



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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Technical Data Sheet

3mm Phototransistor T-1

PT204-6C

Features

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



Descriptions

- PT204-6C is a high speed and high sensitive NPN silicon phototransistor molded in a standard $\phi 3$ mm package. Due to its water clear epoxy the device is sensitive to visible and near infrared radiation.

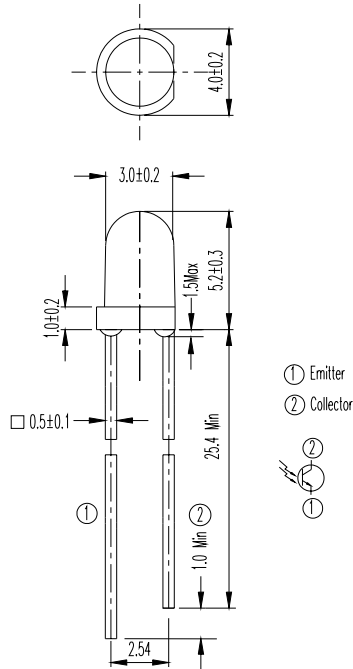
Applications

- Infrared applied system
- Camera
- Printer
- Optoelectronic switch

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
PT	Silicon	Water clear

Package Dimensions



- Notes:** 1.All dimensions are in millimeters
 2.Tolerances unless dimensions ± 0.25 mm

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector-Voltage	V _{ECO}	5	V
Collector Current	I _C	20	mA
Operating Temperature	T _{opr}	-25 ~ +85°C	°C
Storage Temperature	T _{stg}	-40 ~ +85°C	°C
Lead Soldering Temperature *1	T _{sol}	260	°C
Power Dissipation at (or below) 25°C Free Air Temperature	P _c	75	mW

Notes: *1:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Rang Of Spectral Bandwidth	$\lambda_{0.5}$	---	400	---	1100	nm
Wavelength Of Peak Sensitivity	λ_P	---	---	940	---	nm
Collector – Emitter Breakdown Voltage	BV_{CEO}	$I_C=100\ \mu A$ $E_e=0mW/cm^2$	30	---	---	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	$I_E=100\ \mu A$ $E_e=0mW/cm^2$	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2mA$ $E_e=1mW/cm^2$	---	---	0.4	V
Rise Time	t_r	$V_{CE}=5V$ $I_C=1mA$ $RL=1000\ \Omega$	---	15	---	μS
Fall Time	t_f		---	15	---	
Collector Dark Current	I_{CEO}	$E_e=0mW/cm^2$ $V_{CE}=20V$	---	---	100	nA
On State Collector Current	$I_{C(on)}$	$E_e=1mW/cm^2$ $V_{CE}=5V$	0.7	2.0	---	mA

Rankings

Parameter	Symbol	Min	Max	Unit	Test Condition
G	$I_{C(ON)}$	0.70	1.90	mA	$V_{CE}=5V$ $E_e=1mW/c\ m^2$
H		1.14	2.60		
J		1.77	3.61		
K		2.67	5.07		

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

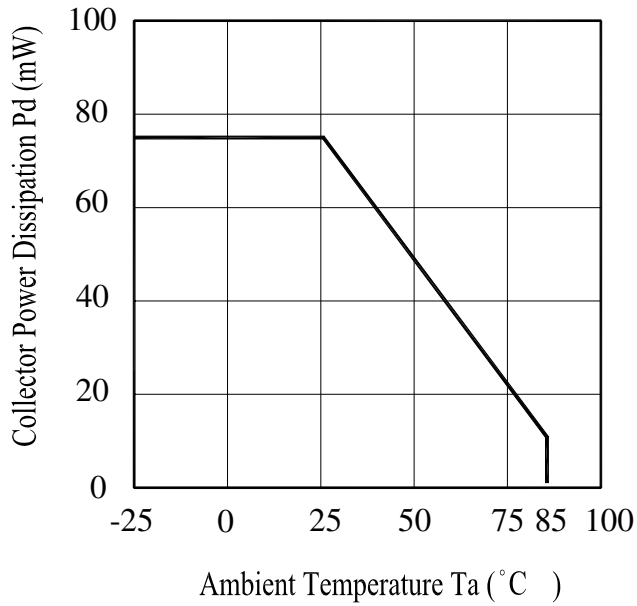


Fig.2 Spectral Sensitivity

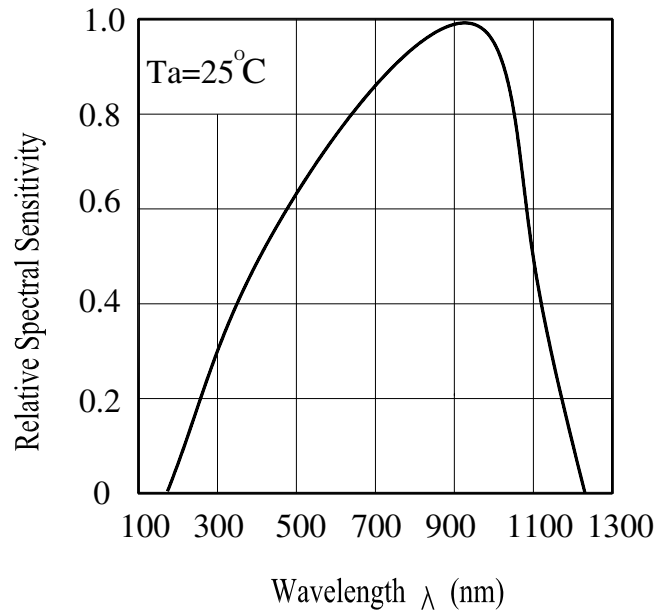


Fig.3 Relative Collector Current vs. Ambient Temperature

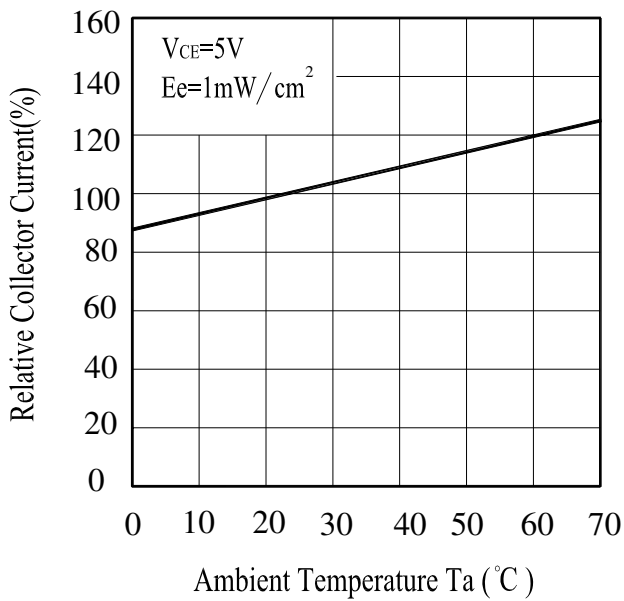
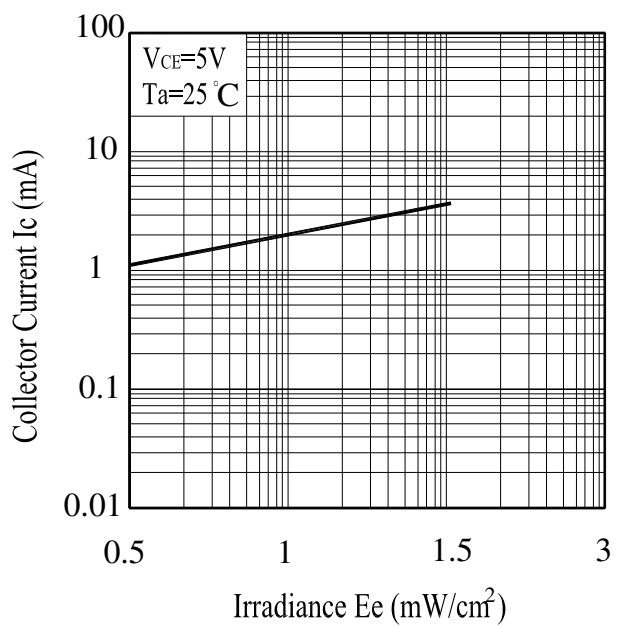


Fig.4 Collector Current vs. Irradiance



Typical Electro-Optical Characteristics Curves

Fig.5 Collector Dark Current vs.

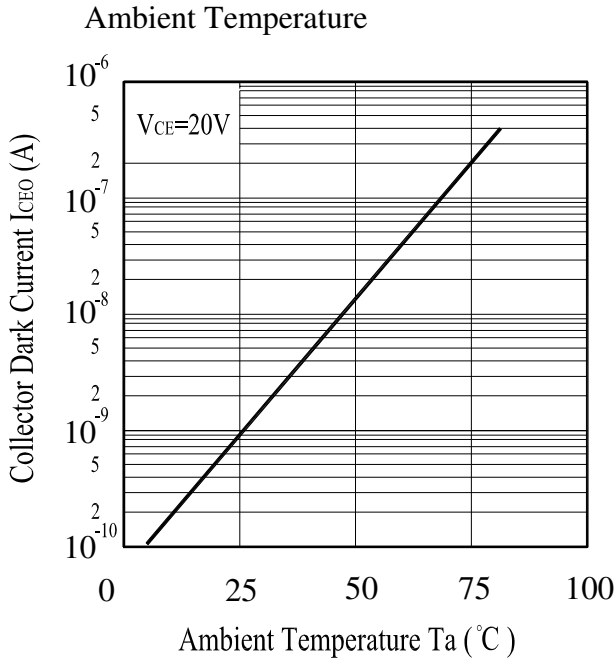
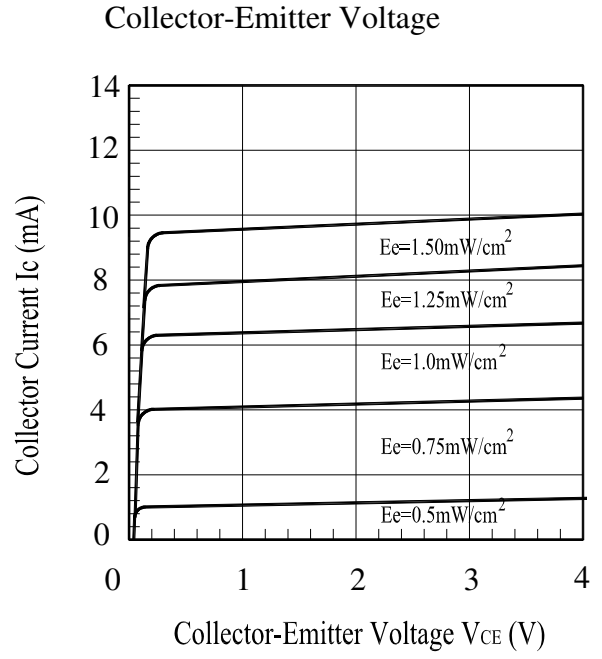


Fig.6 Collector Current vs.



Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

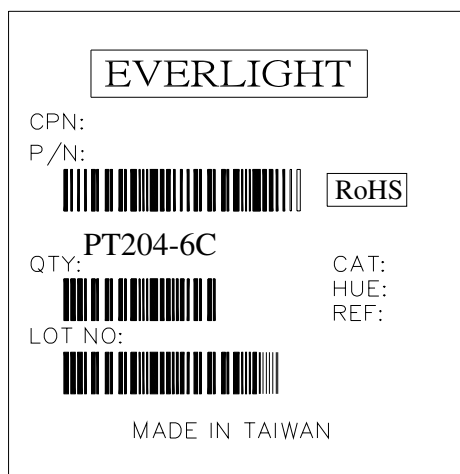
NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP. : 260°C±5°C	10secs	22pcs	$I_{C(ON)} \leq L \times 0.8$ L : Lower Specification Limit	0/1
2	Temperature Cycle	H : +100°C 15mins ↑ 5mins ↓ L : -40°C 15mins	300Cycles	22pcs		0/1
3	Thermal Shock	H :+100°C 5mins ↑ 10secs ↓ L :-10°C 5mins	300Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	V _{CE} =5V	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85°C / 85% R.H	1000hrs	22pcs		0/1



Packing Quantity Specification

- 1.1000PCS/1Bag , 4Bags/1Box
- 2.10Boxes/1Carton

Label Form Specification



- PN: Customer's Production Number
- P/N : Production Number
- QTY: Packing Quantity
- CAT: Ranks
- HUE: Peak Wavelength
- REF: Reference
- LOT No: Lot Number
- MADE IN TAIWAN: Production Place

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

EVERLIGHT ELECTRONICS CO., LTD. Tel: 886-2-2267-2000, 2267-9936
Office: No 25, Lane 76, Sec 3, Chung Yang Rd, Fax: 886-2267-6244, 2267-6189, 2267-6306
Tucheng, Taipei 236, Taiwan, R.O.C <http://www.everlight.com>