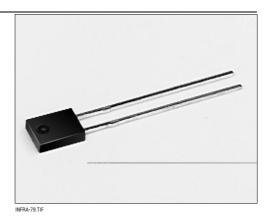
Silicon Photodarlington

FEATURES

- Side-looking plastic package
- 50° (nominal) acceptance angle
- Mechanically and spectrally matched to SEP8506 and SEP8706 infrared emitting diodes

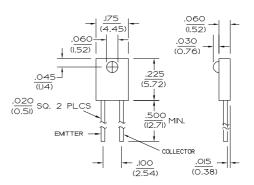


DESCRIPTION

The SDP8106 is an NPN silicon photodarlington molded in a side-looking black plastic package to minimize effect of visible ambient light. The chip is positioned to accept radiation through a plastic lens from the side of the package.

OUTLINE DIMENSIONS in inches (mm)

Tolerance 3 plc decimals $\pm 0.005(0.12)$ 2 plc decimals $\pm 0.020(0.51)$



DIM_023.cdr



Silicon Photodarlington

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current	l _L				mA	V _{CE} =5 V
SDP8106-001		1.0				H=1 mW/cm ^{2 (1)}
Collector Dark Current	Iceo			250	nA	Vce=10 V, H=0
Collector-Emitter Breakdown Voltage	V _(BR) ceo	15			V	Ic=100 μA
Emitter-Collector Breakdown Voltage	V _{(BR)ECO}	5.0			V	I _E =100 μA
Collector-Emitter Saturation Voltage	VCE(SAT)			1.1	V	I _C =1 mA
						H=5 mW/cm ²
Angular Response (2)	Ø		50		degr.	I _F =Constant
Rise And Fall Time	t _r , t _f		75		μs	Vcc=5 V, I _L =1 mA
						R _L =100 Ω

- 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.

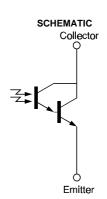
ABSOLUTE MAXIMUM RATINGS

(25°C Free-Air Temperature unless otherwise noted) Collector-Emitter Voltage Emitter-Collector Voltage 5 V Power Dissipation 100 mW (1) -40°C to 85°C Operating Temperature Range Storage Temperature Range -40°C to 85°C Soldering Temperature (5 sec) 240°C

Notes

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

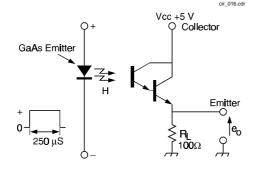
0.78 mW/°C.



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

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SWITCHING TIME TEST CIRCUIT



SWITCHING WAVEFORM

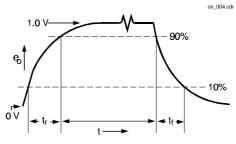


Fig. 1 Responsivity vs

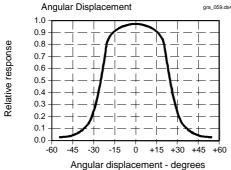


Fig. 2 Non-Saturated Switching Time vs Load Resistance

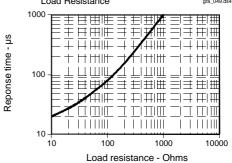
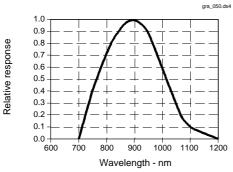


Fig. 3 Spectral Responsivity



All Performance Curves Show Typical Values



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