

EPIGAP Optronic GmbH

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Data Sheet

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Si quadrant photodiode

EOPD-940-0-5.8Q

Rev. 01, 2016

Spectral range	Type	Case
Blue ... infrared	Si	TO-5, glass window cap

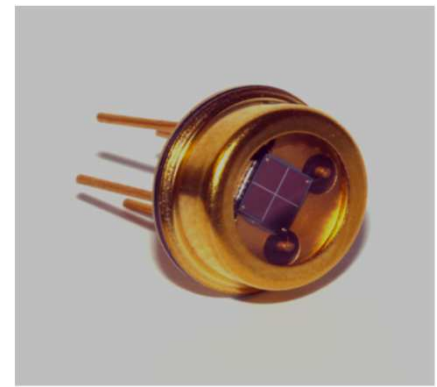
Square quadrant photodiode with a total active area of 5.8 mm^2 ($4 \times 1.44 \text{ mm}^2$) with a $50 \mu\text{m}$ gap in a hermetic TO-5 metal can. It is well suited for applications requiring high sensitivity (green/blue) as well as visible-near IR applications.

Features:

- > Wide Dynamic Range
- > High Shunt Resistance
- > Ultra Low Noise
- > Blue Enhanced

Applications:

- > Colorimeters
- > Beam centering
- > Optical Encoders
- > Fluorescence



Absolute maximum ratings

Parameters	Symbol	Rating	Unit
Reverse voltage	V_R	50	V
Operating temperature range	T_{OPR}	-40...+100	°C
Storage temperature range	T_{STG}	-55...+125	°C
Lead soldering temperature*	T_{LS}	260	°C

*Time 5 sec max, position: up to 3 mm from the body



Electro-optical characteristics:

$T_{amb} = 25^\circ\text{C}$, unless otherwise specified

Parameters	Symbol	Min	Typ	Max	Unit	Test conditions
Photocurrent @ 1300 nm**	I_{PH}			10	mA	$V_R = 10 \text{ V}$, $E_o = 5 \text{ mW/cm}^2$
Dark current per elem.	I_D		0.5	1	nA	$V_R = 10 \text{ V}$
Sensitivity range	λ	400		1100	nm	
Peak sensitivity WL	λ_P		940		nm	
Responsivity	S_λ		0.22		A/W	$V_R = 0 \text{ V}$, $\lambda = 410 \text{ nm}$
Responsivity	S_λ		0.60		A/W	$V_R = 0 \text{ V}$, $\lambda = 940 \text{ nm}$
Response time	t_R		20	22	ns	$V_R = 10 \text{ V}$, $R_L = 50 \Omega$, $\lambda = 940 \text{ nm}$
Junction capacitance	C_j^{***}		20	25	pF	$V_R = 0 \text{ V}$, 1 MHz
Junction capacitance	C_j^{***}		3.5	6.0	pF	$V_R = 5 \text{ V}$, 1 MHz
Shunt resistance	R_S	200	250		MΩ	$V_R = 10 \text{ mV}$

Standard Tungsten Lamp, Color Temperature=2870 K, *Per element

We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

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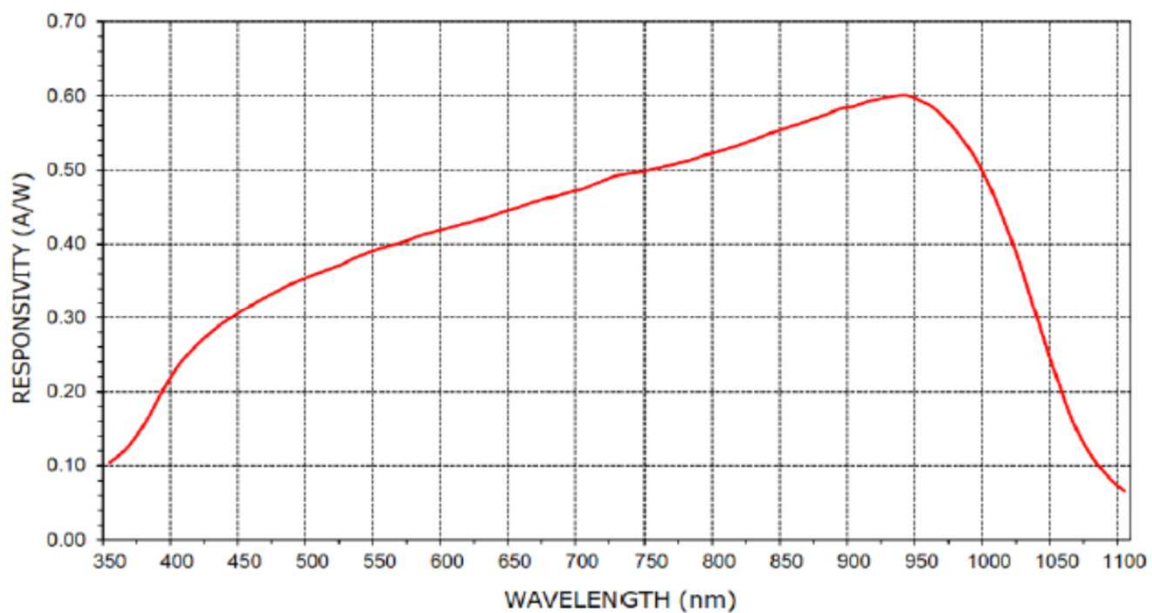
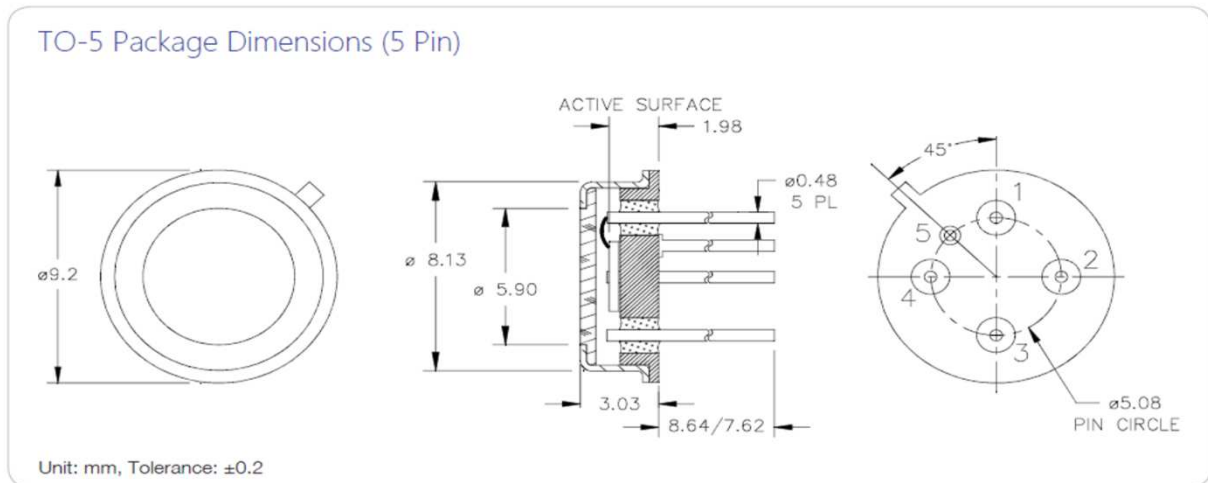


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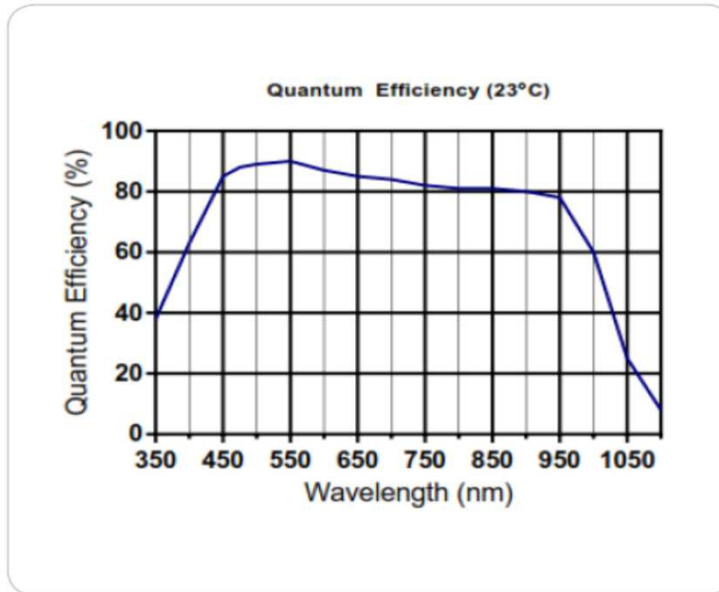
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