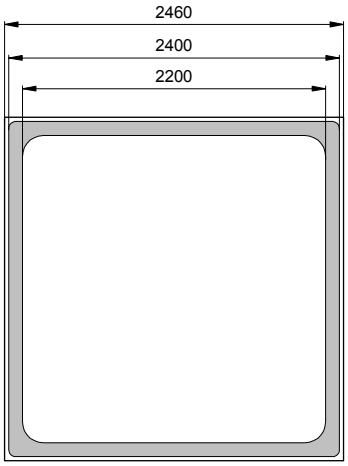
Photodiode-Chip EPC-440-2.5

19.11.2007 rev. 05

Wavelength range	Type	Technology	Electrodes
UV-blue-green	Schottky Contact	GaP	P (anode) up



typ. dimensions (µm)

typ. thickness
300 µm

anode
bond gold 1.0 µm

cathode
gold alloy, 0.5 µm

Description
High spectral sensitivity in the blue and ultraviolet range, low dark currents, low cost chip with high degradation stability

Applications
special light barriers, sensors for flame control and automation

Miscellaneous Parameters

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Active area		A	4.8	mm²
Temperature coefficient of I_D		$T_C(I_D)$	7.0	%/K
Operating temperature range		T_{amb}	-40 to +125	°C
Storage temperature range		T_{stg}	-40 to +125	°C

Optical and Electrical Characteristics

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Dark current	V_R = 5 V	I_D		15	40	pA
Peak sensitivity wavelength	V_R = 0 V	λ_p		440		nm
Responsivity at λ_P*	V_R = 0 V	S_λ		0.17		A/W
Sensitivity range at 1%	V_R = 0 V	λ_{min}, λ_{max}	<110		570	nm
Spectral bandwidth at 50%	V_R = 0 V	$\Delta\lambda_{0.5}$		180		nm
Shunt resistance	V_R = 10 mV	R_D	80	100		GΩ
Noise equivalent power	λ = 440 nm	NEP		1.3×10^{-14}		$W/\sqrt{Hz}$
Junction capacitance	V_R = 0 V	C_J		1000		pF
Switching time (R_L = 50 Ω)	V_R = 5 V	t_r, t_f		1/60		ns

*Measured on bare chip on TO-18 header

Labeling

Type	Typ. I_D [pA]	Typ. S_λ[A/W]	Lot N°	Quantity
EPC-440-2.5				

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

Note: All measurements carried out with *EPIGAP* equipment

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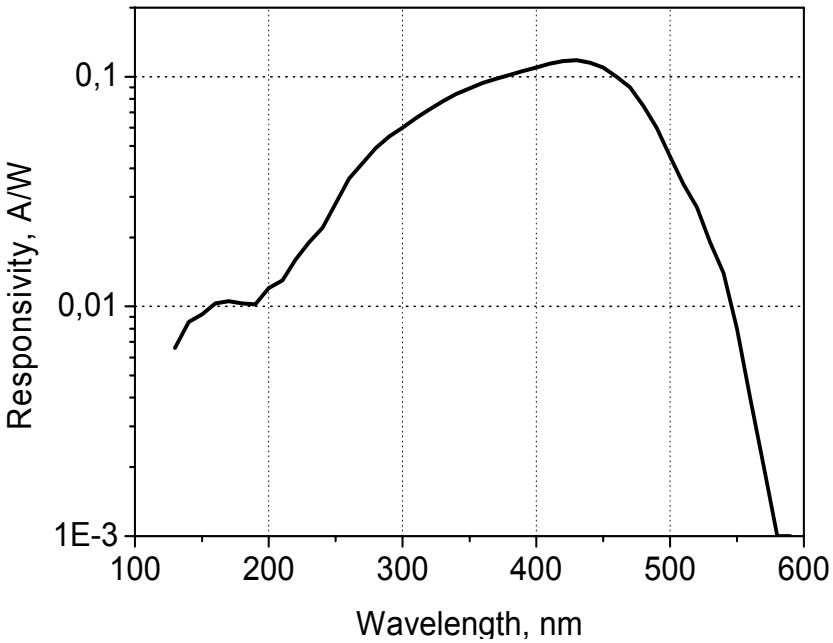
Typical responsitivity spectrum



Handling instructions of UV-photodiode dies on blue tape (Nitto's SWT 20)

EPIGAP's UV-photodiode dies are delivered on adhesive blue tape rings. For mounting these dies have to be removed from the tape. They are sensitive to surface touching so they should only be handled from the side. To minimize mechanical stress or chipping use only plastic tweezers or die collets for picking. Because larger dies are stronger sticked to the tape use one round point needle of about 1mm diameter or several pin point needles from the rear side to loosen the dies before picking.

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