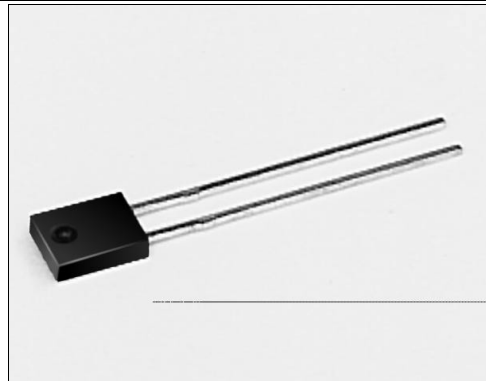


SDP8276

Silicon Photodiode

FEATURES

- Side-looking plastic package
- Linear response
- Fast response time
- Internal visible light rejection filter
- 50° (nominal) acceptance angle
- Mechanically and spectrally matched to SEP8506 and SEP8706 infrared emitting diodes



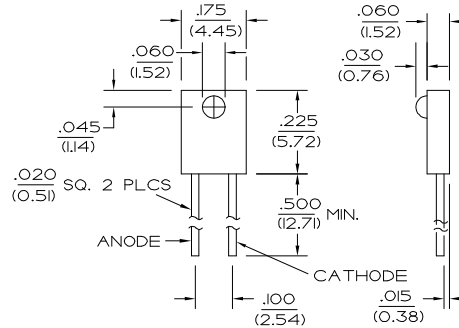
INFRA-79.TIF

DESCRIPTION

The SDP8276 is a PN silicon photodiode, transfer molded in a side-looking black plastic package, to minimize the effects of visible ambient light. The chip is positioned to accept radiant energy through a lens on the side of the package. The SDP8276 photodiode offers fast response time and a linear output. It is ideal for battery powered systems or anywhere power is at a premium.

OUTLINE DIMENSIONS in inches (mm)

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



DIM_074.cdr

SDP8276

Silicon Photodiode

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current	I_L	4	7		μA	$V_R=20\text{ V}$ $H=1\text{ mW/cm}^2$ (1)
Dark Current	I_D			50	nA	$H=0$, $V_R=20\text{ VDC}$
Reverse Breakdown Voltage	V_{BR}	50			V	$I_R=10\text{ }\mu\text{A}$, $H=0$
Angular Response (2)	\emptyset		50		degr.	$I_F=\text{Constant}$
Rise And Fall Time	t_r , t_f		50		ns	$V_R=20\text{ V}$, $R_L=50\text{ }\Omega$

Notes

1. The radiation source is an IRED with a peak wavelength of 935 nm.
2. Angular response is defined as the total included angle between the half sensitivity points.

ABSOLUTE MAXIMUM RATINGS

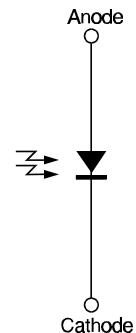
(25°C Free-Air Temperature unless otherwise noted)

Operating Temperature Range	-40 to +85°C
Storage Temperature Range	-40 to +85°C
Soldering Temperature (5 sec)	240°C
Cathode Anode Voltage	50 V
Power Dissipation	100 mW (1)

Notes

1. Derate linearly from 25°C free-air temperature at the rate of 0.78 mW/°C.

SCHEMATIC



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

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SDP8276

Silicon Photodiode

SWITCHING TIME TEST CIRCUIT

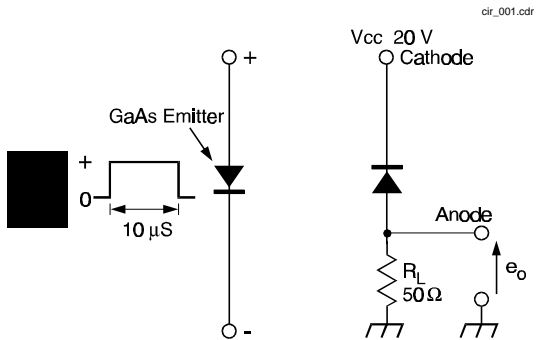
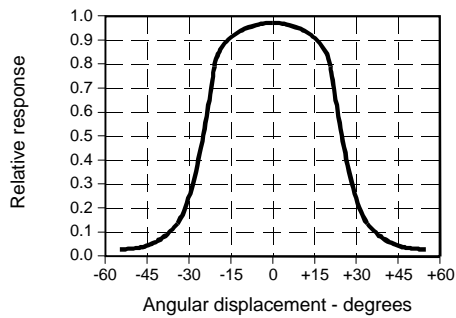


Fig. 1 Responsivity vs Angular Displacement



SWITCHING WAVEFORM

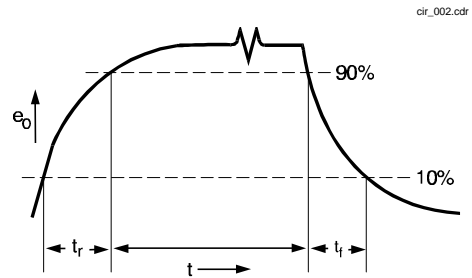


Fig. 2 Dark Current vs Temperature

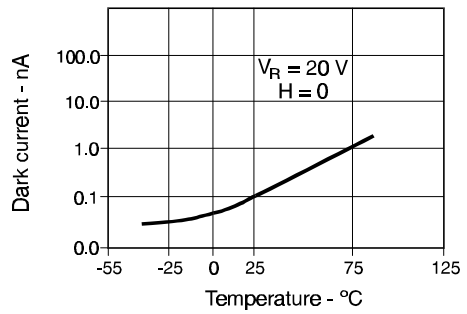
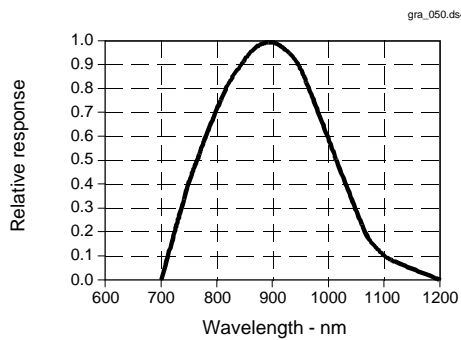


Fig. 3 Spectral Responsivity



All Performance Curves Show Typical Values

SDP8276
Silicon Photodiode



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