



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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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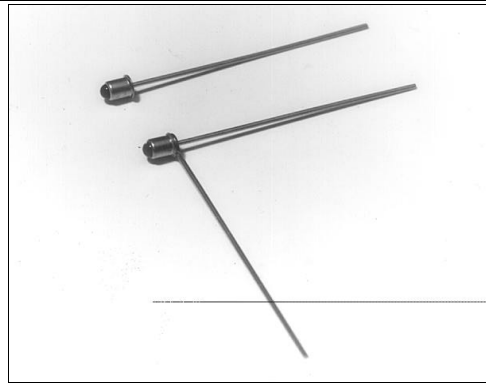


SD1440

Silicon Phototransistor

FEATURES

- Compact, metal can coaxial package
- 24° (nominal) acceptance angle
- Wide sensitivity ranges
- Wide operating temperature range (- 55°C to +125°C)
- Mechanically and spectrally matched to SE1450 and SE1470 infrared emitting diodes



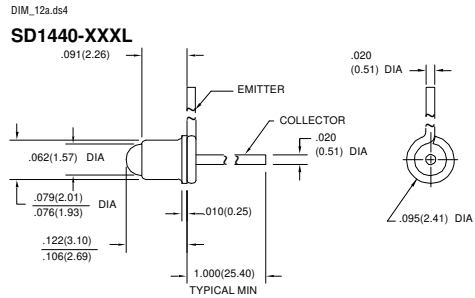
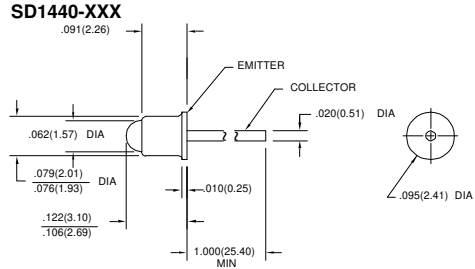
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DESCRIPTION

The SD1440 is an NPN silicon phototransistor mounted in a glass lensed metal can coaxial package. The package may have a tab or second lead welded to the can as an optional feature (SD1440-XXXL). Both leads are flexible and may be formed to fit various mounting configurations.

OUTLINE DIMENSIONS in inches (mm)

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



DIM_12b.ds4

SD1440

Silicon Phototransistor

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current SD1440-001, SD1440-001 L SD1440-002, SD1440-002 L SD1440-003, SD1440-003 L SD1440-004, SD1440-004 L	I_L	0.7 1.5 3.0 6.0			mA	$V_{CE}=5\text{ V}$ $H=5\text{ mW/cm}^2$ (1)
Collector Dark Current	I_{CEO}			100	nA	$V_{CE}=10\text{ V}$, $H=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			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	$V_{CE(SAT)}$			0.4	V	$I_C=0.4\text{ mA}$ $H=5\text{ mW/cm}^2$
Angular Response (2)	\emptyset		24		degr.	$I_F=\text{Constant}$
Rise And Fall Time	t_r, t_f		15		μs	$V_{CC}=5\text{ V}$, $I_L=1\text{ mA}$ $R_L=1000\text{ }\Omega$

Notes

- The radiation source is a tungsten lamp operating at a color temperature of 2870°K.
- Angular response is defined as the total included angle between the half sensitivity points.

ABSOLUTE MAXIMUM RATINGS

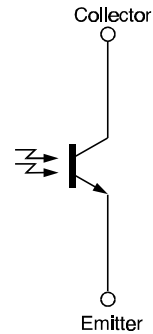
(25°C Free-Air Temperature unless otherwise noted)

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Power Dissipation	75 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

- Derate linearly from 25°C free-air temperature at the rate of 0.71 mW/°C.

SCHEMATIC



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

Honeywell

SD1440

Silicon Phototransistor

SWITCHING TIME TEST CIRCUIT

cir_015.cdr

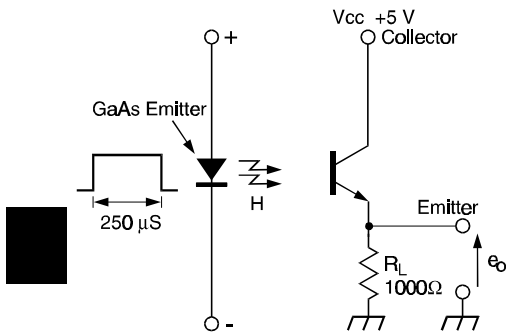


Fig. 1 Responsivity vs Angular Displacement

gra_051.ds4

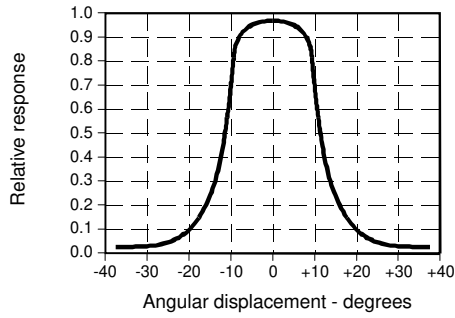
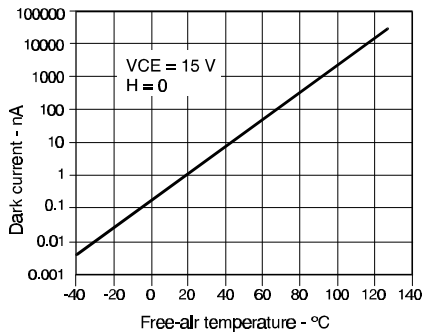


Fig. 3 Dark Current vs Temperature

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SWITCHING WAVEFORM

cir_004.cdr

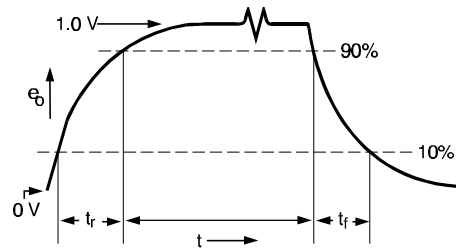


Fig. 2 Collector Current vs Ambient Temperature

gra_039.ds4

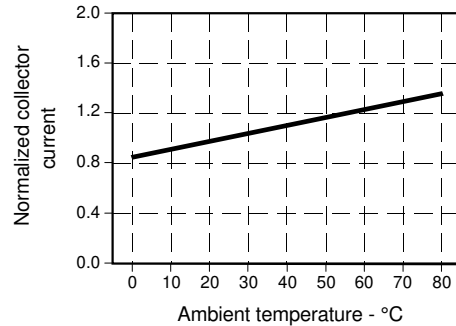
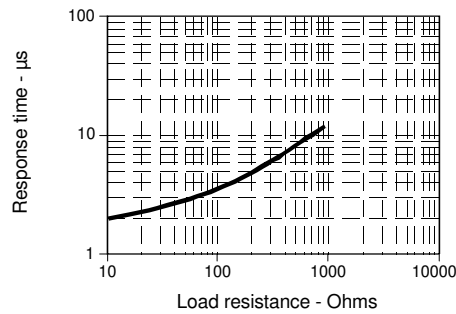


Fig. 4 Non-Saturated Switching Time vs Load Resistance

gra_041.ds4



SD1440

Silicon Phototransistor

Fig. 5 Spectral Responsivity

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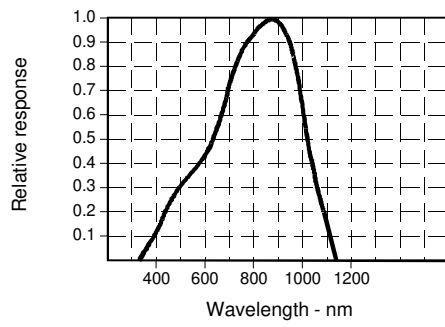
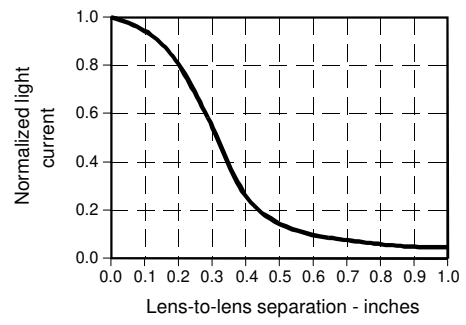


Fig. 6 Coupling Characteristics with SE1450

gra_006.ds4



All Performance Curves Show Typical Values