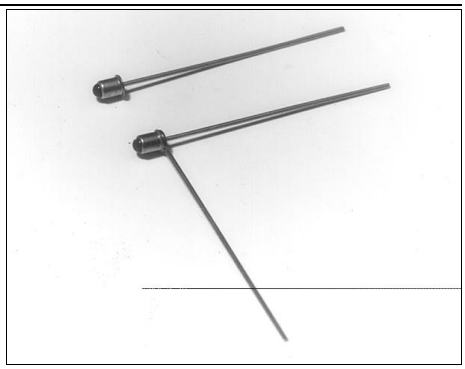
SD1420

Silicon Photodiode

FEATURES

- Compact, metal can coaxial package
- 24° (nominal) acceptance angle
- Wide operating temperature range (- 55°C to +125°C)
- Mechanically and spectrally matched to SE1450 and SE1470 infrared emitting diodes



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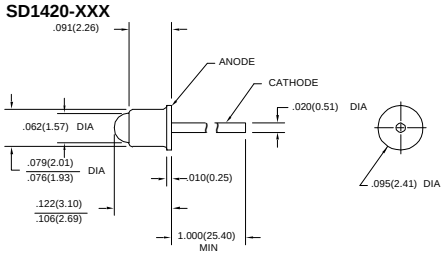
DESCRIPTION

The SD1420 is a PN junction silicon photodiode mounted in a glass lensed metal can coaxial package. The package may have a tab or second lead welded to the can as an optional feature (SD1420-XXXL). Both leads are flexible and may be formed as required to fit various mounting configurations.

OUTLINE DIMENSIONS in inches (mm)

Tolerance	3 plc decimals	±0.005(0.12)
	2 plc decimals	±0.020(0.51)

SD1420-XXX



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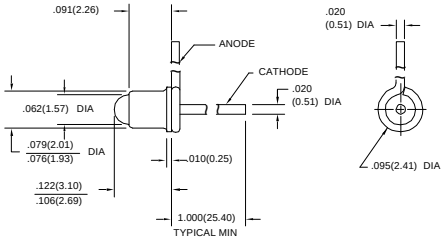
SD1420-XXXL



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Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

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ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current SD1420-002, SD1420-002L	I_L	 5.0			µA	V_R=20 V H=5 mW/cm² (1)
Dark Current	I_D			5.0	nA	V_R=20 V H=0
Reverse Breakdown Voltage	V_{BR}	50			V	I_R=10 µA
Angular Response (2)	Ø		24		degr.	I_F=Constant
Rise And Fall Time	t_r, t_f		50		ns	V_R=20 V R_L=50 Ω

Notes
1. The radiation source is a tungsten lamp operating at a color temperature of 2870°K.
2. Angular response is defined as the total included angle between the half sensitivity points.

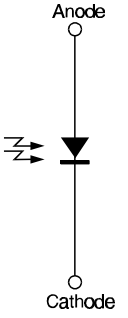
ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted)

Cathode Anode Voltage	50 V
Power Dissipation	75 mW (1)
Operating Temperature Range	-55°C to 125°C
Storage Temperature Range	-65°C to 150°C
Soldering Temperature (10 sec)	260°C

Notes
1. Derate linearly from 25°C free-air temperature at the rate of 0.71 mW/°C.

SCHEMATIC



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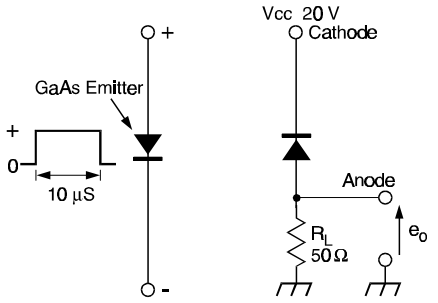
SWITCHING TIME TEST CIRCUIT

cir_001.cdr



SWITCHING WAVEFORM

cir_002.cdr

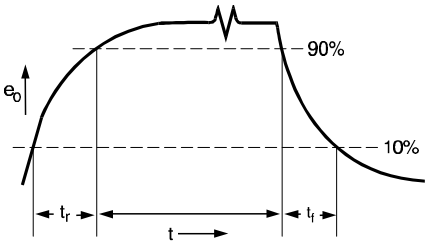


Fig. 1 Responsivity vs Angular Displacement

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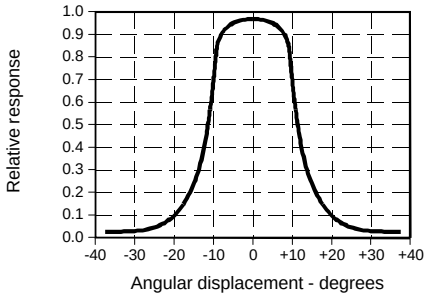

Fig. 2 Dark Current vs Temperature

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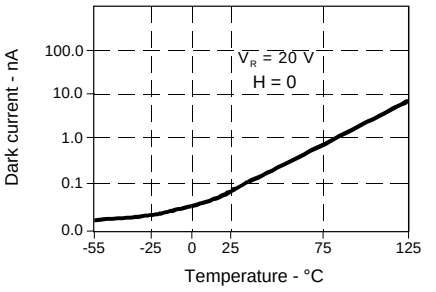

Fig. 3 Spectral Responsivity

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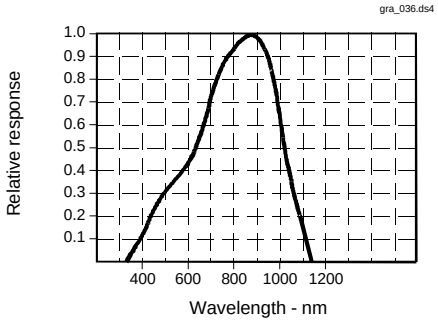

All Performance Curves Show Typical Values

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