

### Side Face Silicon Phototransistor PT5529B/L2/H2-F

#### Features

- Fast response time
- High photo sensitivity
- Pb free
- This product itself will remain within RoHS compliant version.

#### Description

- PT5529B/L2/H2-F is a high speed and high sensitive dual phototransistor molded in a black plastic package with plat side view.
- The device is spectrally matched with IR emitters.

#### Applications

- Mouse
- Optoelectronic Switch
- Photo Interrupter

#### Device Selection Guide

Chip Materials	Lens Color
Silicon	Black

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Collector-Voltage	V <sub>ECO</sub>	5	V
Collector Current	I <sub>C</sub>	20	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +85°C	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85°C	°C
Lead Soldering Temperature(*1)	T <sub>sol</sub>	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	P <sub>D</sub>	75	mW

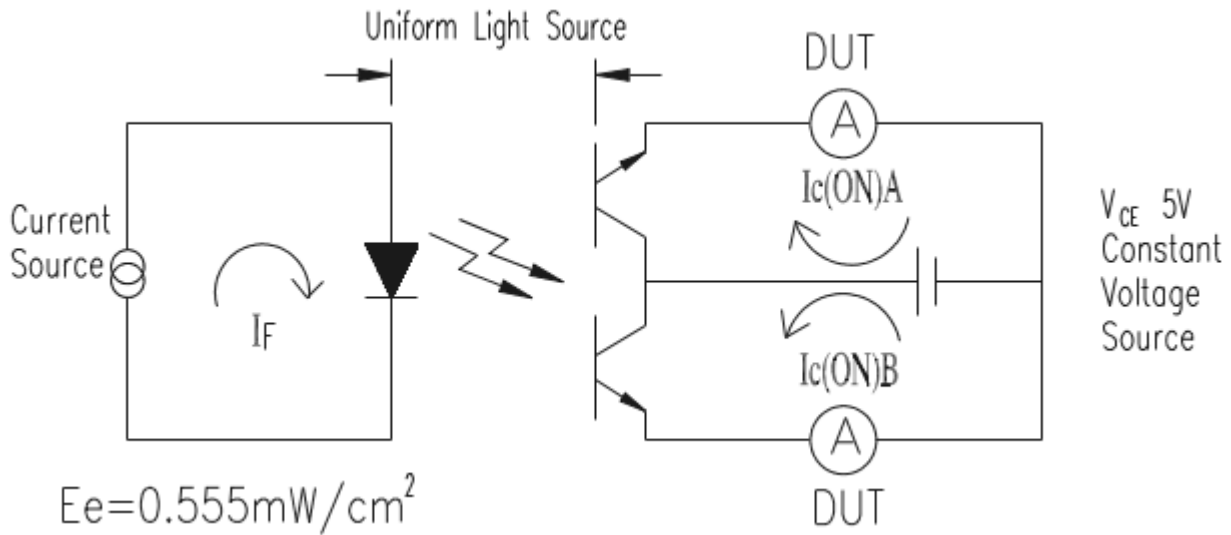
Notes: \*1:Soldering time ≤ 5 seconds.

### Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector – Emitter Breakdown Voltage	BV <sub>CEO</sub>	30	-----	-----	V	I <sub>C</sub> =100μA E <sub>e</sub> =0mW/cm <sup>2</sup>
Emitter-Collector Breakdown Voltage	BV <sub>ECO</sub>	5	-----	-----	V	I <sub>E</sub> =100μA E <sub>e</sub> =0mW/cm <sup>2</sup>
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	-----	-----	0.4	V	I <sub>C</sub> =2mA E <sub>e</sub> =1mW/cm <sup>2</sup>
Rise Time	t <sub>r</sub>	-----	15	-----	μS	V <sub>CE</sub> =5V I <sub>C</sub> =1mA R <sub>L</sub> =1000Ω
Fall Time	t <sub>f</sub>	-----	15	-----		
Collector Dark Current	I <sub>CEO</sub>	-----	-----	100	nA	E <sub>e</sub> =0mW/cm <sup>2</sup> V <sub>CE</sub> =20V
On State Collector Current	I <sub>C(on)</sub>	129	-----	1085	μA	E <sub>e</sub> =0.555mW/cm <sup>2</sup> V <sub>CE</sub> =5V
Rang Of Spectral Bandwidth	λ <sub>P</sub>	-----	940	-----	nm	-----
Wavelength of Peak Sensitivity	λ <sub>0.5</sub>	760	-----	1100	nm	-----

**Test Method For On State Collector Current :**

Condition :  $E_e=0.555\text{mW/cm}^2$  ,  $V_{CE}=5\text{V}$   
 Test Item : Collector Current [ $I_{C(ON)}$ ]  
 Unit :  $\mu\text{A}$

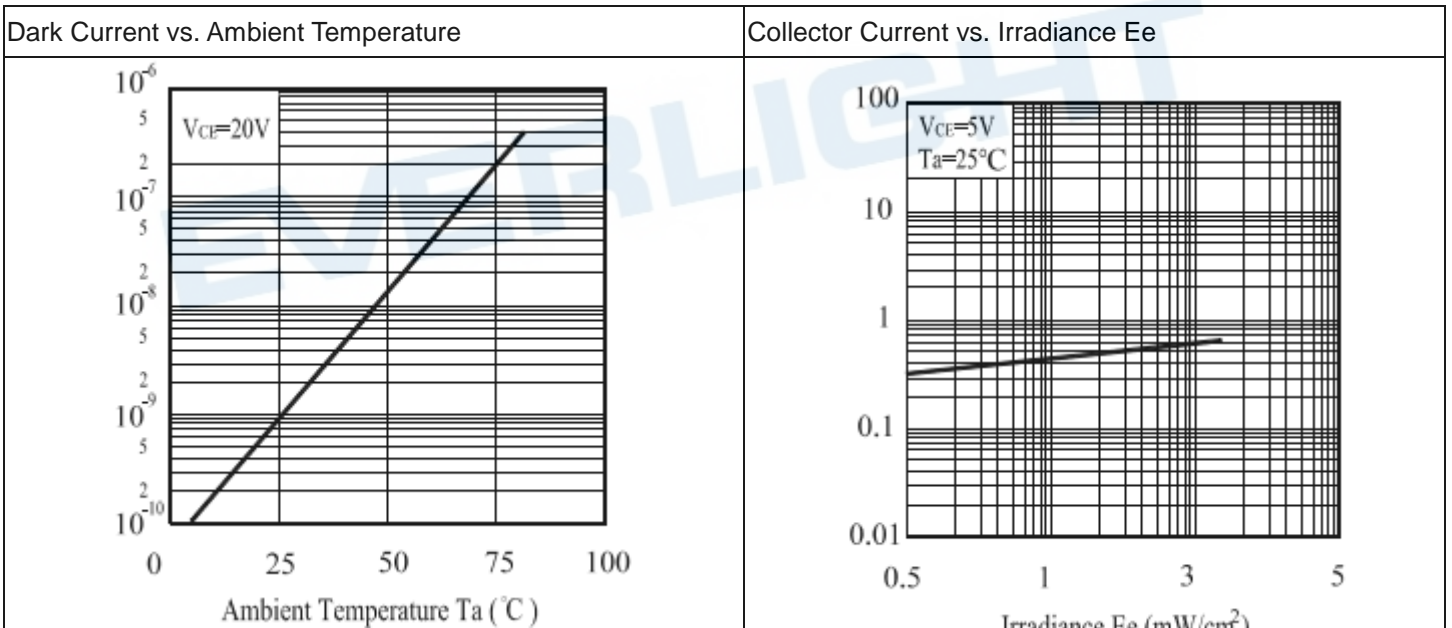
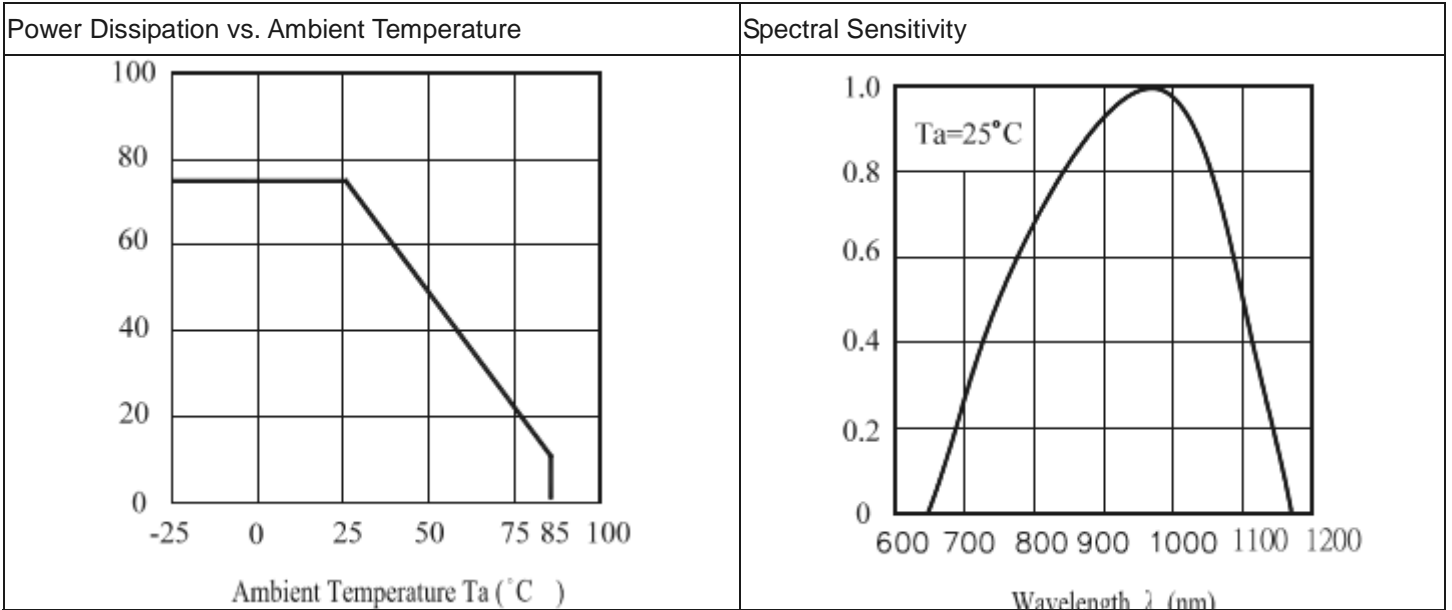


**To Distinguish Intensity:**

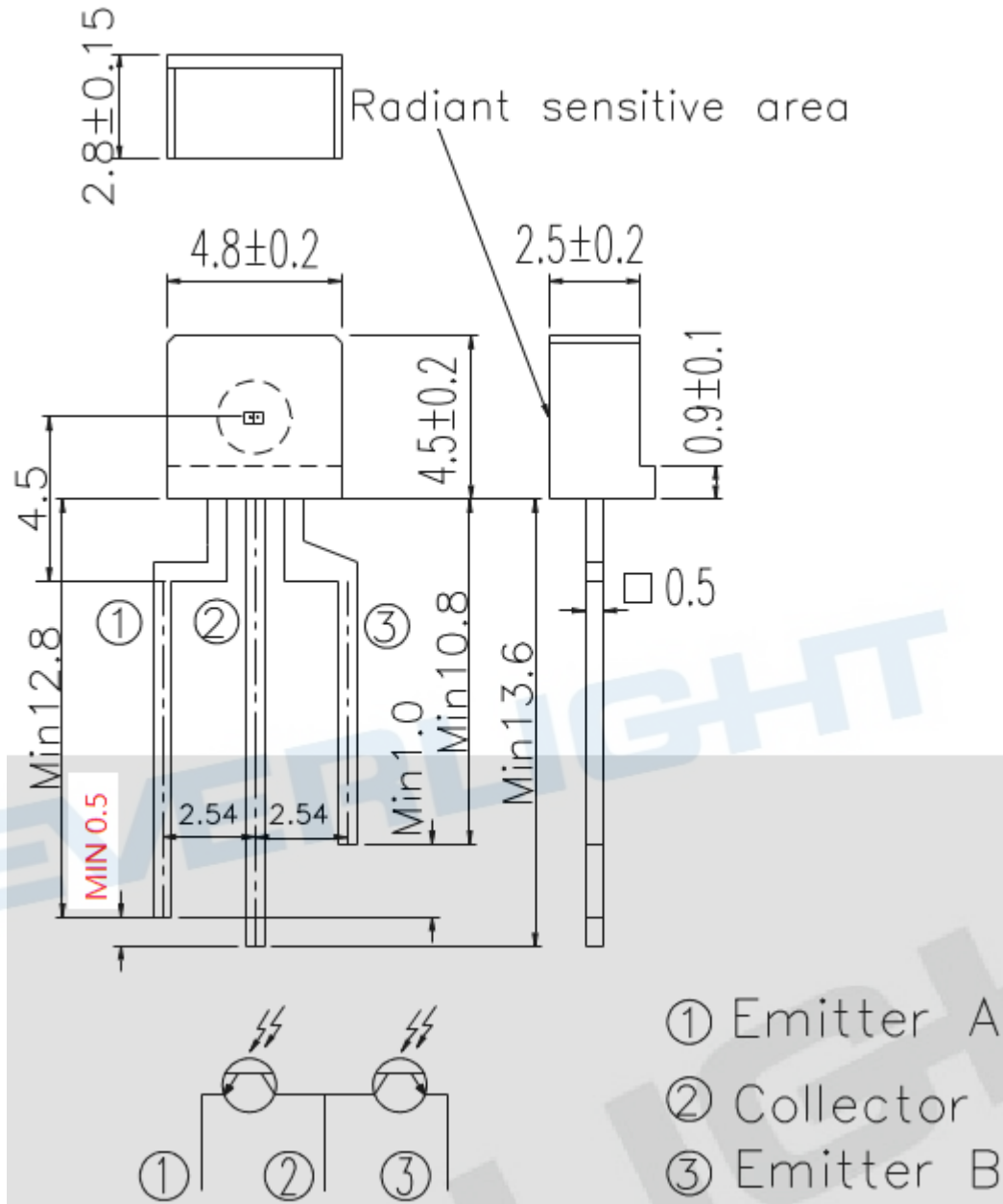
Condition:  $V_{CE}=5\text{V}$   $E_e=0.555\text{mW/cm}^2$   
**A Ranks**

Ranks	Symbol	Min	Typ	Max	Unit	Test Condition
A1	$I_{C(ON)}$	129	---	226	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A2	$I_{C(ON)}$	195	---	306	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A3	$I_{C(ON)}$	262	---	380	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A4	$I_{C(ON)}$	330	---	461	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A5	$I_{C(ON)}$	398	---	544	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A6	$I_{C(ON)}$	468	---	625	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A7	$I_{C(ON)}$	536	---	703	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A8	$I_{C(ON)}$	604	---	785	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A9	$I_{C(ON)}$	673	---	862	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A10	$I_{C(ON)}$	742	---	944	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A11	$I_{C(ON)}$	812	---	1018	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$
A12	$I_{C(ON)}$	882	---	1085	$\mu\text{A}$	$E_e=0.555\text{mW/cm}^2$ $V_{CE}=5\text{V}$

Typical Electro-Optical Characteristics Curves



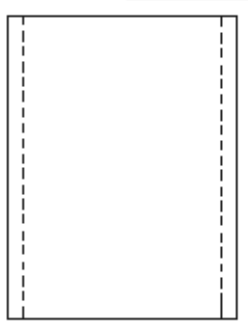
Package Dimension



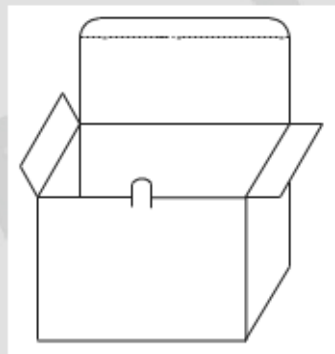
Note: 1.All dimensions are in millimeters  
 2.Tolerances unless dimensions  $\pm 0.25$ mm

**Packing Specification**

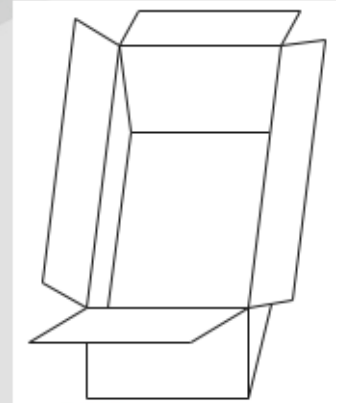
■ PE bag



■ Inner Carton



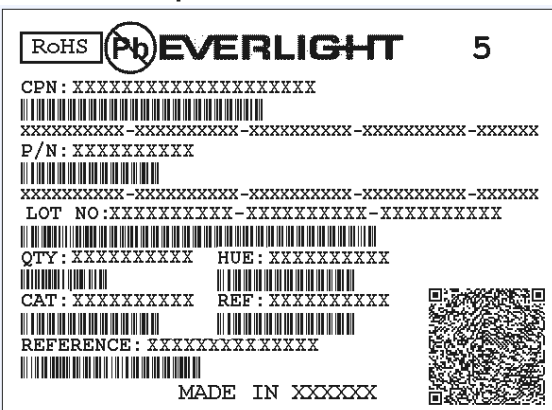
■ Outside Carton



**Packing Quantity Specification**

1. 1000PCS/1Bag,4Bags/1Box
2. 10Boxes/1Carton

**Label Form Specification**



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

**Notes**

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