

Silicon PIN Photodiode

OSD3575-IC



Description

The OSD3575-IC is high-speed, high sensitivity PIN silicon Photodiode mounted in ceramic package with flat glass window, permits wide response.

Features

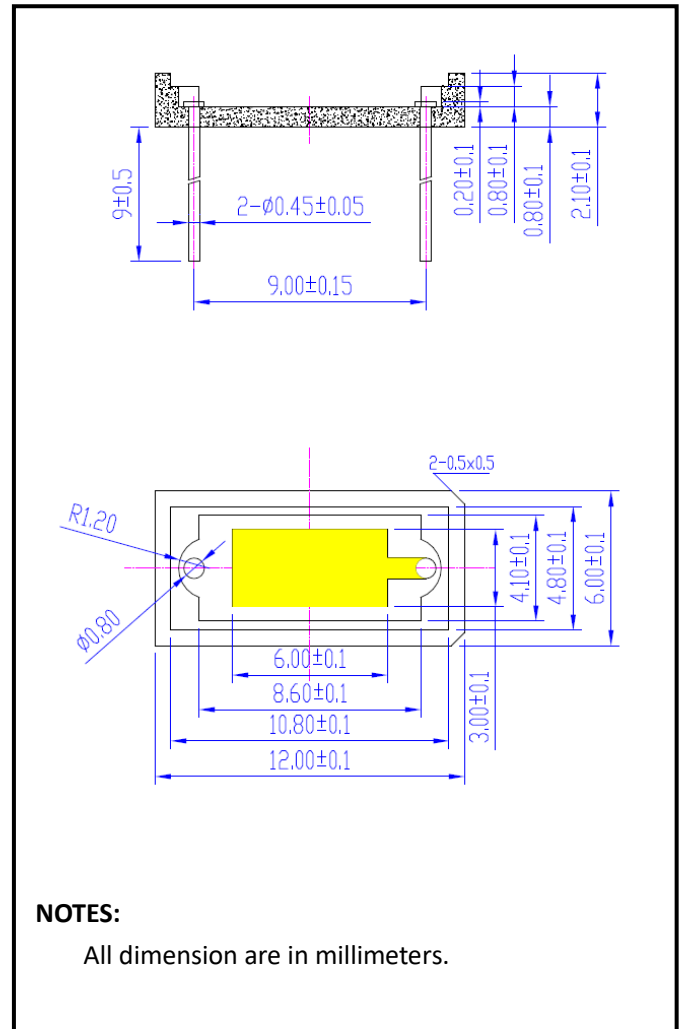
- * High speed response
- * Wide angular response
- * High reliability in demanding environments
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C
- * soldering temperature is 260°C @Max.5 seconds at the position of 2mm from the PIN legs.

General Ratings

- | | |
|---------------------------|--------------------|
| * Type Silicon Photodiode | * Low cost |
| * High linearity | * Low dark current |

Applications

- | | |
|------------------------------|-----------------------|
| * Laser beam alignment | * Position sensing |
| * Edge & hole detection | * Optical switch |
| * IR/ Laser light Monitoring | * Spectro photometers |



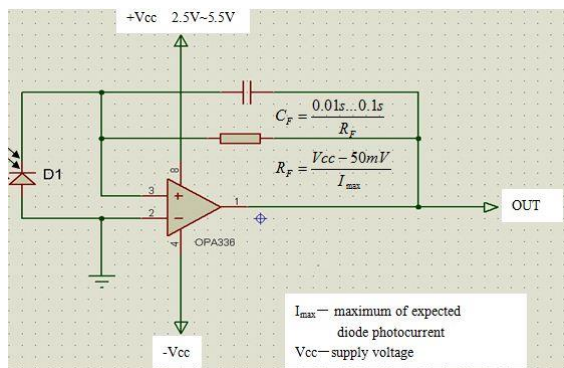
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Absolute Maximum Ratings (Ta=25 °C)

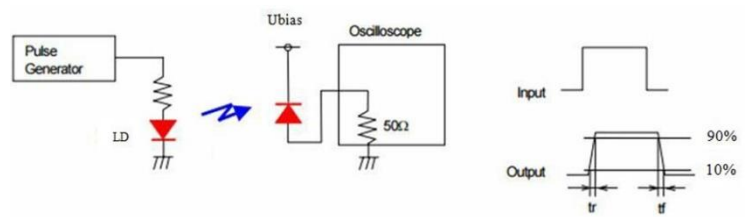
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size			3.50*7.50		mm ²
Active area	A			3.22*7.17		mm ²
Dark current	I _D	V _R =0V		0.018		nA
		V _R =10V		1.15		
Cut frequency	f _c	V _R =10V;λ=635nm;R _L =50Ω		20		MHz
Temp coefficient of I _D	T _{CID}			0.18		times/°C
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	30			V
Junction Capacitance	C _J	V _R =0V f=1MHz		232.42		pF
		V _R =10V f=1MHz		39		
Photo sensitivity	S _R	650nm		0.38		A/W
		940nm		0.64		
Spectral Application Range	λ _{range}		400		1100	nm
Spectral Response-Peak	λ _p			940		nm
Shunt resistance	R _{sh}	V _R =10mV		0.2		GΩ
Rsh Temperature Coefficient	TC R _{sh}	Ev=100lx , VR=10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±55		Degrees
Noise Equivalent Power	NEP	V _R =10V λ=940nm		3.0×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ=940nm		2.7×10 ¹³		cm(Hz/W) ^{1/2}

* Ev: Illuminance by CIE standard light source A (tungsten lamp)

■ Typical application circuit



** Response time measurement Circuit:



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OTRON ELECTRONIC TECHNOLOGY CO., LTD

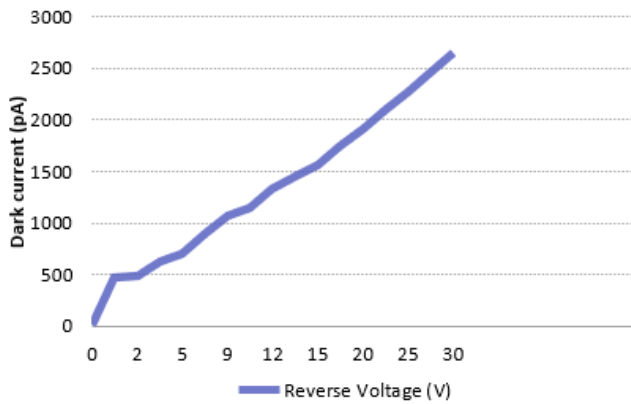
TEL:+86-21-54971821

FAX:+86-21-54971823

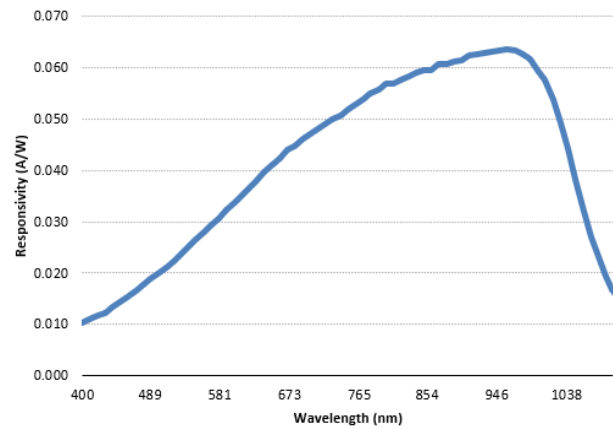
EMAIL: otron.sensor@gmail.com

<http://www.e-otron.com>

■ Dark current vs. reverse voltage

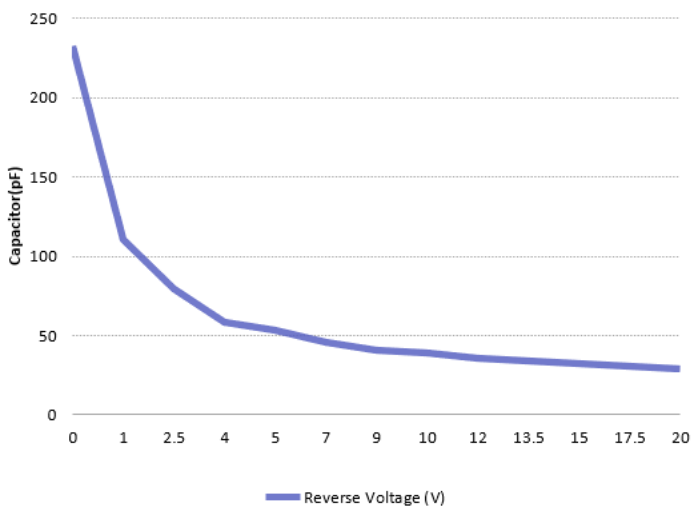


■ Spectral response



■ Relative Junction Capacitance

VS. Voltage



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