

Features

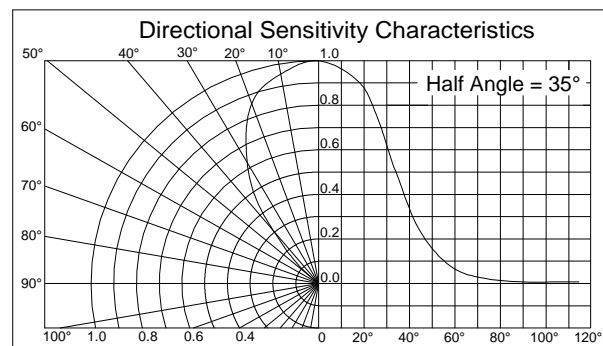
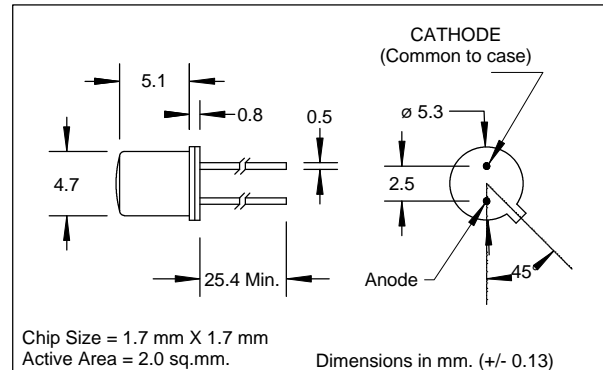
- Fast switching time, Low capacitance
- High responsivity
- Linear response vs irradiance
- IR Blocking Filter
- Hermetic TO-46 case with flat window
- Multiple dark current ranges available

Description

This small area planar, passivated silicon photodetector is designed to operate in either photovoltaic or reverse bias mode. It provides excellent linearity in output signal versus irradiance (E_e). Low dark current and low capacitance make it the ideal detector for fast rise time applications. Internal blue-green filter blocks infrared radiation.

Absolute Maximum Ratings

Storage Temperature	-20°C to +75°C
Operating Temperature	-20°C to +75°C
Soldering Temperature (1)	260°C



Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
I_{SC}	Short Circuit Current	6	10		μA	$V_R=0\text{V}$, $E_e=25\text{mW}/\text{cm}^2$ (2)
V_{OC}	Open Circuit Voltage		0.30		V	$E_e=25\text{mw}/\text{cm}^2$ (2)
I_D	Reverse Dark Current:					
	SLD-68HFBG1A			100	nA	$V_R=100\text{mV}$, $E_e=0$
	SLD-68HFBG1B			100	nA	$V_R=5\text{V}$, $E_e=0$
	SLD-68HFBG1C			10	nA	$V_R=5\text{V}$, $E_e=0$
	SLD-68HFBG1D			1	nA	$V_R=5\text{V}$, $E_e=0$
	SLD-68HFBG1E			250	pA	$V_R=5\text{V}$, $E_e=0$
C_J	Junction Capacitance		40		pF	$V_R=0$, $E_e=0$, $f=1\text{MHz}$
t_R	Rise Time		1.0		μs	$V_R=10\text{V}$, $R_L=1\text{k}\Omega$ (3)
t_F	Fall Time		1.5		μs	$V_R=10\text{V}$, $R_L=1\text{k}\Omega$ (3)
TC_I	Temp. Coef., I_{SC}		+0.2		%/ $^\circ\text{C}$	(1)
V_{BR}	Reverse Breakdown Voltage	50			V	$I_R=100\mu\text{A}$
λ_P	Maximum Sensitivity Wavelength		550		nm	
λ_R	Sensitivity Spectral Range	400		700	nm	
$\theta_{1/2}$	Acceptance Half Angle		35		deg	(off center-line)

Specifications subject to change without notice

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Notes: (1) >2 mm from case for <5 sec.

(2) E_e = light source @ 2854 °K

(3) E_e = light source @ $\lambda = 580$ nm