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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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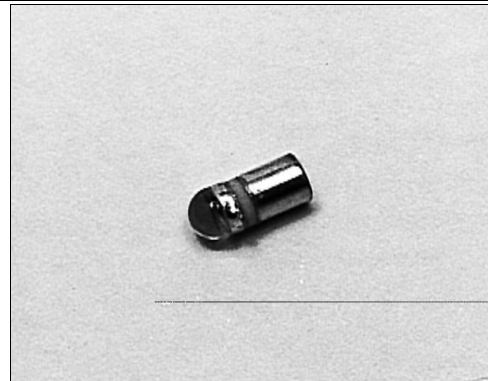


# SD2410

## 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



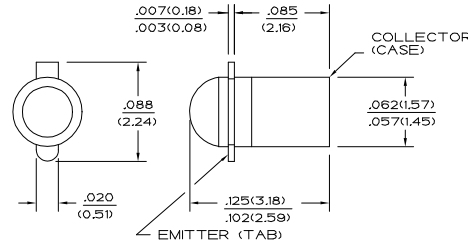
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### DESCRIPTION

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)



DIM\_013.cdr

# SD2410

## Silicon Photodarlington

### ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current SD2410-001 SD2410-002 SD2410-003	$I_L$	1.0 3.0 6.0			mA	$V_{CE}=5\text{ V}$ $H=1\text{ mW/cm}^2$ (1)
Collector Dark Current	$I_{CEO}$			250	nA	$V_{CE}=10\text{ V}$ , $H=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	15			V	$I_C=100\text{ }\mu\text{A}$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5.0			V	$I_E=100\text{ }\mu\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			1.1	V	$I_C=1\text{ mA}$ $H=5\text{ mW/cm}^2$
Angular Response (2)	$\emptyset$		48		degr.	$I_F=\text{Constant}$
Rise And Fall Time	$t_r, t_f$		75		$\mu\text{s}$	$V_{CC}=5\text{ V}$ , $I_L=1\text{ mA}$ $R_L=100\text{ }\Omega$

#### 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

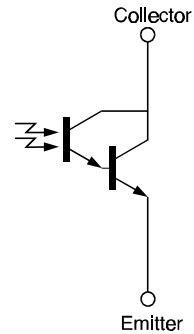
(25°C Free-Air Temperature unless otherwise noted)

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



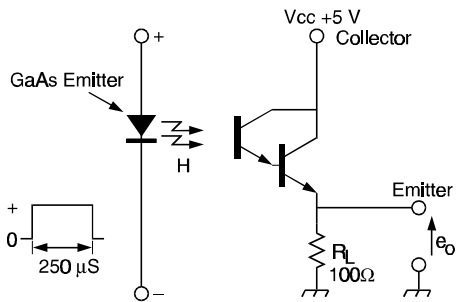
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# SD2410

## Silicon Photodarlington

### SWITCHING TIME TEST CIRCUIT



### SWITCHING WAVEFORM

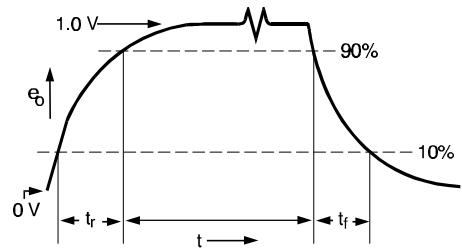


Fig. 1 Responsivity vs Angular Displacement

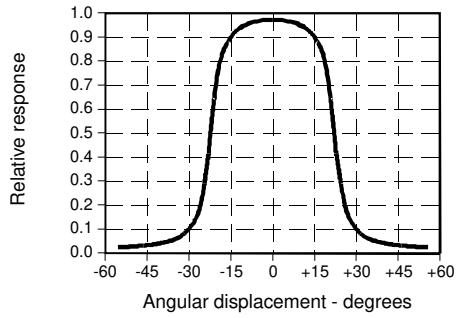


Fig. 2 Non-Saturated Switching Time vs Load Resistance

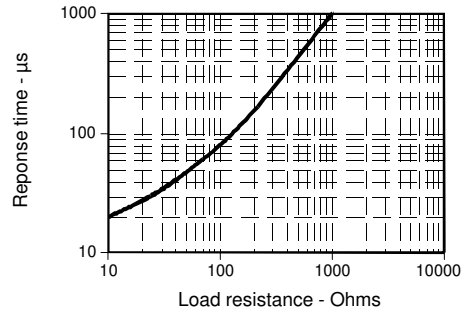
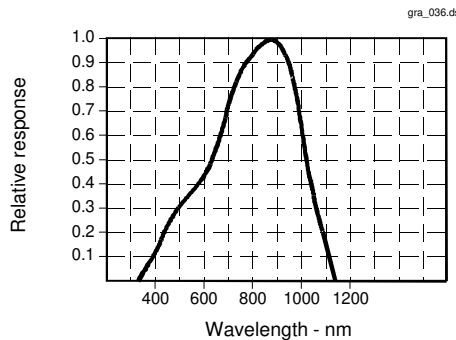


Fig. 3 Spectral Responsivity



All Performance Curves Show Typical Values

**SD2410**  
Silicon Photodarlington

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