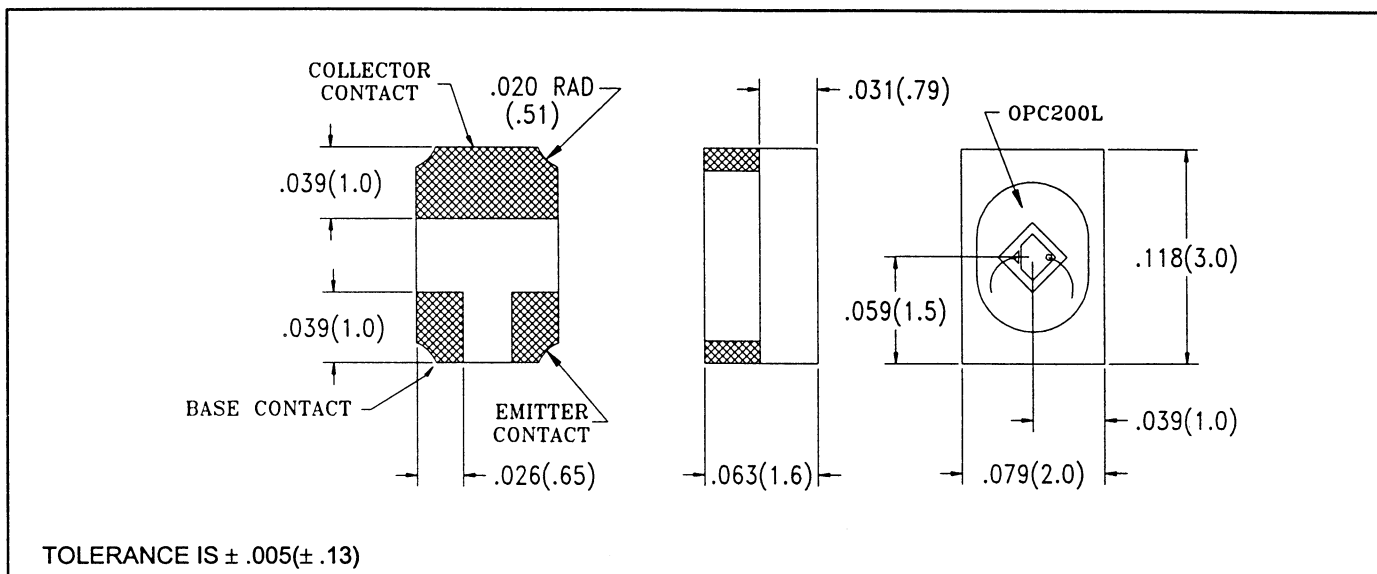


Surface Mount Phototransistor

OPR5500



Features

- Stackable on 2 mm centers
- Vertical or horizontal mounting
- Automatic pick and place compatible

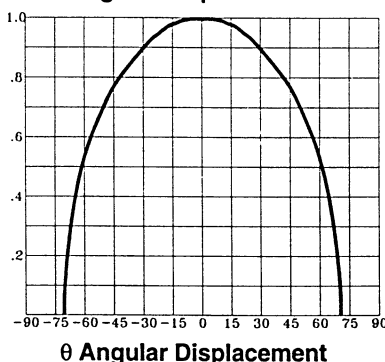
Description

The OPR5500 is an NPN silicon phototransistor in a high temperature polyimide chip carrier. Its small size is well suited to applications requiring close channel spacing. It can be placed with any standard SMD equipment and can be reflow soldered by virtually any conventional means. Wrap around contacts enable the part to be mounted face up or on edge for beam detection parallel to the seating plane. In combination with the OPR5200, the miniature SMD LED, this lateral mounting option can be used to create a slotted switch configuration.

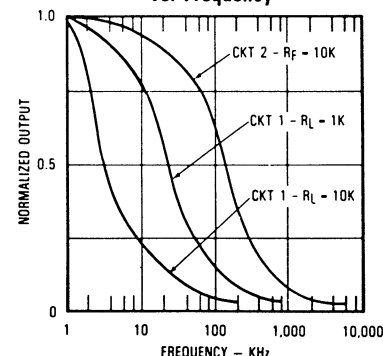
Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Storage and Operating Temperature	-55°C to $+125^\circ\text{C}$
Soldering Temperature (Vapor Phase Reflow for 30 sec.)	235°C
Power Dissipation (derate @ $1.00\text{ mW}/^\circ\text{C}$ above 25°C)	100 mW

Normalized Collector Current vs. Angular Displacement



Normalized Output vs. Frequency



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	36			μA	$V_{CE} = 5\text{ V}$, $E_e = 150\text{ }\mu\text{W}/\text{cm}^2$ (890 nm light source)
I_{CEO}	Dark Current			100	nA	$V_{CE} = 5\text{ V}$, $E_e = 0$
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30			V	$I_C = 100\text{ }\mu\text{A}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5			V	$I_e = 100\text{ }\mu\text{A}$
$V_{CE(SAT)}$	Saturation Voltage			0.4	V	$I_C = 100\text{ }\mu\text{A}$, $E_e = 5\text{ mW}/\text{cm}^2$
t_r, t_f	Rise Time, Fall Time		2.5		μs	$V_{CC} = 5\text{ V}$, $I_C = 800\text{ }\mu\text{A}$, $R = 100\text{ }\Omega$