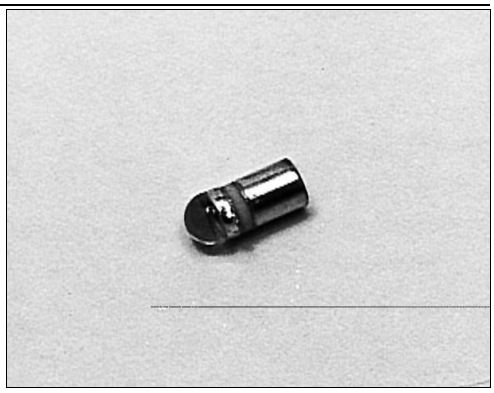
SD2410

Silicon Photodarlington

FEATURES

- Miniature, hermetically sealed, pill style, metal can package
- 48° (nominal) acceptance angle
- Wide operating temperature range (- 55°C to +125°C)
- Ideal for direct mounting to printed circuit boards
- Wide sensitivity ranges
- Mechanically and spectrally matched to SE2460 and SE2470 infrared emitting diodes



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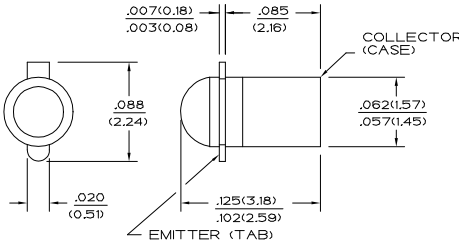
DESCRIPTION

The SD2410 is an NPN silicon photodarlington mounted in a hermetically sealed glass lensed metal can package. This package directly mounts in double sided PC boards.

OUTLINE DIMENSIONS in inches (mm)

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



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ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current	I_L				mA	V_{CE}=5 V
SD2410-001		1.0				H=1 mW/cm² (1)
SD2410-002		3.0				
SD2410-003		6.0				
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/cm²
Angular Response (2)	Ø		48		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.

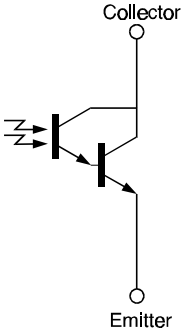
ABSOLUTE MAXIMUM RATINGS

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

Collector-Emitter Voltage	15 V
Emitter-Collector Voltage	5 V
Power Dissipation	125 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 1.19 mW/°C.

SCHEMATIC



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SWITCHING TIME TEST CIRCUIT

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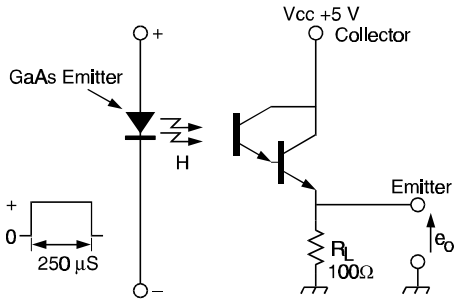

SWITCHING WAVEFORM

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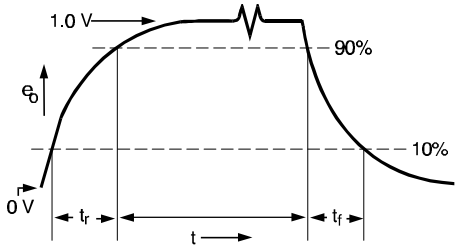

Fig. 1 Responsivity vs Angular Displacement

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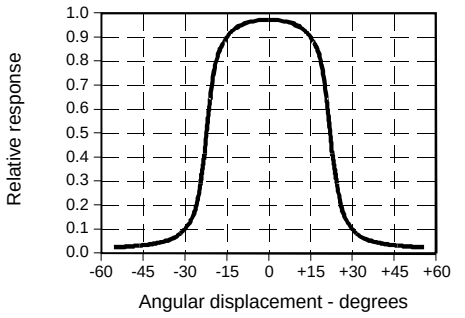

Fig. 2 Non-Saturated Switching Time vs Load Resistance

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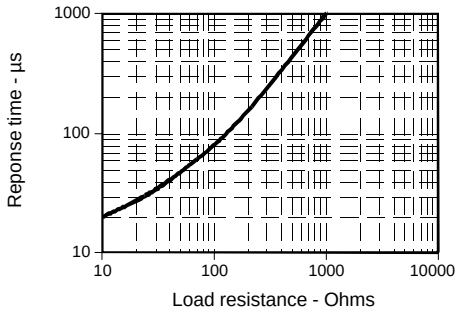

Fig. 3 Spectral Responsivity

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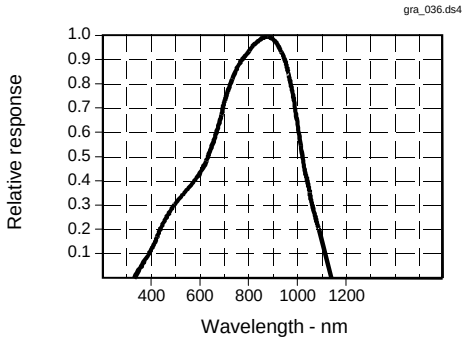

All Performance Curves Show Typical Values

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