



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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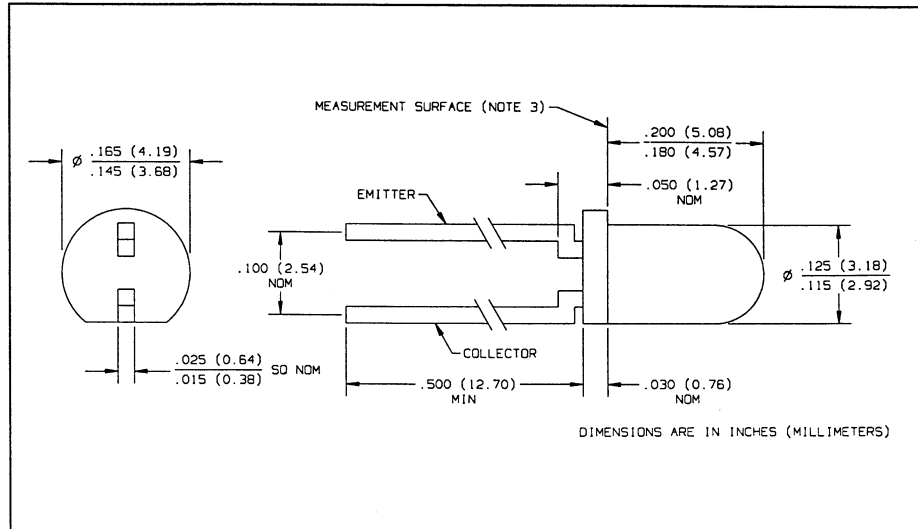
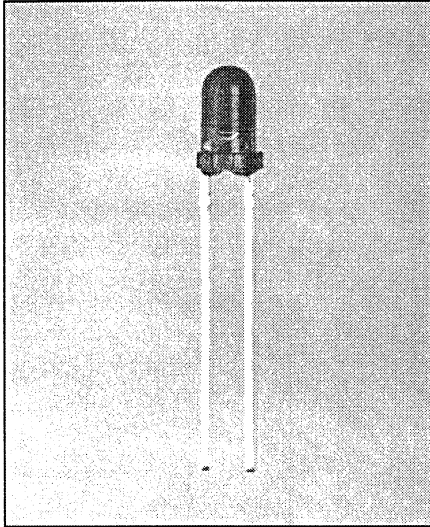
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NPN Silicon Phototransistors

Types OP506A, OP506B, OP506C, OP506D



Features

- Narrow receiving angle
- Variety of sensitivity ranges
- T-1 package style
- Small package size for space limited applications

Description

The OP506 series devices consist of NPN silicon phototransistors molded in blue tinted epoxy packages. The narrow receiving angle provides excellent on-axis coupling. These devices are 100% production tested using infrared light for close correlation with Optek's GaAs and GaAlAs emitters. Lead spacing is 0.100" (2.54mm).

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

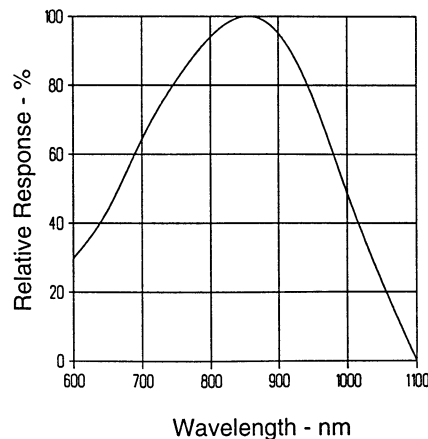
Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5.0 V
Storage and Operating Temperature Range	-40°C to $+100^\circ\text{C}$
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	$260^\circ\text{C}^{(1)}$
Power Dissipation	100 mW ⁽²⁾

Notes:

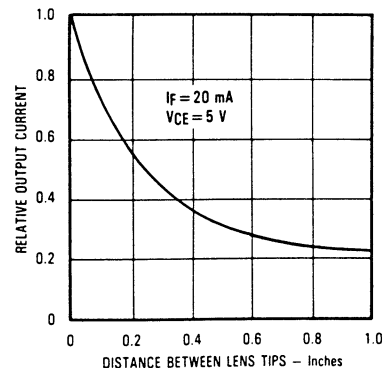
- (1) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering. Max. 20 grams force may be applied to leads when soldering.
- (2) Derate linearly 1.33 mW/ $^\circ\text{C}$ above 25°C .
- (3) Light source is an unfiltered GaAs LED with a peak emission wavelength of 935 nm and a radiometric intensity level which varies less than 10% over the entire lens surface of the phototransistor being tested.
- (4) To calculate typical collector dark current in μA , use the formula $I_{CED} = 10^{(0.040 T_A - 3.4)}$ where T_A is ambient temperature in $^\circ\text{C}$.

Typical Performance Curves

Typical Spectral Response



Coupling Characteristics of OP166 and OP506



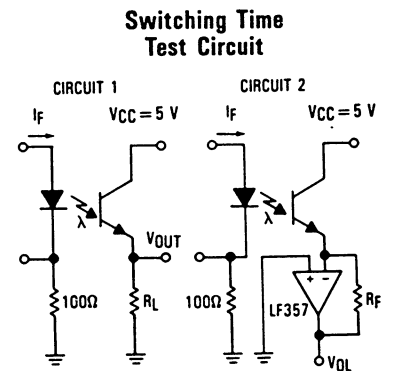
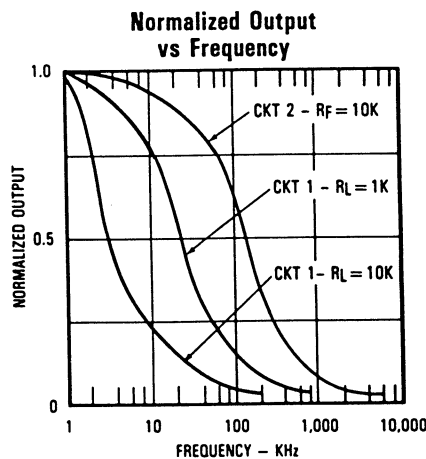
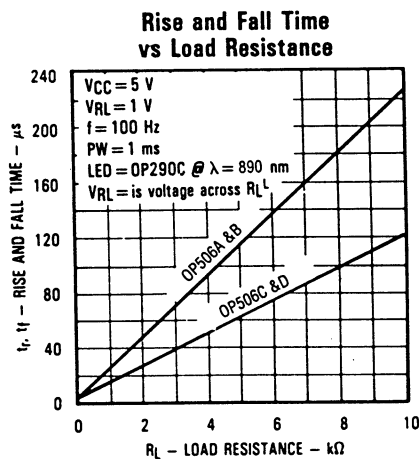
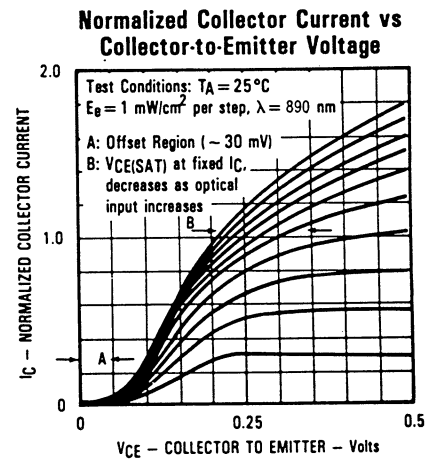
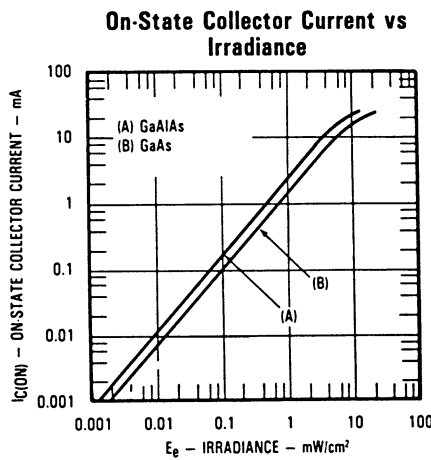
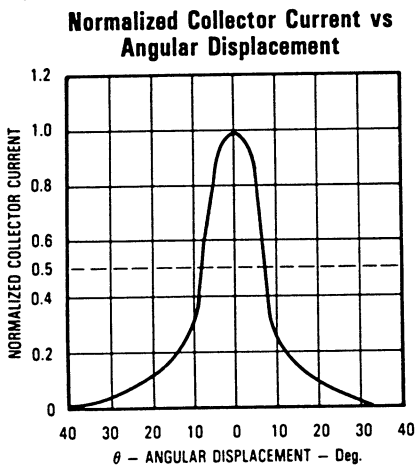
Types OP506A, OP506B, OP506C, OP506D

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
$I_{C(ON)}$	On-State Collector Current	OP506D 0.55 OP506C 1.10 OP506B 2.15 OP506A 4.30		3.00 5.95	mA	$V_{CE} = 5\text{ V}$, $E_e = 0.50\text{ mW/cm}^2$ ⁽⁴⁾ $V_{CE} = 5\text{ V}$, $E_e = 0.50\text{ mW/cm}^2$ ⁽⁴⁾ $V_{CE} = 5\text{ V}$, $E_e = 0.50\text{ mW/cm}^2$ ⁽⁴⁾ $V_{CE} = 5\text{ V}$, $E_e = 0.50\text{ mW/cm}^2$ ⁽⁴⁾
$\Delta I_C/\Delta T$	Relative I_C Changes with Temperature		1.00		%/ $^\circ\text{C}$	$V_{CE} = 5\text{ V}$, $E_e = 1.0\text{ mW/cm}^2$
I_{CEO}	Collector Dark Current			100	nA	$V_{CE} = 10\text{ V}$, $E_e = 0$ ⁽⁴⁾
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30			V	$I_C = 100\text{ }\mu\text{A}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0			V	$I_E = 100\text{ }\mu\text{A}$
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage			0.40	V	$I_C = 250\text{ mA}$, $E_e = 0.50\text{ mW/cm}^2$ $\lambda = 935\text{ nm}$ ⁽³⁾

PHOTOSENSORS

Typical Performance Curves



Test Conditions:
Light source is pulsed LED with t_r and $t_f \leq 500\text{ ns}$.
 I_f is adjusted for $V_{OUT} = 1\text{ Volt}$.