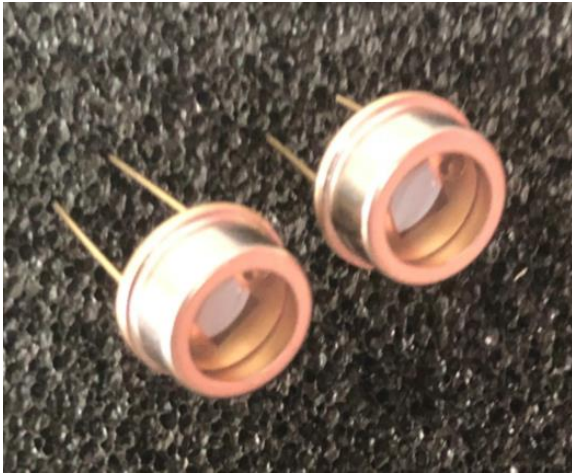


Silicon PIN Photodiode

OSD9-8T



Description

The OSD9-8T is high-output, high sensitivity silicon Photodiode mounted in TO-5 metal can package, permits wide response.

Features

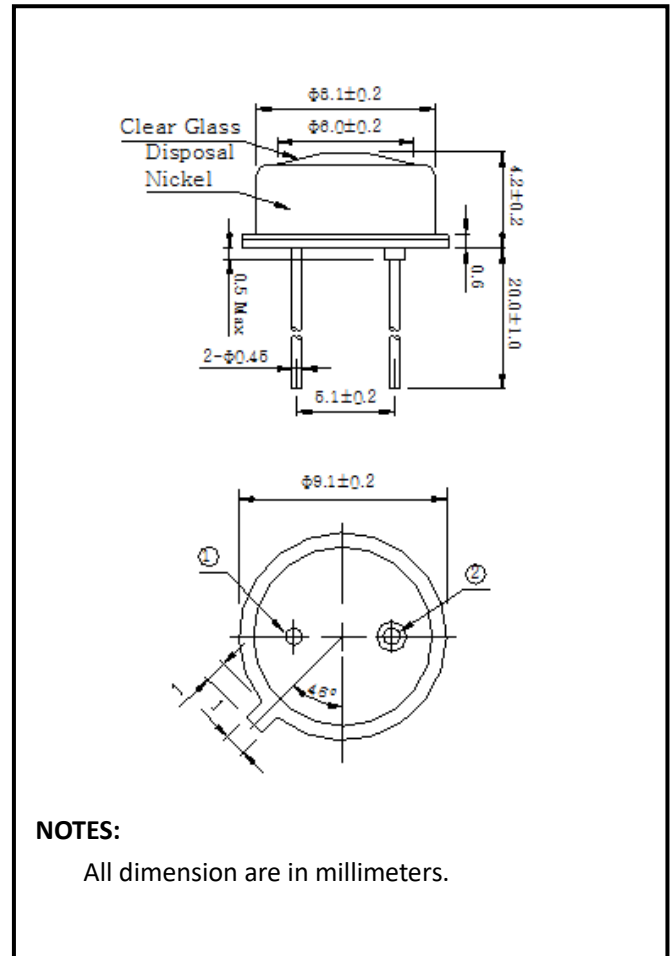
- * High speed response
- * Wide angular response
- * High reliability in demanding environments
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C
- * Soldering temperature is 260°C @Max.5 seconds at the position of 2mm from the PIN legs.

General Ratings

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

Applications

- * Analytical instruments
- * Precision photometry
- * IR/ Laser light Monitoring
- * Optical measurement equipment
- * Medical equipment
- * Optical switch



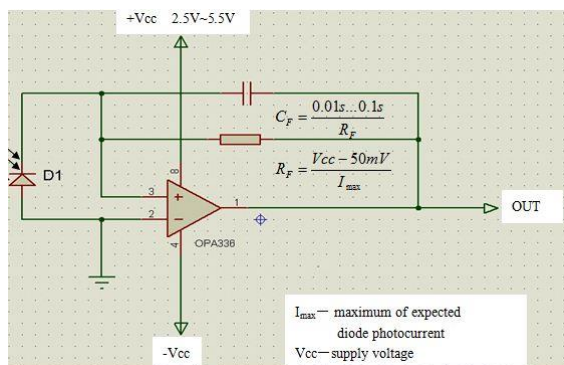
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Absolute Maximum Ratings (Ta=25 °C)

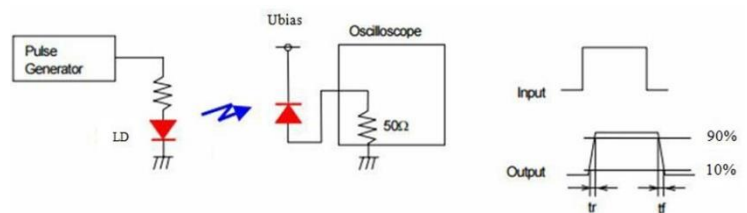
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size			3.05*3.05		mm ²
Active area	A			2.794*2.794		mm ²
Dark current	I _D	V _R =0V		0.10		nA
		V _R =20V		0.23	1	
Rise time	t _{R**}	V _R =0V;λ=635nm;R _L =50Ω, f=1KHz		20		ns
		V _R =20V;λ=850nm;R _L =50Ω, f=1KHz		10		ns
Temp coefficient of I _D	T _{CI_D}			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		590		pF
		V _R =20V f=1MHz		200		
Photo sensitivity	S _R	650nm		0.40		A/W
		850nm		0.51		
Spectral Application Range	λ _{range}		400		1100	nm
Spectral Response-Peak	λ _p			840		nm
Shunt resistance	R _{sh}	V _R =10mV		0.1		GΩ
Rsh Temperature Coefficient	TC R _{sh}	Ev=100lx, V _R =10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±55		Degrees
Noise Equivalent Power	NEP	V _R = 10V λ=940nm		2.58×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	V _R = 10V λ=940nm		1.67×10 ¹³		cm(Hz/W) ^{1/2}

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

■ Typical application circuit

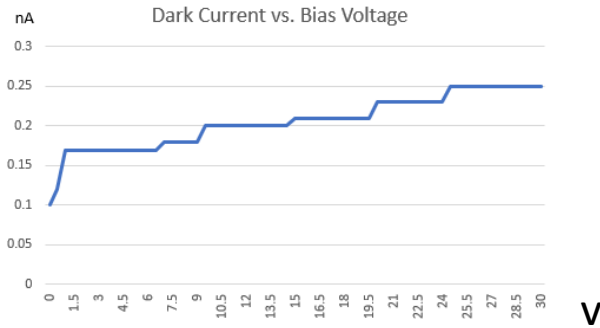


** Response time measurement Circuit:

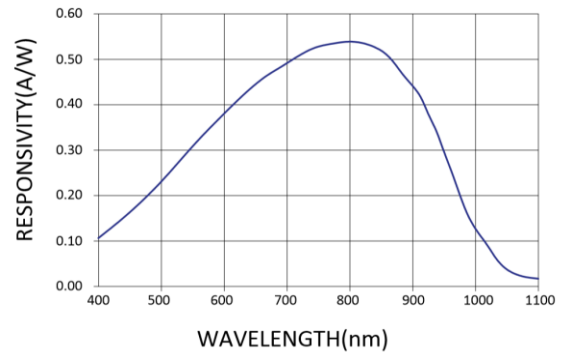


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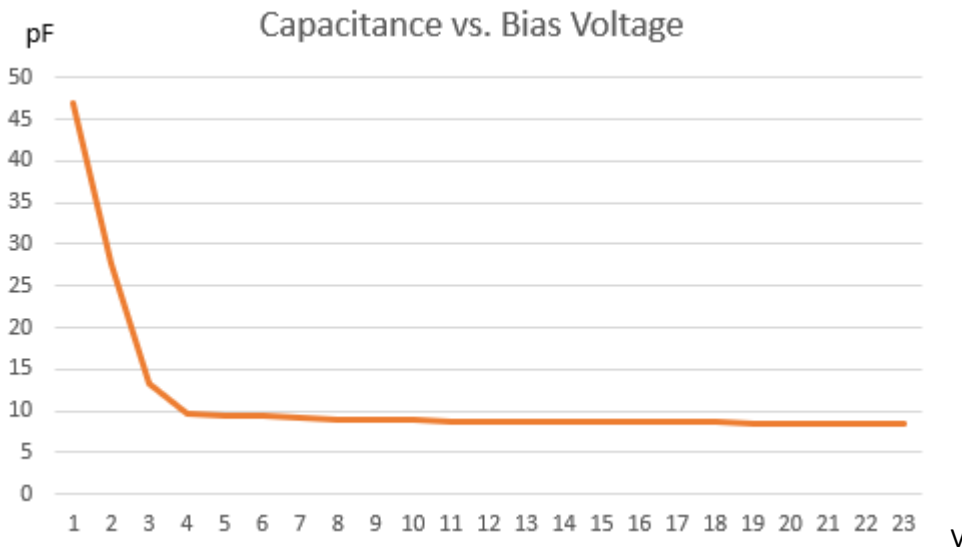
■ Dark current vs. reverse voltage



■ Spectral response



■ Relative Junction Capacitance



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