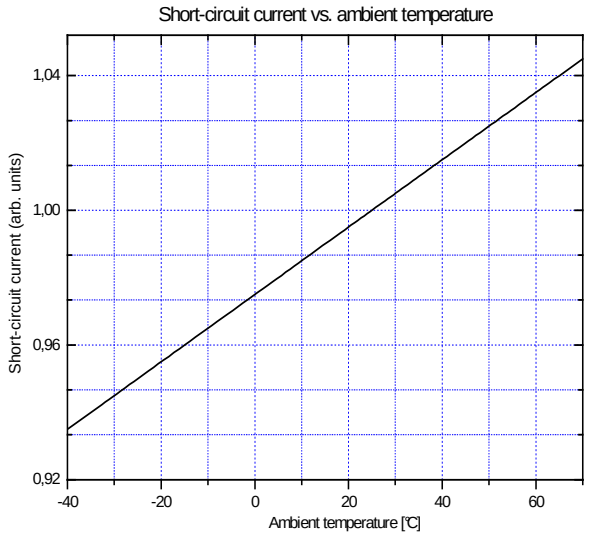

Typical responsivity to incident radiation
normalized to S @ λ = 360 nm
Responsivity (arb. units)
1,0
0,8
0,6
0,4
0,2
0,0
300
350
400
Wavelength (nm)


Short-circuit current vs. irradiance (typical) 2)
Short-circuit current (nA)
Irradiance [mW/cm²]


Short-circuit current vs. ambient temperature
Short-circuit current (arb. units)
1,04
1,00
0,96
0,92
-40
-20
0
20
40
60
Ambient temperature [°C]