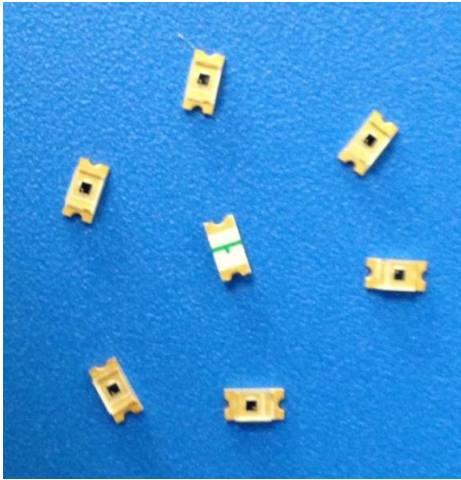


PIN Photodiode

OSD0.25-IM



Description

The OSD0.25-IM is a high sensitive silicon planar photo-Diode in a standard TO-18 hermetically sealed metal Case with a flat glass window.

Features

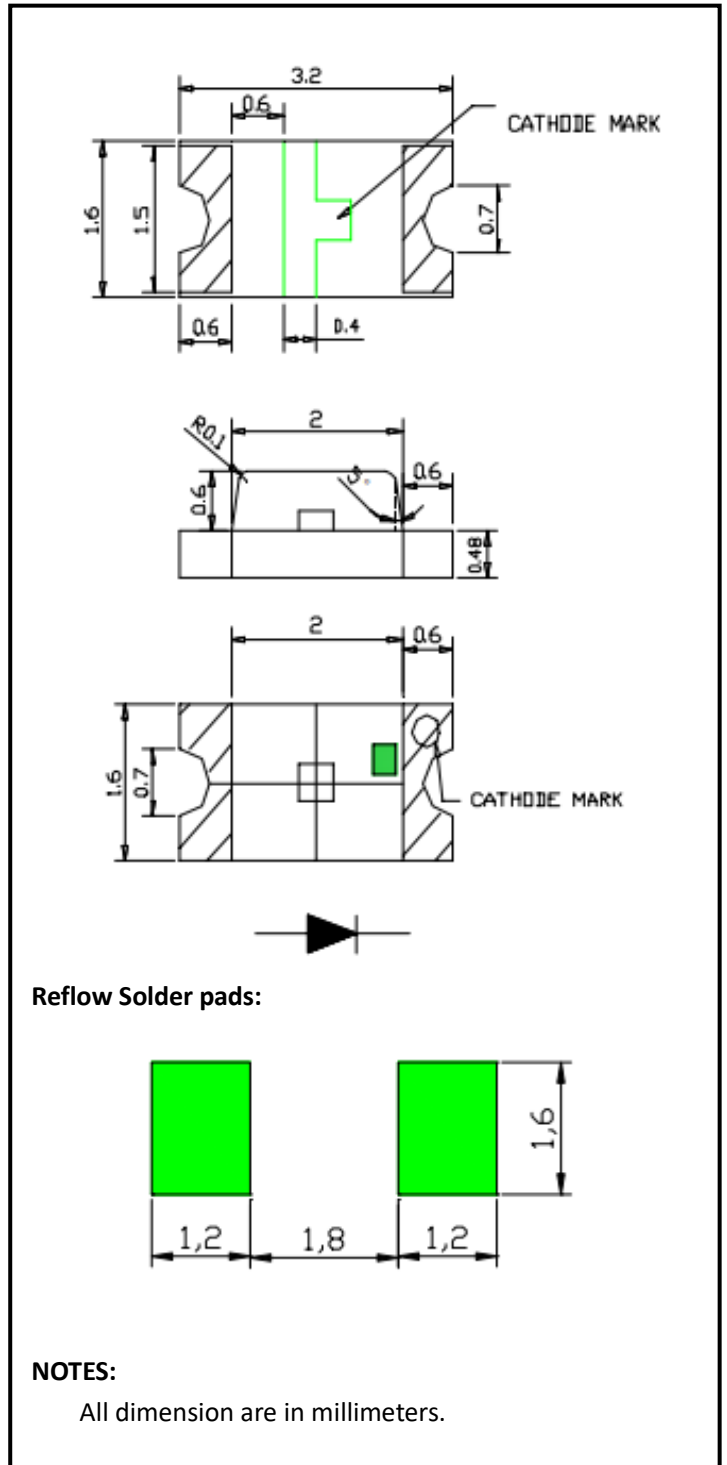
- * High-speed response
- * High photo sensitivity
- * High reliability in demanding environments
- * Operating temperature is from -40 to +80°C
- * Storage temperature is from -40 to +100°C

General Ratings

- * Type Silicon Photodiode
- * Low dark current
- * High linearly

Applications

- * optical switcher
- * Automatic sensor
- * pulse laser detector
- * Industry machine



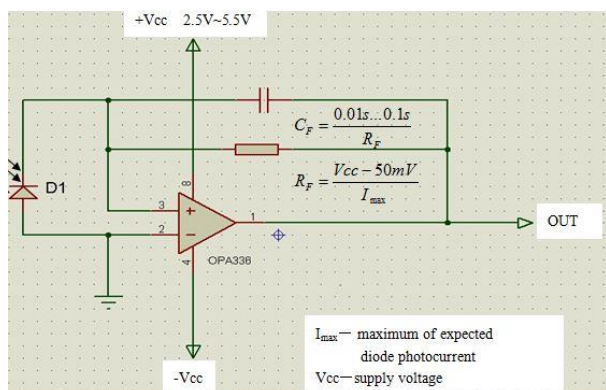
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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	S			0.61*0.61		mm ²
Active	A			0.432*0.432		mm ²
Short circuit Current	I _{sc}	Ev=100lx fc=2856k*		3		μA
Isc Temperature Coefficient	TC I _{sc}	2856k		1.2		%/°C
Open Circuit Voltage	V _{oc}	Ev=100lx fc=2856k*		150		mV
Voc Temperature Coefficient	TC Voc	2856k		-2.2		mV/°C
Dark current	I _d	V _R =3.5V		0.1		nA
		V _R =10V		10		
Tempcoeffi-cient of I _d	T _{CID}			0.18		times/°C
Reverse breakdown voltage	V _{(BR)R}	I _R =100μA Ev=0lx	60			V
Junction Capacitance	C _J	V _R =0V f=1MHz		5		pF
		V _R =3.5V f=1MHz		2.9		
Photo sensitivity	S _R	650nm		0.38		A/W
		940nm		0.64		
Spectral Application Range	λ _{range}			940		nm
Spectral Response-Peak	λ _p		400		1100	nm
Shunt resistance	R _{sh}	V _R =10mV		1		GΩ
Rise time	t	V _R =3.5V, λ =940nm, R _L =50 Ω		0.4		nS
Rsh Temperature Coefficient	TC R _{sh}			0.18		%/°C
Angular Resp 50% Resp Pt	θ _{1/2}			±45		Degrees
Noise Equivalent over	NEP	V _R =10V λ =940nm		4×10 ⁻¹⁵		W/Hz ^{1/2}
Specific Detectivity	D*	V _R =10V λ =940nm		2.5×10 ¹⁴		cm(Hz/W) ^{1/2}

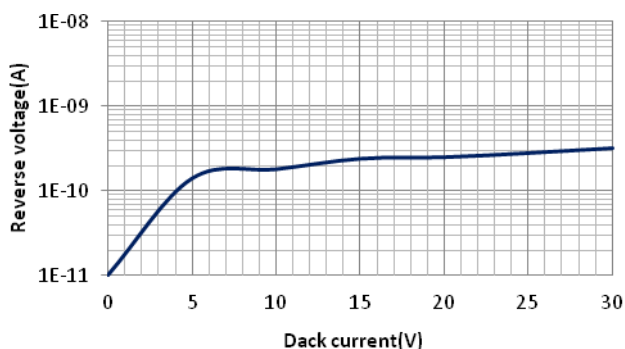
* Ev: Illuminance by CIE standard light source A (tungsten lamp)

Typical application circuit

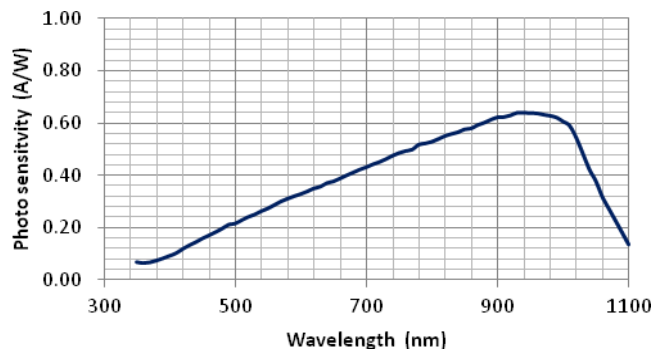


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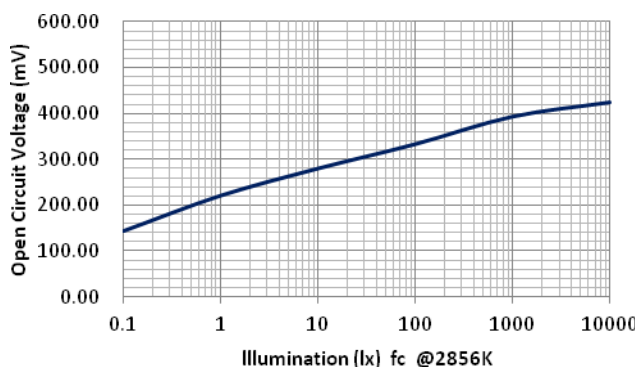
■ Dark current vs. reverse voltage



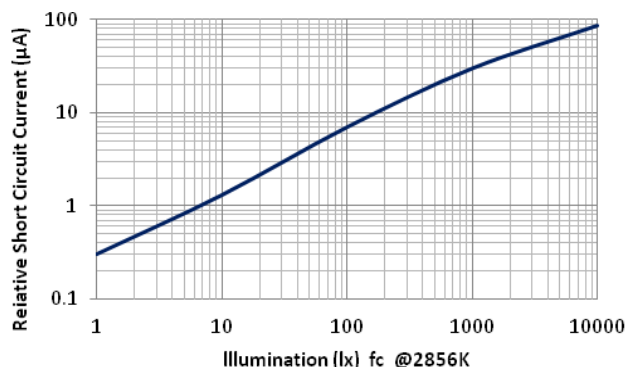
■ Spectral response



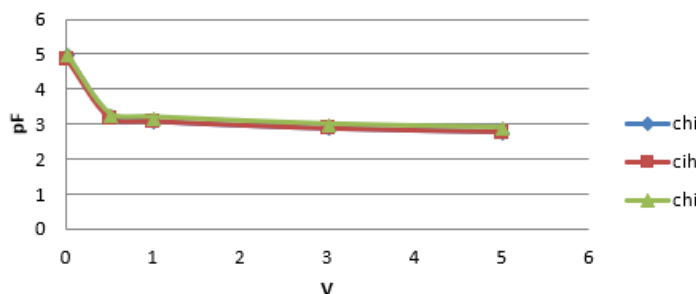
■ Open circuit Voltage vs Illumination



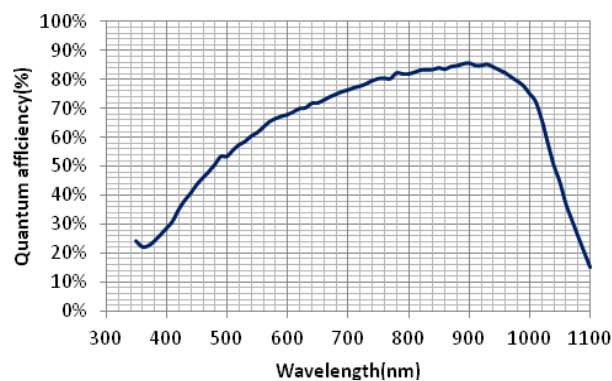
■ Relative Short Circuit Current vs. Illumination



■ Relative Junction Capacitance VS. Voltage



■ Quantum efficiency



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Reliability Analysis

The reliability of products shall be satisfied with items listed below,

Confidence level: 90%, LTPD:10%

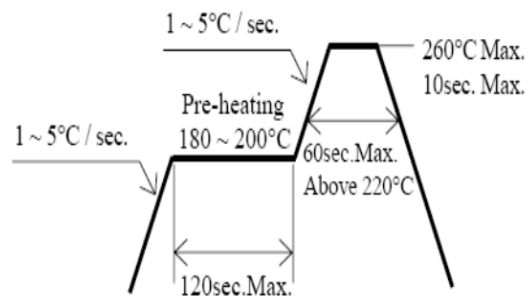
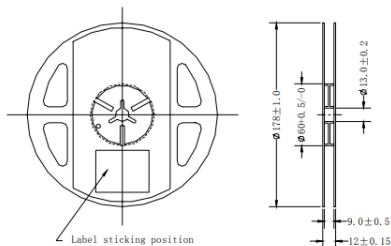
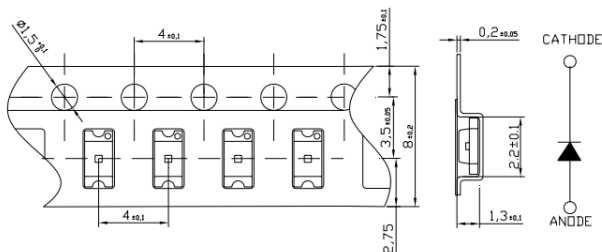
No.	Item/项目	Test Condition/测试条件	Spec. / 引用标准	Q'ty/ 数量	Time/时间	Standard/判定
1	IR Reflow (Reflow Soldering) /回流焊接	Tsld=260°C, 10sec	GB/T 4937, II, 2.2	20	2times	ALL PASS
2	Solder ability/可焊性	Tsld=235±5°C, 3sec			1times Over 95%	ALL PASS
3	Temperature Cycle/高低温循环	-40°C — 100°C 30min ~ 30min The cut is not more than 1 min	GB/T 4937, III, 1	20	50cycles	ALL PASS
4	Moisture Resistance Cyclic /湿热循环	25°C/12hr~ 55°C/12hr 95%RH	GB/T 4937, III, 4	20	6cycles	ALL PASS
5	High Temperature Storage /高温储存	Ta=100°C	GB/T 4937, III, 2	20	1000hrs	ALL PASS
6	Low Temperature Storage /低温储存	Ta=-40°C	GB/T 4937, III, 2	20	1000hrs	ALL PASS

Specification of Packing

Taping and Orientation:

Quantity: 3000 units/reel Diameter: 178mm width: 12mm

Lead-Free Solder:



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