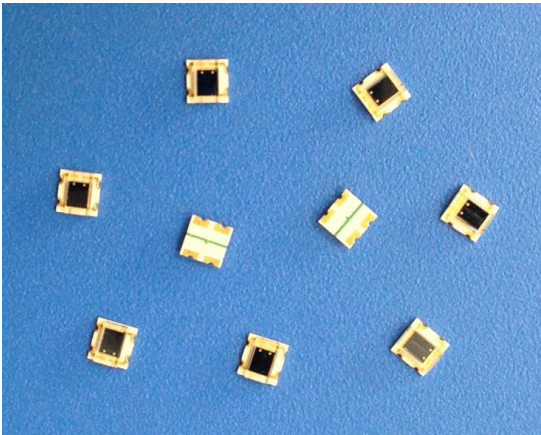


Silicon PIN Photodiode Array



Description

The OSD2016(2 cell) is a PIN photo diode array with 0.09mm gap of each element, for Nulling Operation, centering or electro measuring small positional changes, mounted in a surface mount package.

Features

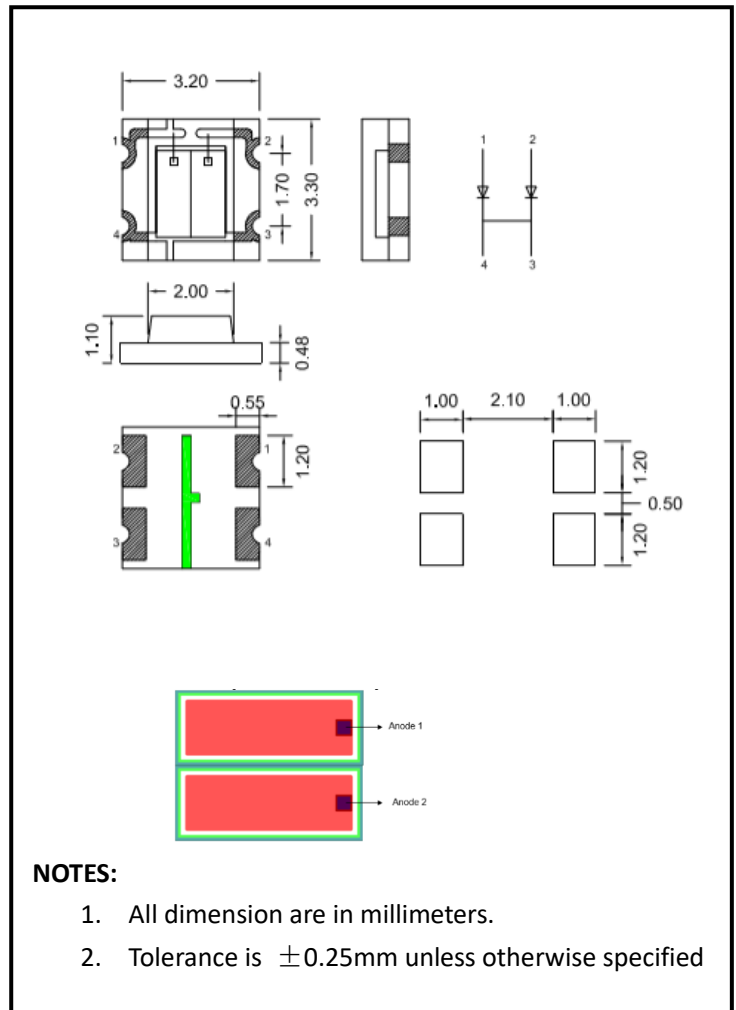
- * Positioning is best performed
- * High-speed response
- * IR/RED enhanced
- * High consistence index of two photodiode
- * Low noise

General Ratings

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

Applications

- * Follow-up controls
- * Edge drives
- * Industrial electronics
- * For controls and drive circuits



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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	Size		2.02*1.62			mm ²
Active area	A		1.80*0.60*2elements			mm ²
Gap	Gap	Distance of Element to element	0.099			mm
Short circuit Current	I _{sc}	Ev=1000lx fc=2856k*		20		μA
Isc Temperature Coefficient	TC I _{sc}	2856k		1.1		%/°C
Open Circuit Voltage	V _{oc}	Ev=1000lx fc=2856k*		364		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _D	VR=10mV		0.20		nA
		VR=10V		5		
Rise time	t _r	V _R =10V;λ=850nm;R _L =50Ω		10		ns
Temp coefficient of I _D	T _{CID}			0.18		times/°C
Forward voltage	V _F	IF=20mA		1.3		V
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	30			V
Junction Capacitance	C _J	V _R =0V f=1MHz		14		pF
		V _R =10V f=1MHz		2.5		
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		0.5		GΩ
Rsh Temperature Coefficient	TC R _{sh}	Ev=100lx, VR=10mV		0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±65		Degrees

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

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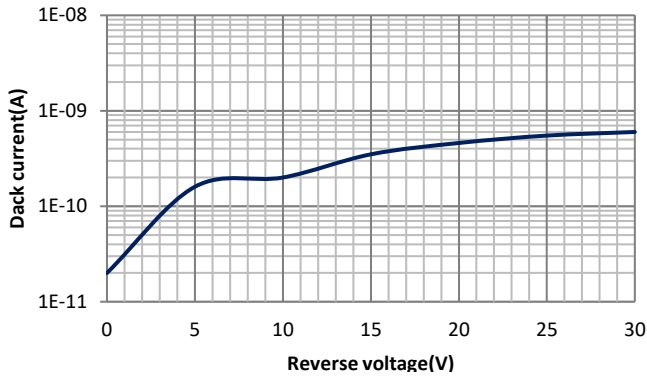
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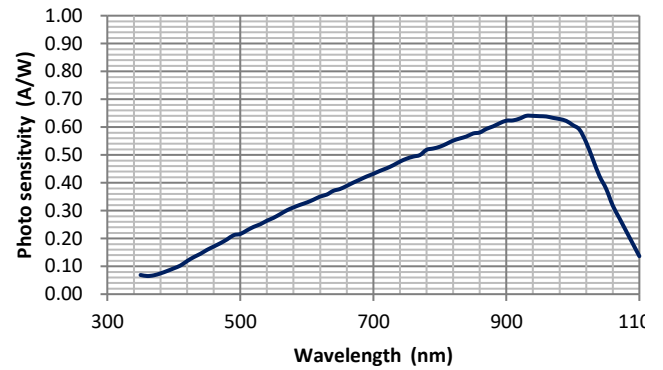
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■ Dark current vs. reverse voltage

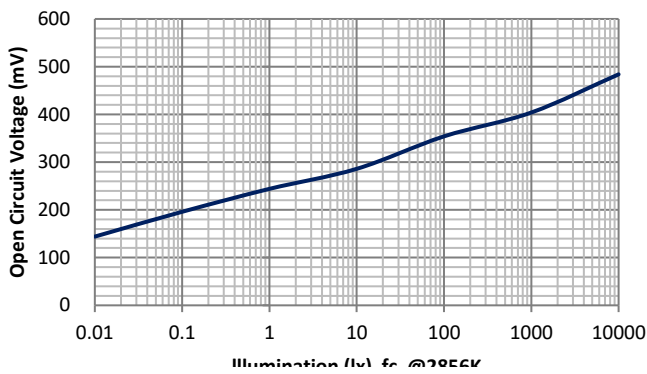


■ Spectral response



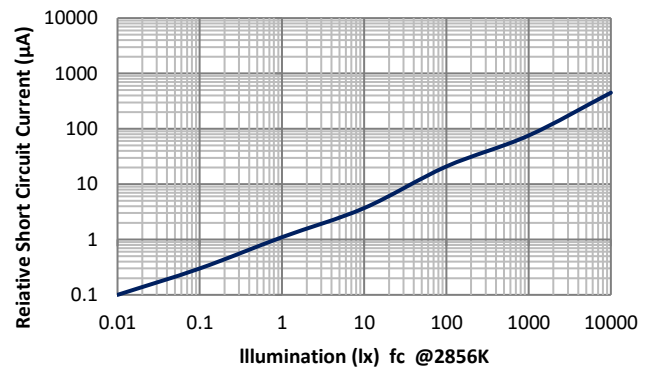
■ Open circuit Voltage

vs Illumination



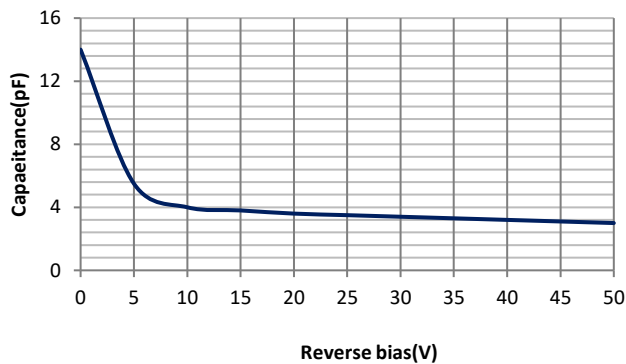
■ Relative Short Circuit

Current vs. Illumination

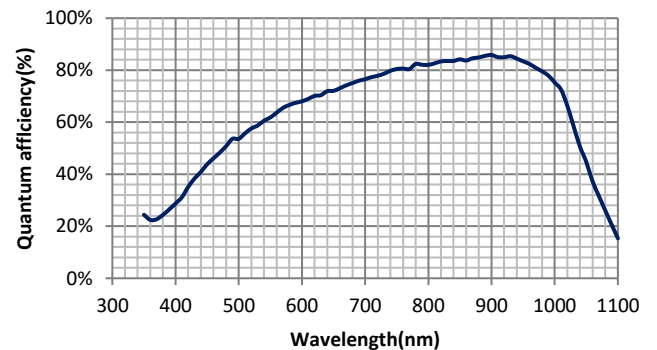


■ Relative Junction Capacitance

VS. Voltage



■ Quantum efficiency



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