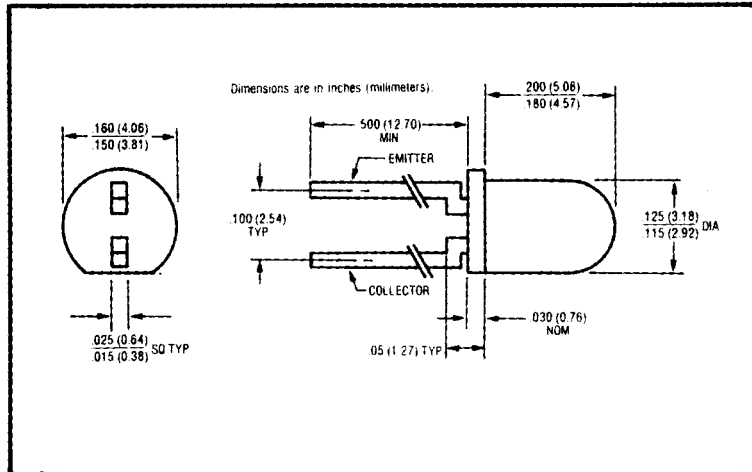
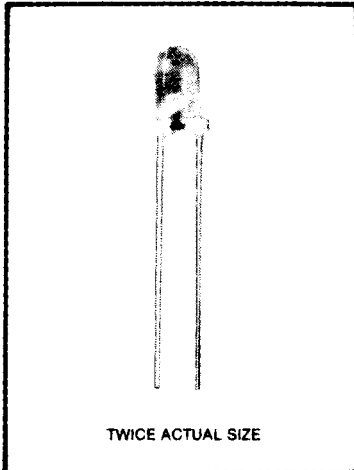


# NPN Silicon Phototransistors

Types OP501, OP501SLD, OP501SLC, OP501SLB, OP501SLA



### Features

- .10" (2.54 mm) LEAD SPACING
- WIDE RANGE OF COLLECTOR CURRENTS
- LENSED FOR HIGH SENSITIVITY

### Description

The OP501 and OP501SLD through SLA each consist of an NPN silicon phototransistor mounted in a lensed, clear plastic, end looking package. The lensing effect of the package allows an acceptance half angle of 8° measured from the optical axis to the half power point. This series is identical to the OP500 except for lead spacing. It is mechanically and spectrally matched to the OP160 and OP260 series of infrared emitting diodes.

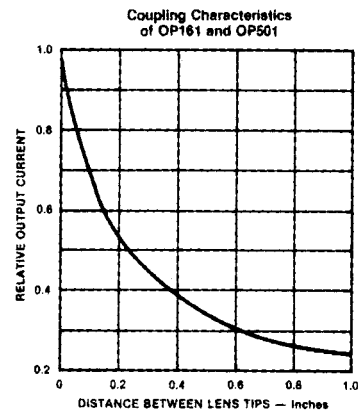
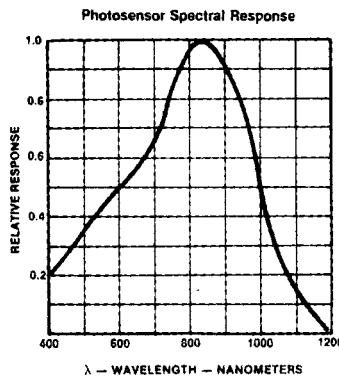
All electrical parameters are 100% tested by manufacturing. Specifications are guaranteed to a cumulative .65% AQL.

Collector current ranges on the OP501SLD through SLA are guaranteed to a 2.5% AQL.

### absolute maximum rating (25°C unless otherwise noted)

Collector-Emitter Voltage	.....	30 V
Emitter-Collector Voltage	.....	5 V
Storage and Operating Temperature Range	.....	- 40°C to + 100°C
Lead Soldering Temperature (1/16 inch - 1.6 mm from case for 5 sec. with soldering iron) <sup>(1)</sup>	.....	240°C
Power Dissipation	.....	100 mW <sup>(2)</sup>

- Notes:** (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when wave soldering.  
 (2) Derate Linearly 1.33 mW/°C above 25°C.  
 (3) Junction temperature maintained at 25°C.  
 (4) Light source is an unfiltered tungsten bulb operating at CT = 2870°K.



# Types OP501, OP501SLD, OP501SLC, OP501SLB, OP501SLA

electrical characteristics (25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
$I_{C(ON)}^{(3)}$	On-State Collector Current	OP501	4		24	mA	$V_{CE} = 5\text{ V}, E_e = 20\text{ mW/cm}^{2(4)}$ $V_{CE} = 5\text{ V}, E_e = 20\text{ mW/cm}^{2(4)}$ $V_{CE} = 5\text{ V}, E_e = 20\text{ mW/cm}^{2(4)}$ $V_{CE} = 5\text{ V}, E_e = 20\text{ mW/cm}^{2(4)}$ $V_{CE} = 5\text{ V}, E_e = 20\text{ mW/cm}^{2(4)}$
		OP501SLD	10		35	mA	
		OP501SLC	17		50	mA	
		OP501SLB	25			mA	
		OP501SLA	40			mA	
$I_{CEO}$	Collector Dark Current			100	nA	$V_{CE} = 10\text{ V}, E_e = 0$	
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30			V	$I_C = 1\text{ mA}$	
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5			V	$I_E = 100\text{ }\mu\text{A}$	
$V_{CE(SAT)}^{(3)}$	Collector-Emitter Saturation Voltage			.4	V	$I_C = 500\text{ }\mu\text{A}, E_e = 20\text{ mW/cm}^{2(4)}$	

## Typical Performance Curves

