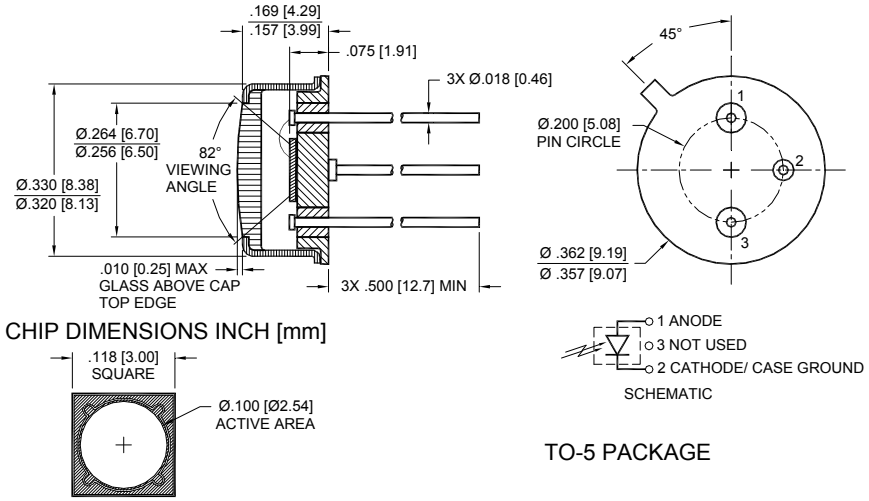
Red Enhanced High Performance Silicon Photodiode

SD 100-14-21-021



FEATURES

- Low noise
- Red enhanced
- High shunt resistance
- High response

DESCRIPTION

The **SD 100-14-21-021** is a high performance silicon PIN photodiode, red enhanced, packaged in a leaded hermetic TO-5 metal package.

APPLICATIONS

- Instrumentation
- Industrial
- Medical

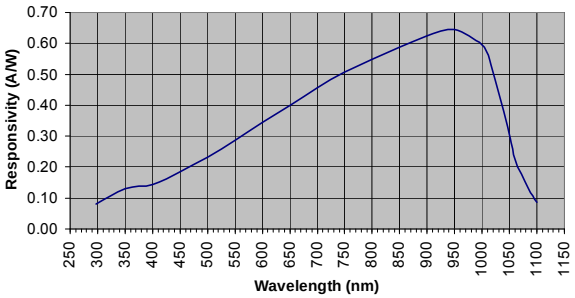
RoHS

ABSOLUTE MAXIMUM RATING (TA)= 23°C UNLESS OTHERWISE NOTED

SYMBOL	PARAMETER	MIN	MAX	UNITS
V_{BR}	Reverse Voltage		75	V
T_{STG}	Storage Temperature	-55	+150	°C
T_O	Operating Temperature	-40	+125	°C
T_S	Soldering Temperature*		+240	°C

* 1/16 inch from case for 3 seconds max.

SPECTRAL RESPONSE



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.

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_D	Dark Current	V_R = 5 V		0.3	1.6	nA
R_{SH}	Shunt Resistance	V_R = 10 mV	600			MΩ
C_J	Junction Capacitance	V_R = 0 V, f = 1 MHz		87		pF
		V_R = 5 V, f = 1 MHz		26		
λrange	Spectral Application Range	Spot Scan	350		1100	nm
R	Responsivity	λ= 633 nm, V_R = 0 V	0.32	0.36		A/W
		λ= 900 nm, V_R = 0 V	0.50	0.55		
V_{BR}	Breakdown Voltage	I = 10 μA		50		V
NEP	Noise Equivalent Power	V_R = 5 V @ λ=950 nm		$1.8X10^{-14}$		W/ $\sqrt{}$ Hz
t_r	Response Time**	RL = 50 Ω, V_R = 0 V		190		nS
		RL = 50 Ω, V_R = 10 V		13		

**Response time of 10% to 90% is specified at 660nm wavelength light.

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