

### Features

- 20 mm<sup>2</sup> PIN detector
- BP filter for lowest SNR
- High sensitivity
- High shunt resistance
- Blue-green enhanced

### Description

Blue-green enhanced rectangular active area PIN photodiode with 20 mm<sup>2</sup> active area. Metal can type isolated, hermetic TO5 package with band pass filter.

### Application

- Precision photometry
- Analytical instruments
- Medical equipment
- Fluorescence detector

### RoHS

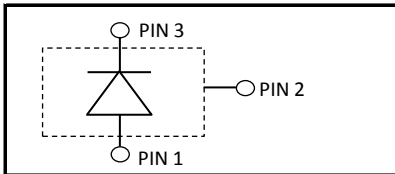
2002/95/EC



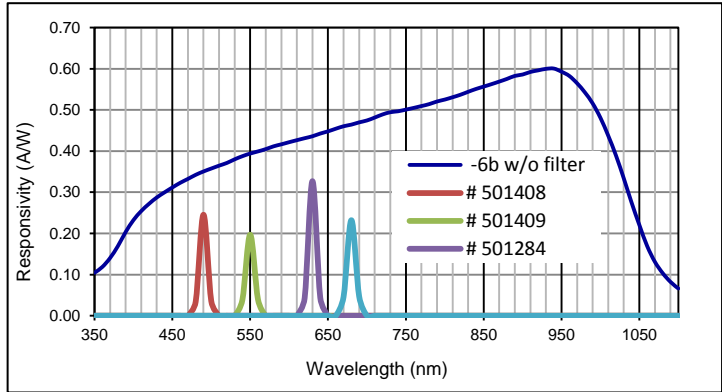
### Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T <sub>STG</sub>	Storage temp	-30	70	°C
T <sub>OP</sub>	Operating temp	-25	70	°C
V <sub>max</sub>	Max reverse voltage		50	V
I <sub>PEAK</sub>	Peak DC current		10	mA

### Schematic



### Spectral response (23 °C)



### Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		5030 x 3890			µm
	Active area		20			mm <sup>2</sup>
I <sub>D</sub>	Dark current	V <sub>R</sub> = 5 V		0.35		nA
C	Capacitance	V <sub>R</sub> = 0 V		160		pF
		V <sub>R</sub> = 5 V		50		pF
	Responsivity	#501408: BP488nm (T=0.7,FWHM 10nm) λ=488nm	0.19			A/W
		#501409: BP550nm (T=0.5,FWHM 10nm) λ=550nm	0.16			A/W
		#501284: BP633nm (T=0.8,FWHM 10nm) λ=633nm	0.26			A/W
		#501410: BP680nm (T=0.5,FWHM 10nm) λ=680nm	0.19			A/W
t <sub>R</sub>	Rise time	V <sub>R</sub> = 0 V; λ = 410 nm; R <sub>L</sub> = 50 Ω		140		ns
		V <sub>R</sub> = 5 V; λ = 410 nm; R <sub>L</sub> = 50 Ω		70		ns
	Shunt Resistance	V <sub>R</sub> = 5 mV	100	200		MΩ
	N.E.P.	V <sub>R</sub> = 5 V; λ = 550 nm w/o filter		2.9 E-14		W/√Hz
V <sub>BR</sub>	Breakdown voltage	I <sub>R</sub> = 2 µA	50			V

#### European, International Sales:

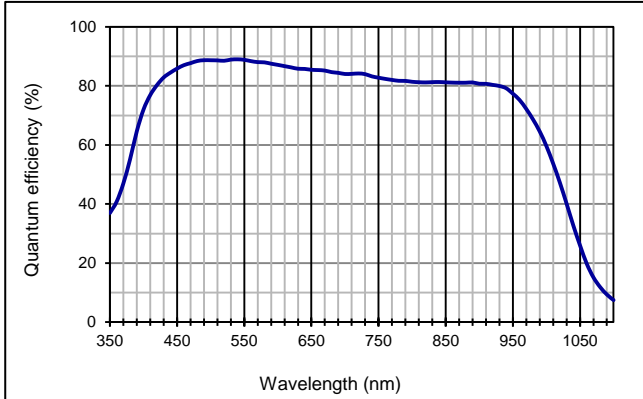
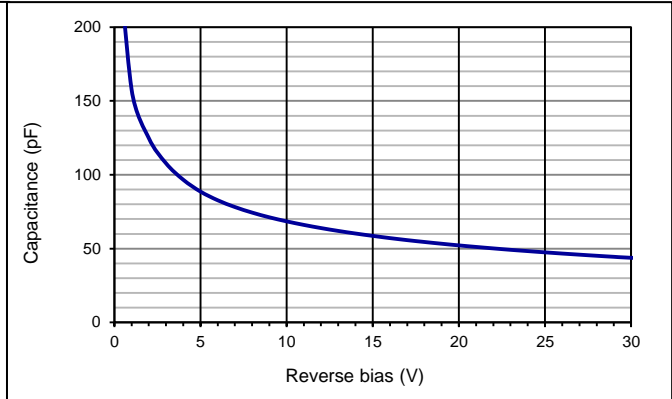
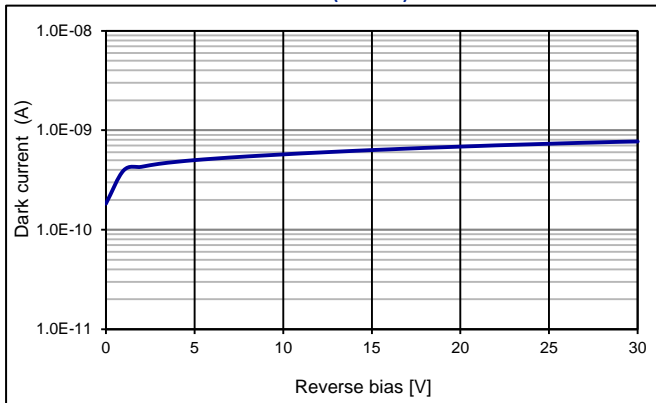


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**Quantum efficiency without filter (23 °C)**

**Capacitance as fct of reverse bias (23 °C)**

**Dark current as fct of bias (23 °C)**


### Filter options of PR20-6b TO

Order #	Filter	Center wavelength $\lambda_p$ (nm)	Filter transmission (%)	FWHM (nm)	Min. responsivity @ $\lambda_p$ (A/W)
501408	band pass	488	70	10	0.19
501409	band pass	550	50	10	0.16
501284	band pass	633	75	10	0.26
501410	band pass	680	50	10	0.19

### Package dimension:

Small quantities: Foam pad, boxed (12 cm x 16.5 cm)

### Handling:

Please refer to document "Instructions for handling and processing"

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

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