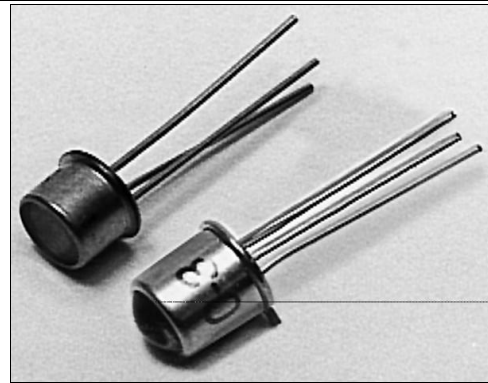


SD3410/5410

Silicon Photodarlington

FEATURES

- TO-46 metal can package
- Choice of flat window or lensed package
- 90° or 12° (nominal) acceptance angle option
- Wide operating temperature range (-55°C to +125°C)
- Wide sensitivity ranges
- Mechanically and spectrally matched to SE3450/5450, SE3455/5455 and SE3470/5470 infrared emitting diodes



INFRA-17.TIF

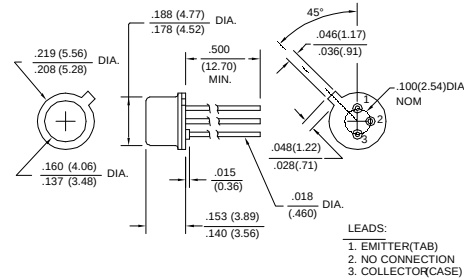
DESCRIPTION

The SD3410/5410 series consists of an NPN silicon photodarlington mounted in a TO-46 metal can package. The SD3410 has flat window cans providing a wide acceptance angle, while the SD5410 has glass lensed cans providing a narrow acceptance angle. The TO-46 packages are ideally suited for operation in hostile environments.

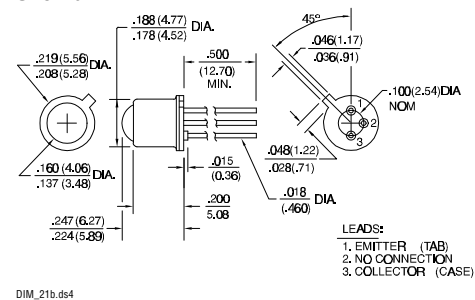
OUTLINE DIMENSIONS in inches (mm)

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

SD3410



SD5410



SD3410/5410

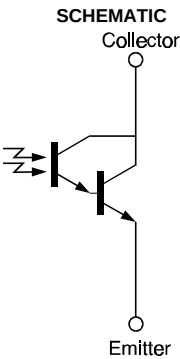
Silicon Photodarlington

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)							
PARAMETER		SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current SD3410-001 SD3410-002 SD3410-003 SD3410-004		I _L	0.6 2.0 4.0 8.0			mA	V _{CE} =5 V H=2 mW/cm ² (1)
Light Current SD5410-001 SD5410-002 SD5410-003		I _L	2.0 4.0 8.0			mA	V _{CE} =5 V H=0.2 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 SD3410 SD5410		V _{CE(SAT)}			1.1	V	I _C =1 mA H=2 mW/cm ² H=0.2 mW/cm ²
Angular Response (2) SD3410 SD5410		Ø		90 12		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 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)	
Collector-Emitter Voltage	15 V
Emitter-Collector Voltage	5 V
Power Dissipation	150 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 1.43 mW/°C.



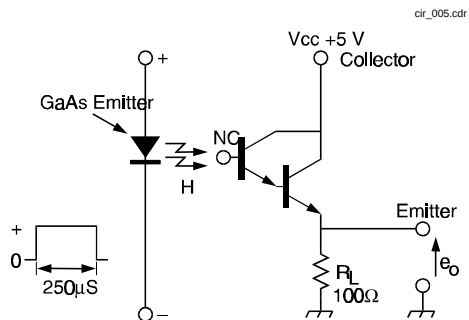
Honeywell reserves the right to make changes in order to improve design and supply the best products possible.

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SD3410/5410

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SWITCHING TIME TEST CIRCUIT



SWITCHING WAVEFORM

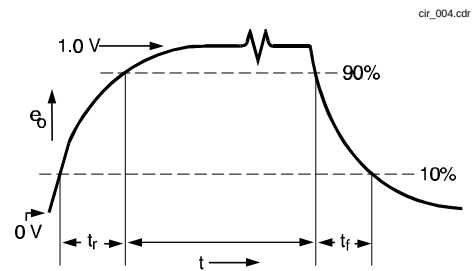


Fig. 1 Responsivity vs Angular Displacement (SD3410)

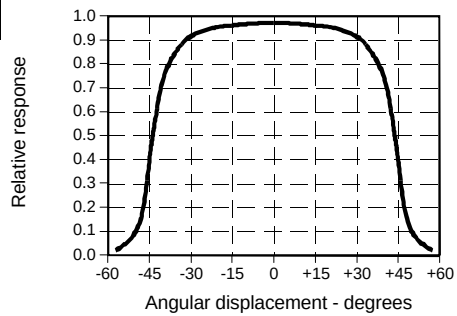


Fig. 2 Responsivity vs Angular Displacement (SD5410)

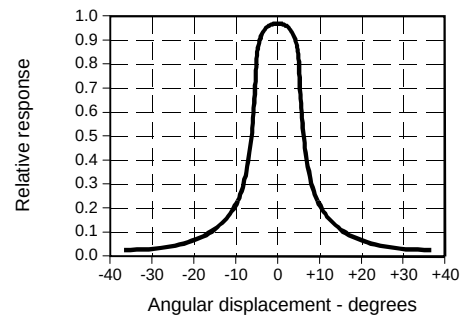


Fig. 3 Non-Saturated Switching Time vs Load Resistance

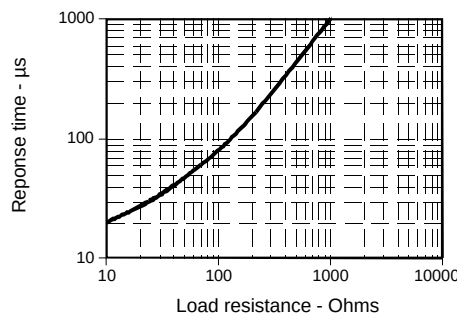
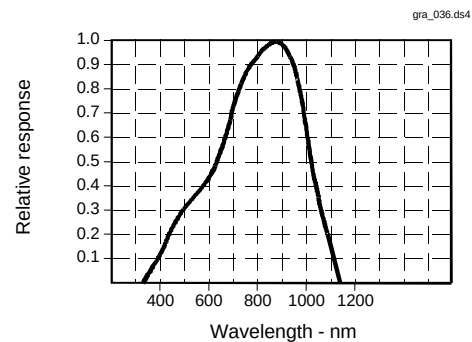


Fig. 4 Spectral Responsivity



All Performance Curves Show Typical Values

SD3410/5410

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