

## Features

- ◆ Fast response time
- ◆ High linearity
- ◆ High photo sensitivity
- ◆ Available in groups
- ◆ Pb free
- ◆ The product itself will remain within RoHS compliant version

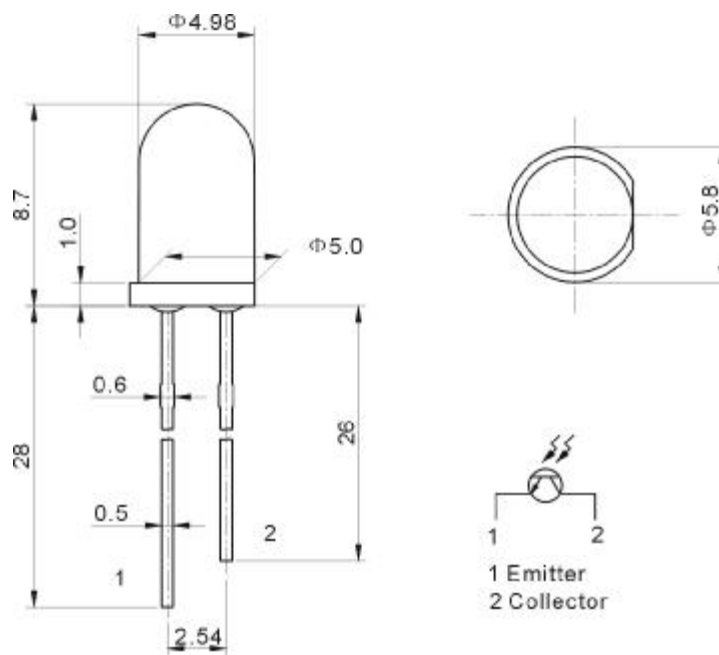
## Description

- ◆ PT-5038H is a high speed and high sensitive NPN silicon phototransistor molded in a standard  $\Phi 5\text{mm}$  package.
- ◆ Due to is black epoxy the device is sensitive to visible and infrared radiation.

## Applications

- ◆ Infrared applied system
- ◆ Camera
- ◆ Printer
- ◆ Photo interrupters
- ◆ Industrial electronics
- ◆ For control and drive circuits
- ◆ Optoelectronic switch

## Package Dimension:



NOTE: TOLERANCE  $\pm 0.5\text{mm}$

Part NO.	Chip	Lens Color
	Material	
PT-5038H	Silicon	Black

## Notes:

1. All dimensions are in millimeters (inches).
2. Tolerances unless dimensions  $\pm 0.25\text{mm}$ .
3. Lead spacing is measure where the lead emerges from the package.

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## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Power Dissipation at (or below) 25°C Free Air Temperature	P <sub>c</sub>	150	mW
Collector-Emitter Voltage	V <sub>CEO</sub>	32	V
Emitter-Collector Voltage	V <sub>ECO</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-25~+85	°C
Storage Temperature	T <sub>stg</sub>	-30~+90	°C
Soldering Temperature (1/16 inch from body for 5 seconds)	T <sub>sol</sub>	260	°C

## Electrical Optical Characteristics:

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-Emitter Leakage Current		I <sub>CEO</sub>		0.5		uA	V <sub>CE</sub> =10V
Emitter -Collector Saturation Voltage		V <sub>CE(Sat)</sub>			400	mV	I <sub>c</sub> =5mA / I <sub>b</sub> =1mA
Wavelength Of Peak Sensitivity		λ <sub>p</sub>		940		nm	
Rang Of Spectral Bandwidth		λ <sub>0.5</sub>	600		1000	nm	
Collector-Emitter Breakdown Voltage		BV <sub>CEO</sub>	40			V	I <sub>EC</sub> =500 μ A
C-B Breakdown Voltage		BV <sub>CBO</sub>	50				I <sub>CB</sub> =50 μ A
E-B Breakdown Voltage		BV <sub>EBO</sub>	6				I <sub>EB</sub> =50 μ A
Emitter -Collector Breakdown Voltage		BV <sub>ECO</sub>	6.5			V	I <sub>EC</sub> =50 μ A
Response Time	Rise Time	t <sub>r</sub>		10		μ S	V <sub>CE</sub> =5V, I <sub>c</sub> =1mA R <sub>L</sub> =1000 Ω
	Fall Time	t <sub>f</sub>		10		μ S	
Half sensitivity angle		Δλ		±35		deg	

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Typical Electrical-Optical Characteristics Curves

