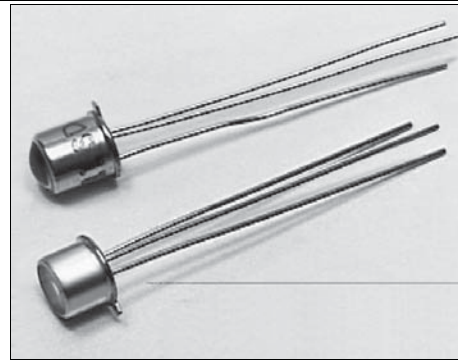


SD3443/5443

Silicon Phototransistor

FEATURES

- TO-46 metal can package
- Choice of flat window or lensed package
- 90° or 18° (nominal) acceptance angle option
- Wide operating temperature range (-55°C to +125°C)
- External base connection for added control
- High sensitivity
- Mechanically and spectrally matched to SE3450/5450, SE3455/5455 and SE3470/5470 infrared emitting diodes



INFRA-57.TIF

DESCRIPTION

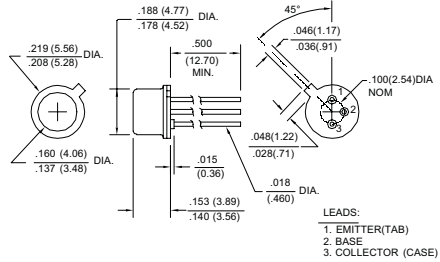
The SD3443/5443 series consists of an NPN silicon phototransistor mounted in a TO-46 metal can package. The SD3443 has flat window cans providing a wide acceptance angle, while the SD5443 has glass lensed cans providing a narrow acceptance angle. The TO-46 packages are ideally suited for operation in hostile environments.

The base is connected on all SD3443 and SD5433 standard products.

OUTLINE DIMENSIONS in inches (mm)

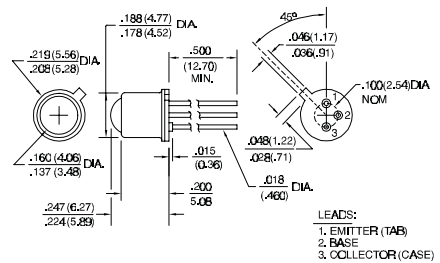
Tolerance	3 plc decimals	±0.005(0.12)
	2 plc decimals	±0.020(0.51)

SD3443



DIM_015.d54

SD5443



DIM_15b.d54

SD3443/5443

Silicon Phototransistor

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Light Current	I_L				mA	$V_{CE}=5\text{ V}$ $H=5\text{ mW/cm}^2$ (1)
SD3443-001		0.50				
SD3443-002		1.00				
SD3443-003		2.00				
SD5443-001		1.00				
SD5443-002		4.00				
SD5443-003		8.00				
SD5443-004		16.0				
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				degr.	$I_F=\text{Constant}$
SD3443			90			
SD5443			18			
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

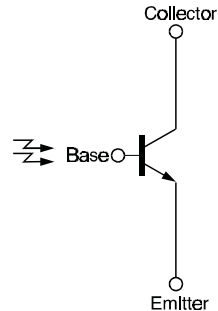
(25°C Free-Air Temperature unless otherwise noted)

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

- Derate linearly from 25°C free-air temperature at the rate of 1.43 mW/°C.

SCHEMATIC



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

Honeywell

109

SD3443/5443

Silicon Phototransistor

SWITCHING TIME TEST CIRCUIT

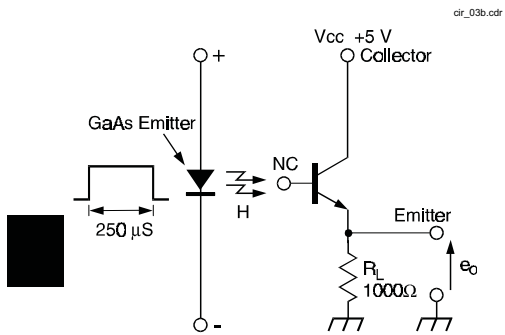


Fig. 1 Responsivity vs Angular Displacement (SD3443)

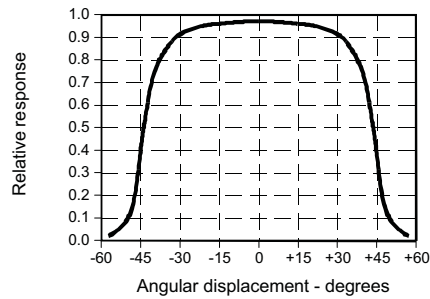
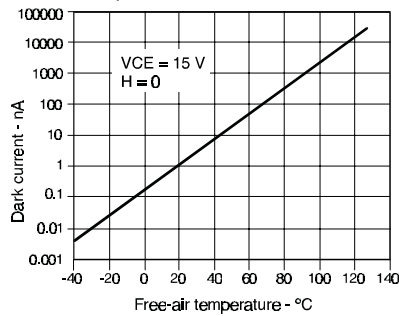


Fig. 3 Dark Current vs Temperature



SWITCHING WAVEFORM

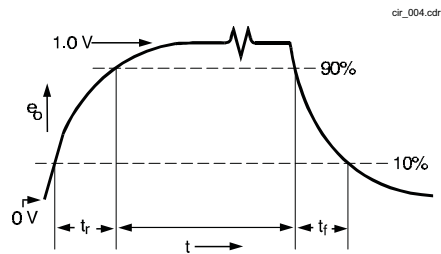


Fig. 2 Responsivity vs Angular Displacement (SD5443)

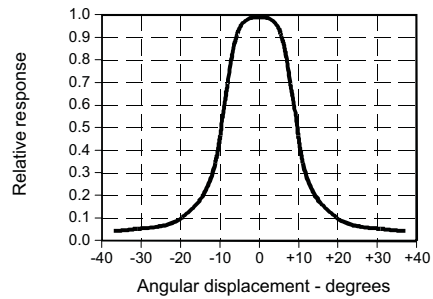
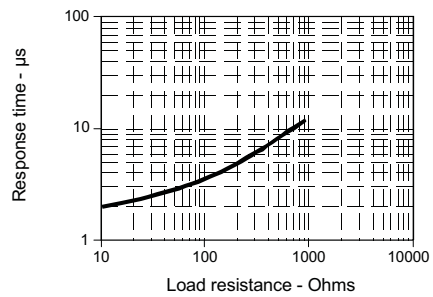


Fig. 4 Non-Saturated Switching Time vs Load Resistance



SD3443/5443

Silicon Phototransistor

Fig. 5 Spectral Responsivity

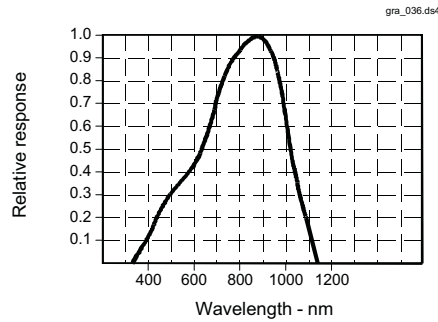


Fig. 6 Coupling Characteristics
SE3450 with SD3443

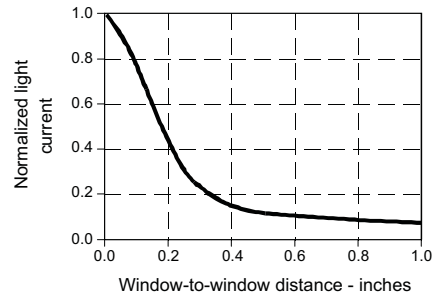


Fig. 7 Coupling Characteristics
SE5450 with SD5443

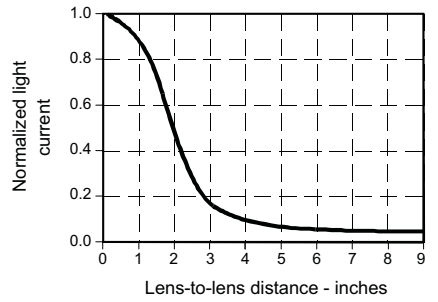
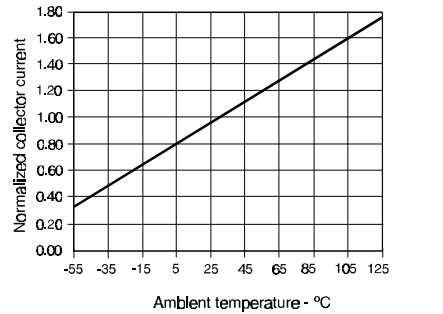


Fig. 8 Collector Current vs
Ambient Temperature



All Performance Curves Show Typical Values

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

Honeywell

111

单击下面可查看定价，库存，交付和生命周期等信息

[>>Honeywell\(霍尼韦尔\)](#)