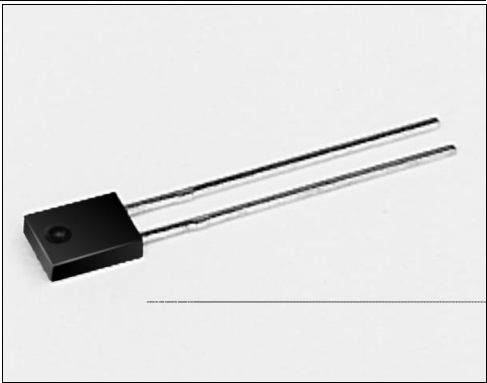


SDP8106

Silicon Photodarlington

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



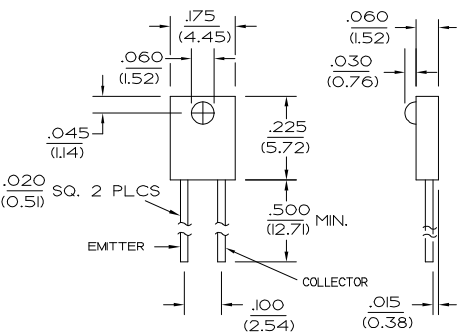
INFRA-79.TIF

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



DIM_023.cdr

SDP8106

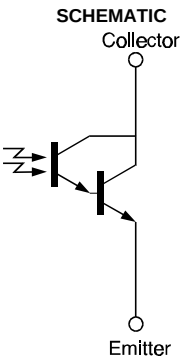
Silicon Photodarlington

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)						
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current SDP8106-001	I _L	1.0			mA	V _{CE} =5 V H=1 mW/cm ² (1)
Collector Dark Current	I _{CEO}			250	nA	V _{CE} =10 V, H=0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	15			V	I _C =100 µA
Emitter-Collector Breakdown Voltage	V _{(BR)ECO}	5.0			V	I _E =100 µA
Collector-Emitter Saturation Voltage	V _{CE(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	V _{CC} =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	15 V
Emitter-Collector Voltage	5 V
Power Dissipation	100 mW (1)
Operating Temperature Range	-40°C to 85°C
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.

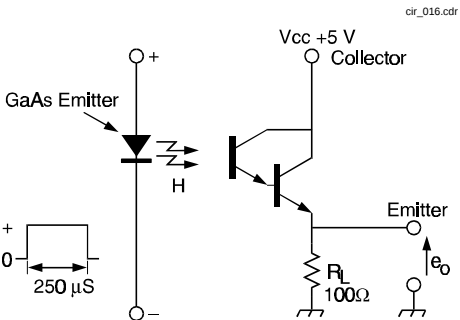


Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

SDP8106

Silicon Photodarlington

SWITCHING TIME TEST CIRCUIT



SWITCHING WAVEFORM

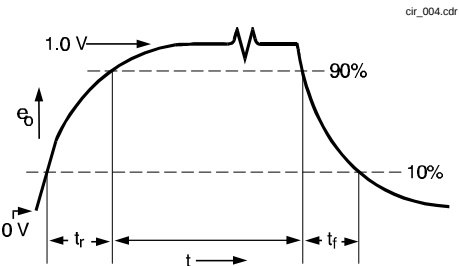


Fig. 1 Responsivity vs Angular Displacement

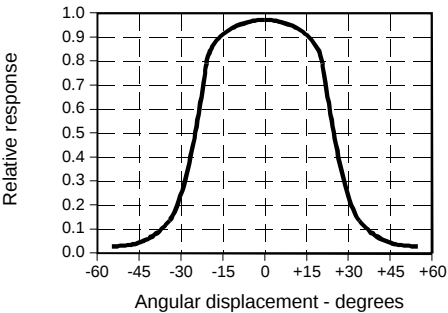


Fig. 2 Non-Saturated Switching Time vs Load Resistance

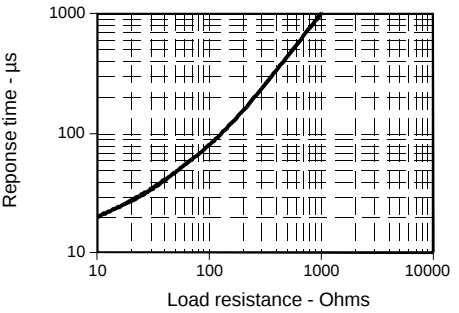
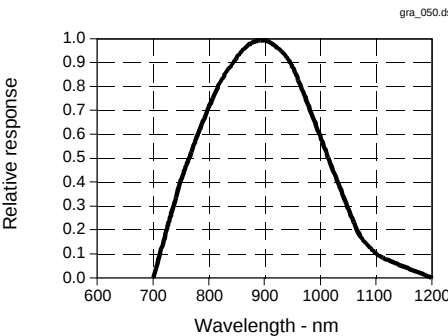


Fig. 3 Spectral Responsivity



All Performance Curves Show Typical Values

SDP8106

Silicon Photodarlington

