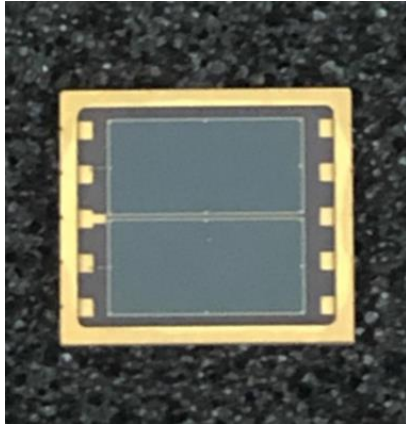


Silicon PIN Photodiode Array



Description

The OSD5870(2 cell) is a PIN photo diode array with 0.50mm gap of each element, for Nulling Operation, centering or electro measuring small positional changes, mounted in a ceramic stem package with resin coating.

Features

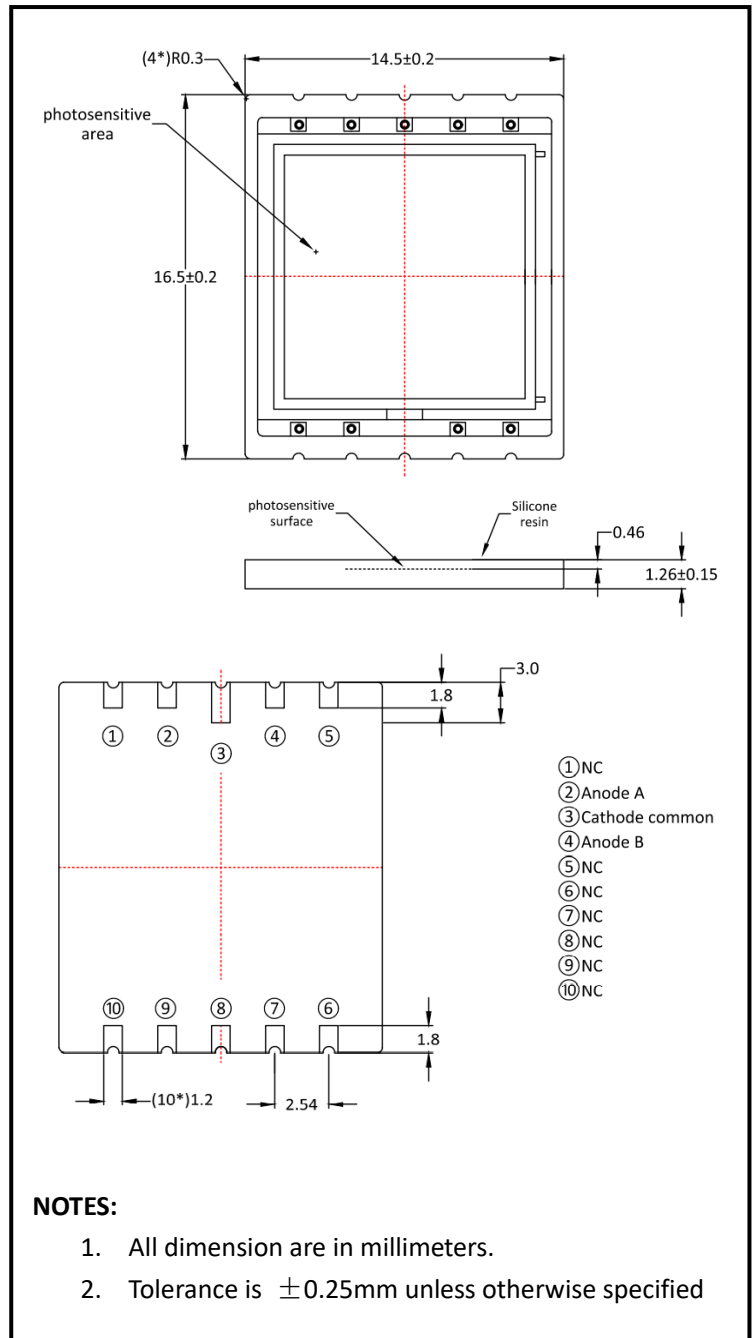
- * Positioning is best performed
- * High-speed response
- * IR/RED enhanced
- * High consistence index of two photodiode
- * Low noise

General Ratings

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

Applications

- * Follow-up controls
- * Edge drives
- * Level meters
- * Laser beam axis alignment



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Absolute Maximum Ratings (Ta=25°C)

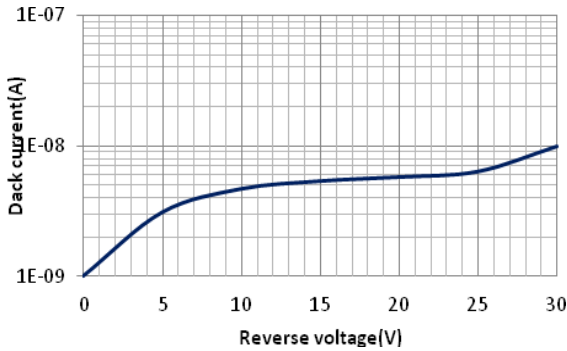
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size		5.715*11.303*2			mm ²
Active area	A		5.365*10.953*2elements			mm ²
Gap	Gap	Distance of Element to element	0.5			mm
Short circuit Current	I _{sc}	Ev=100lx fc=2856k*		134		μA
Isc Temperature Coefficient	TC I _{sc}	2856k		1.2		%/°C
Open Circuit Voltage	V _{oc}	Ev=100lx fc=2856k*		347		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _D	VR=10mV		1		nA
		VR=10V		5		
Rise time	t _r	V _R =10V;λ=650nm;R _L =50Ω		500		ns
Temp coefficient of I _D	T _{CI_D}			0.18		times/°C
Forward voltage	V _F	IF=20mA		1.3		V
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	60			V
Junction Capacitance	C _J	V _R =0V f=1MHz		128		pF
		V _R =10V f=1MHz		25		
Photo sensitivity	S _R	650nm		0.38		A/W
		940nm		0.64		
CrossTalk Channel-to-Channel		400-850nm, Adjacent Channels		0.1	0.5	%
		850-1100nm, Adjacent Channels		1	5	
Spectral Application Range	λ _{range}		400		1100	nm
Spectral Response-Peak	λ _p			940		nm
Shunt resistance	R _{sh}	V _R =10mV		0.01		GΩ
Rsh Temperature Coefficient	TC R _{sh}	Ev=100lx, VR=10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±60		Degrees
Noise Equivalent Power	NEP	VR =10V λ=940nm		6.25×10 ⁻¹⁴		W/Hz ^{1/2}
Specific Detectivity	D*	VR =10V λ=940nm		1.6×10 ¹³		cm(Hz/W) ^{1/2}

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

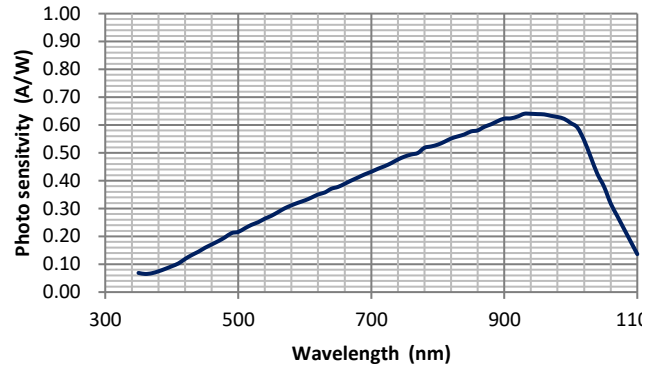
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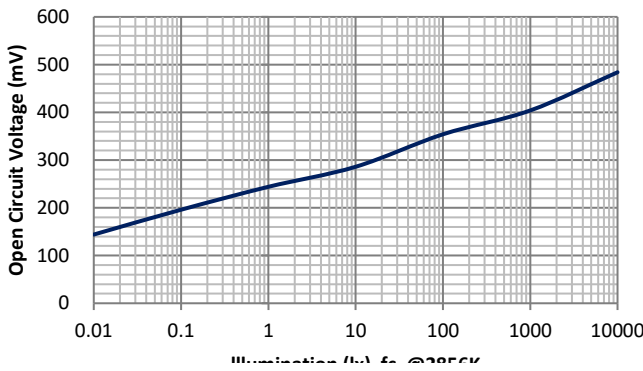
■ Dark current vs. reverse voltage



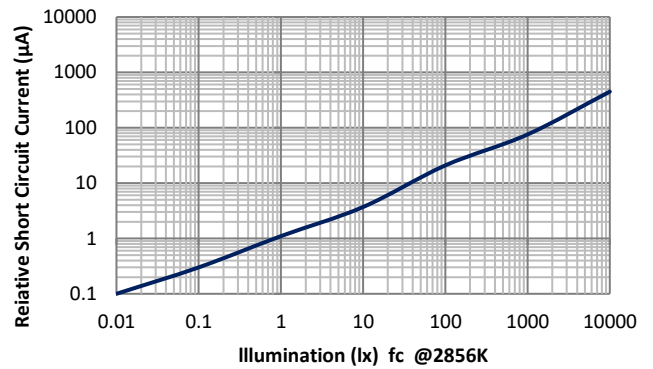
■ Spectral response



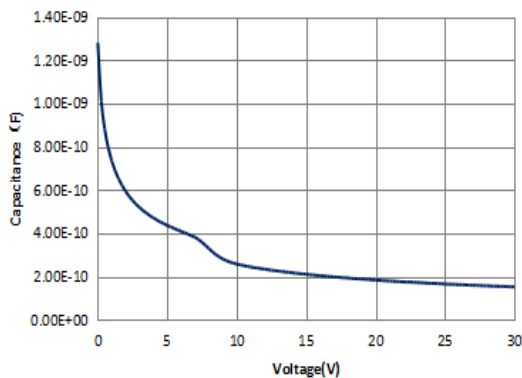
■ Open circuit Voltage vs Illumination



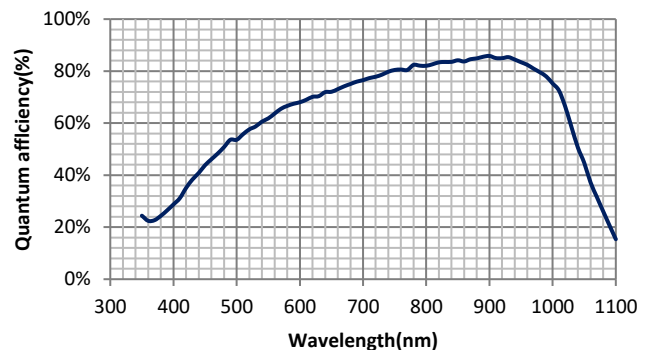
■ Relative Short Circuit Current vs. Illumination



■ Relative Junction Capacitance VS. Voltage



■ Quantum efficiency



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