

SD1440

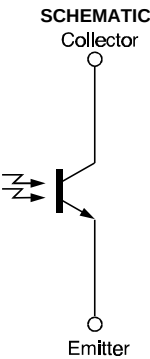
Silicon Phototransistor

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 V H=5 mW/cm ² (1)
Collector Dark Current	I _{CEO}			100	nA	V _{CE} =10 V, H=0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	30			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)}			0.4	V	I _C =0.4 mA H=5 mW/cm ²
Angular Response (2)	Ø		24		degr.	I _F =Constant
Rise And Fall Time	t _r , t _f		15		µs	V _{CC} =5 V, I _L =1 mA R _L =1000 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	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
1. Derate linearly from 25°C free-air temperature at the rate of 0.71 mW/°C.



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SWITCHING TIME TEST CIRCUIT

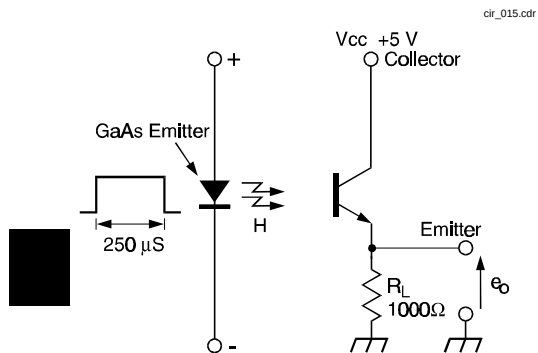


Fig. 1 Responsivity vs Angular Displacement

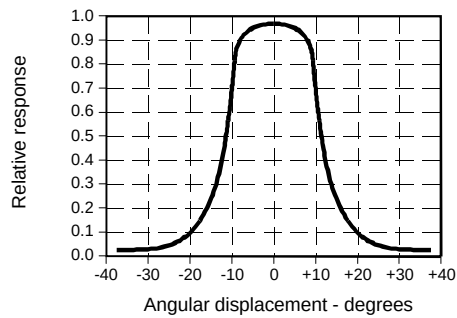
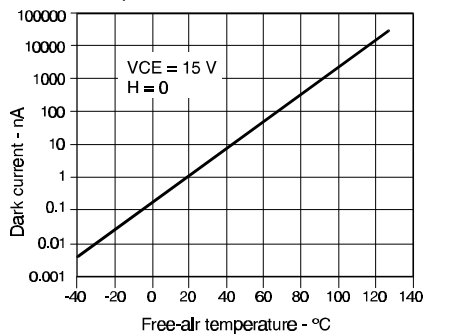


Fig. 3 Dark Current vs Temperature



SWITCHING WAVEFORM

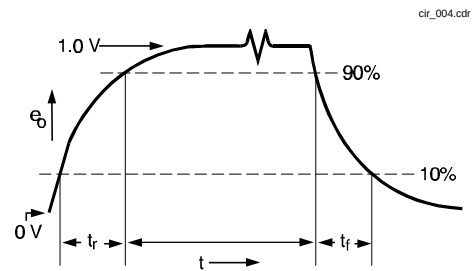


Fig. 2 Collector Current vs Ambient Temperature

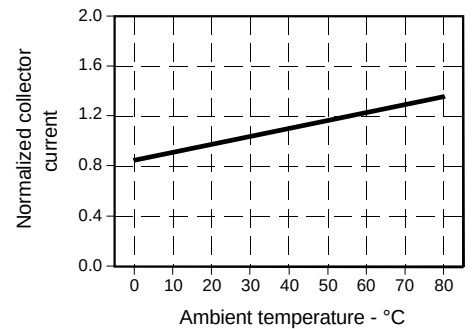
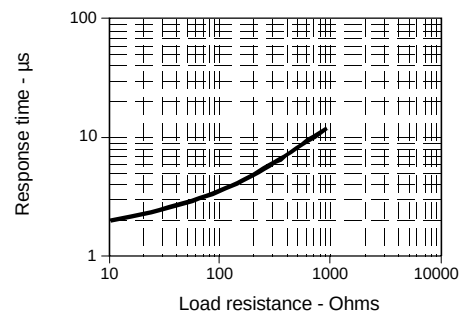


Fig. 4 Non-Saturated Switching Time vs Load Resistance



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Fig. 5 Spectral Responsivity

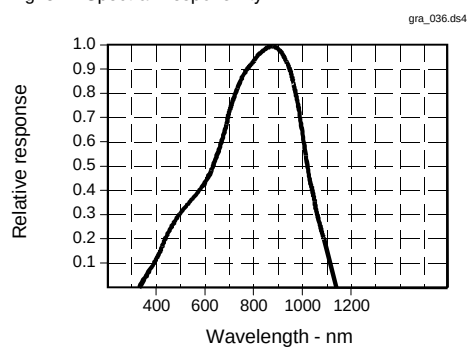
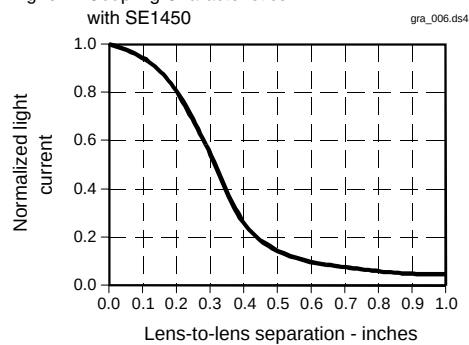


Fig. 6 Coupling Characteristics with SE1450



All Performance Curves Show Typical Values

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