



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



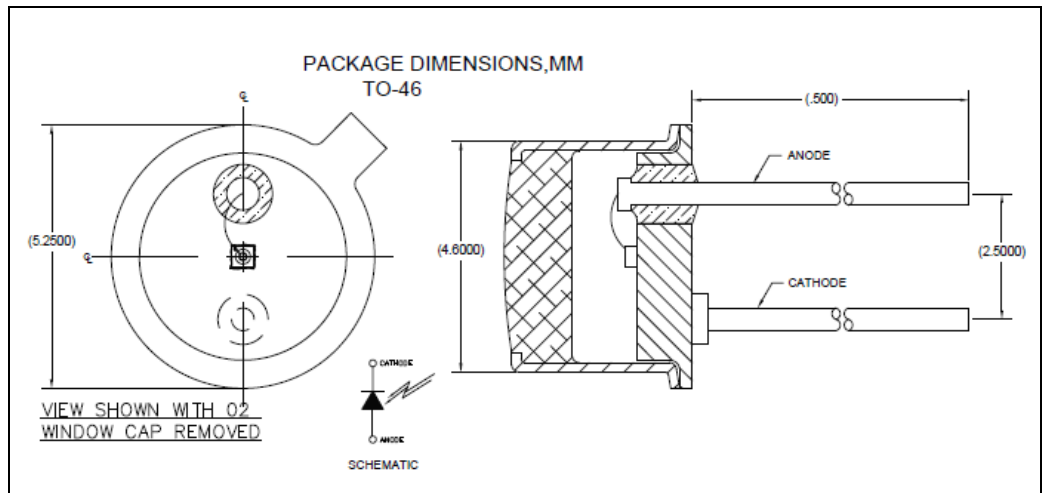
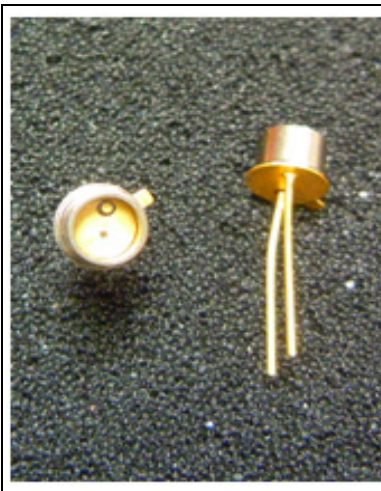
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## DESCRIPTION

The SD012-121-011 is a high sensitivity, low capacitance and noise, 0.3mm diameter active area InGaAs photodiode, sensitive to wavelengths in visible extended (450-1700nm) spectral range and used for sensing applications. The photodetector is assembled in a TO-46 package.

## RELIABILITY

This API high-reliability detector is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test.

Contact API for recommendations on specific test conditions and procedures.

## MOISTURE SENSITIVITY LEVEL

API silicon light dependent resistors are classified as MSL level 1 per J-STD-020 allowing for unlimited floor time at temperatures less than or equal to 30°C and humidity less than or equal to 85%.

## ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN	MAX	UNITS
Operating Temperature	0	+85	°C
Storage Temperature	-25	+85	°C
Soldering Temperature *	-	+240	°C
Wavelength Range	450	1700	nm
Reverse Voltage	-	20	V

\*) 1/16 inch from case for 3s max.

## FEATURES

- Low Noise
- Low Dark Current and Capacitance
- High Sensitivity
- Light Detection (Visible, NIR, SWIR)

## APPLICATIONS

- Industrial Sensing
- Security and Defense
- Communication

## ESD

This device is Class 1A (HBM).

T<sub>a</sub> = 23°C non condensing

$T_a = 23^\circ\text{C}$  unless noted otherwise

**OPTO-ELECTRICAL PARAMETERS**

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	$I_{\text{bias}} = 100 \mu\text{A}$	10	-	-	V
Responsivity	$\lambda = 600 \text{ nm}$	0.3	0.35	-	A/W
Responsivity	$\lambda = 1200 \text{ nm}$	0.7	0.85	-	A/W
Responsivity	$\lambda = 1550 \text{ nm}$	0.9	1.00	-	A/W
Shunt Resistance	$V_{\text{bias}} = 10 \text{ mV}$	5	30	-	$\text{M}\Omega$
Dark Current	$V_{\text{bias}} = 1\text{V}$	-	2	20	nA
Capacitance	$V_{\text{bias}} = 1\text{V}; f = 1 \text{ MHz}$	-	6	20	pF
Rise Time (50 $\Omega$ load)	$V_{\text{bias}} = 1\text{V}; \lambda = 826 \text{ nm}$	-	5	-	ns
Noise Equivalent Power	$\lambda = 900 \text{ nm}$	-	1.0	-	$10^{-13} \text{ W/Hz}^{0.5}$

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**

