

Features:

- SMD plastic package
- · High photo sensitivity
- Fast response time
- · Choice of four lead configurations
- IR transmissive plastic package



Description:

Each device in this series is an NPN silicon phototransistor mounted in an opaque plastic SMD package, with an integral molded lens that enables a narrow acceptance angle and a higher collector current than devices without a lense.

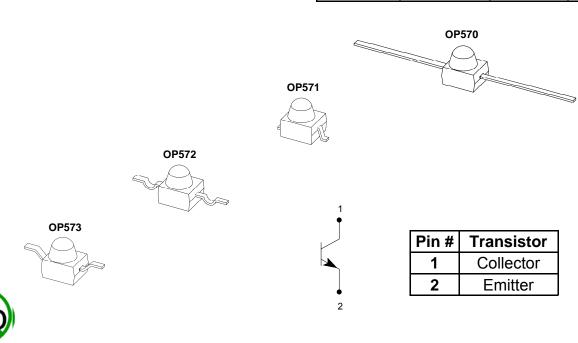
The **OP570** series has four lead configurations and is compatible with most automated mounting equipment. *The OP570* series is mechanically and spectrally matched to the OP270 series infrared LEDs.

Please refer to Application Bulletins 208 and 210 for additional design information and reliability (degradation) data.

Applications:

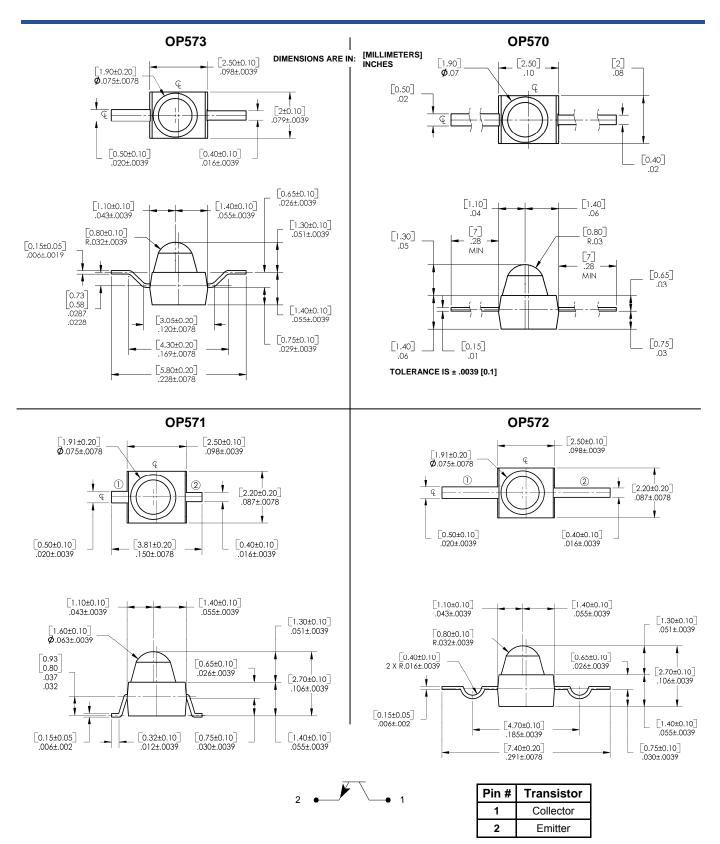
- Non-contact position sensing
- Datum detection
- Machine automation
- Optical encoders
- IrDA
- Reflective and transmissive sensors

Ordering Information						
Part Number	Sensor	Viewing Angle	Lead Length			
OP570		25°	Axial			
OP571	Phototransistor		Gull Wing			
OP572	FIIOLOLIANSISIOI		Yoke			
OP573			Rev. Gull			



IROHHS







Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Storage Temperature Range	-40° C to +85° C
Operating Temperature Range	-25° C to +85° C
Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Collector Current	20 mA
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	260° C ⁽¹⁾
Power Dissipation	130 mW ⁽²⁾

Notes

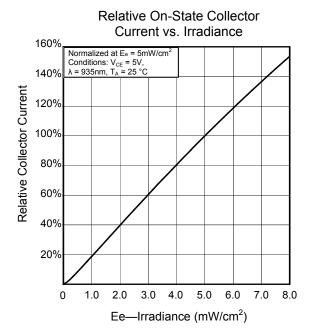
- 1. Solder time less than 5 seconds at temperature extreme.
- 2. Derate linearly at 2.17 mW/° C above 25° C.

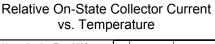
Electrical Characteristics (T_A = 25°C unless otherwise noted)

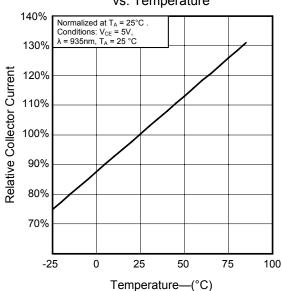
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
Input Diode							
I _{C (ON)}	On-State Collector Current	2.5	1	-	mA	$V_{CE} = 5.0 \text{ V}, E_{E} = 5.0 \text{ mW/cm}^{2}$ (1)	
$V_{CE(SAT)}$	Forward Voltage	-	-	0.4	V	$I_C = 100 \mu A, E_E = 2.0 \text{ mW/cm}^{2 (1)}$	
I _{CEO}	Reverse Current	-	-	100	nA	$V_{CE} = 5.0 \text{ V}, E_E = 0^{(2)}$	
$V_{BR(CEO)}$	Wavelength at Peak Emission	30	ı	-	V	I _C = 100 μA	
V _{(BR)ECO}	Emission Angle at Half Power Points	5	-	-	V	I _E = 100 μA	

Notes:

- 1. Light source is an unfiltered GaAl LED with a peak emission wavelength of 935nm and a radiometric intensity level which varies less than 10% over the entire lens surface of the phototransistor being tested.
- 2. To calculate typical collector dark current in μ A, use the formula $I_{CEO} = 10^{(0.04 \text{ Ta-3.4})}$ where Ta is the ambient temperature in ° C.









Relative Response vs.
Angular Position

100%
80%
60%
20%
20%
-90 -60 -30 0 30 60 90

Angular Position (Degrees)

