

1.5mm Side View Phototransistor

Features

- Fast response time
- High sensitivity
- Small junction capacitance
- RoHS compliance



SSC



Descriptions

- It is a phototransistor in miniature package which is molded in a water clear plastic with spherical top view lens.
- The device is spectrally matched to infrared emitting diode.

Applications

- Optoelectronic switch
- VCR, Video Camera
- Floppy disk drive
- Infrared applied system

Device Selection Guide

Part No.	Chip	Lens Color
	Material	
PTI-SSC-9087	Silicon	Water Clear

Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Power Dissipation	P_{C}	75	mW
Collector Current	I_{C}	20	mA
Operating Temperature	T_{opr}	-25 ~ +85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^{\circ}\text{C}$
Lead Soldering Temperature*	T_{sol}	260	$^{\circ}\text{C}$

- Soldering time ≤ 5 seconds.

Electro-Optical Characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-Emitter Saturation Voltage	$V_{\text{CE(sat)}}$	-----	-----	0.4	V	$I_{\text{C}}=2\text{mA}$, $E_e=1\text{mW}/\text{cm}^2$
Collector-Emitter Breakdown Voltage	BV_{CEO}	30	-----	-----	V	$I_{\text{C}}=100\mu\text{A}$, $E_e=0\text{mW}/\text{cm}^2$
Emitter- Collector Breakdown Voltage	BV_{ECO}	5	-----	-----	V	$I_{\text{E}}=100\mu\text{A}$, $E_e=0\text{mW}/\text{cm}^2$
Collector Dark Current	I_{CEO}	-----	-----	100	nA	$V_{\text{CE}}=20\text{V}$, $E_e=0\text{mW}/\text{cm}^2$
On State Collector Current	$I_{\text{C(ON)}}$	0.78	-----	3.12	mA	$V_{\text{CE}}=5\text{V}$, $E_e=0.555\text{mW}/\text{cm}^2$
Peak Sensitivity Wavelength	λ_{p}	-----	940	-----	nm	-----
Spectral Bandwidth Range	$\lambda_{0.5}$	400	-----	1100	nm	-----
Rise Time	t_{r}	----	15	----	μS	$V_{\text{CE}}=5\text{V}$ $I_{\text{C}}=1\text{mA}$ $R_{\text{L}}=1000\Omega$
Fall Time	t_{f}	----	15	----	μS	

Typical Electro-Optical Characteristics Curves

Fig.1- Collector Power Dissipation vs. Ambient Temperature

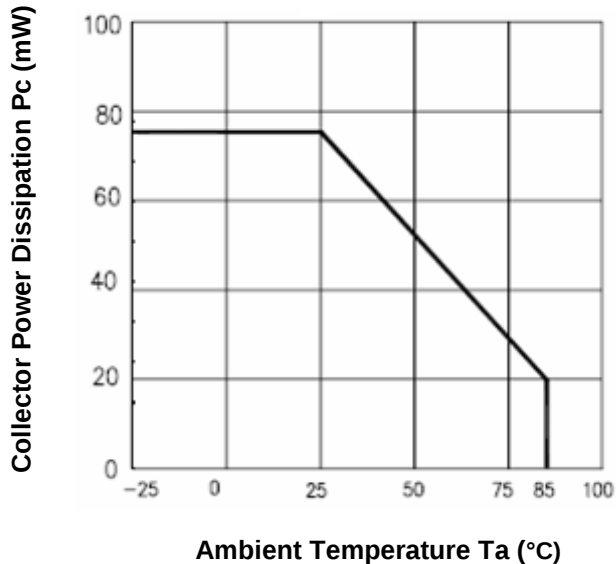


Fig.2- Collector Dark Current vs. Ambient Temperature

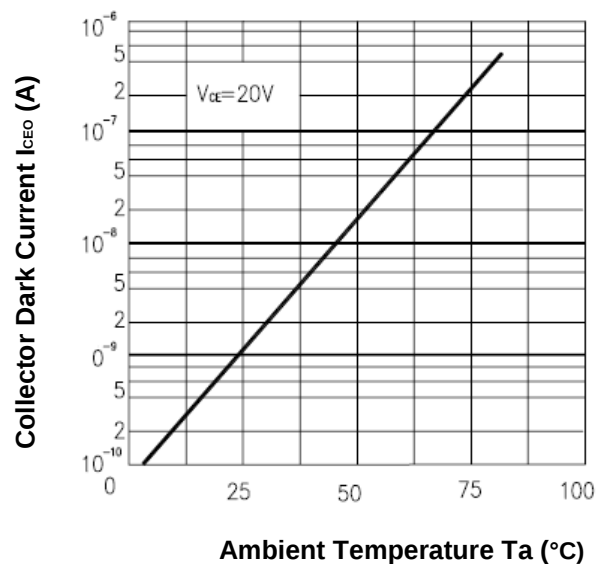


Fig.3- Relative Collector Current vs. Ambient Temperature

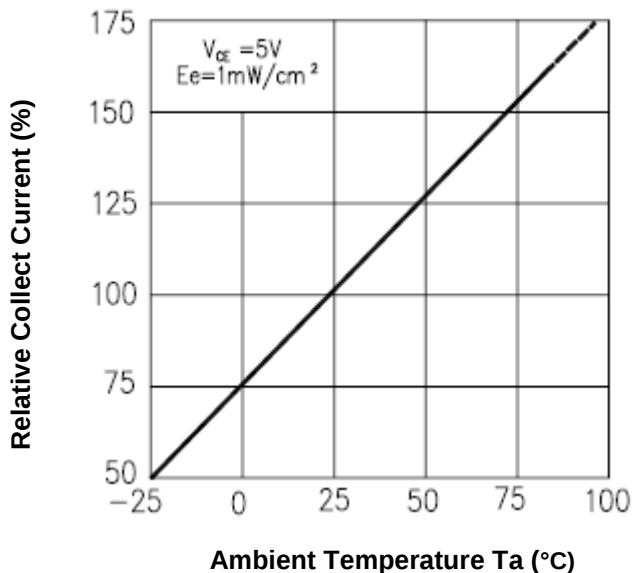


Fig.4- Collector Current vs. Irradiance

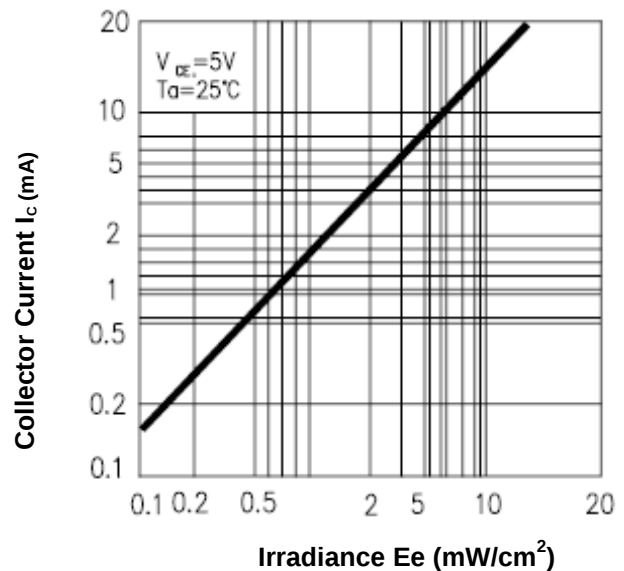


Fig.5- Spectral Sensitivity

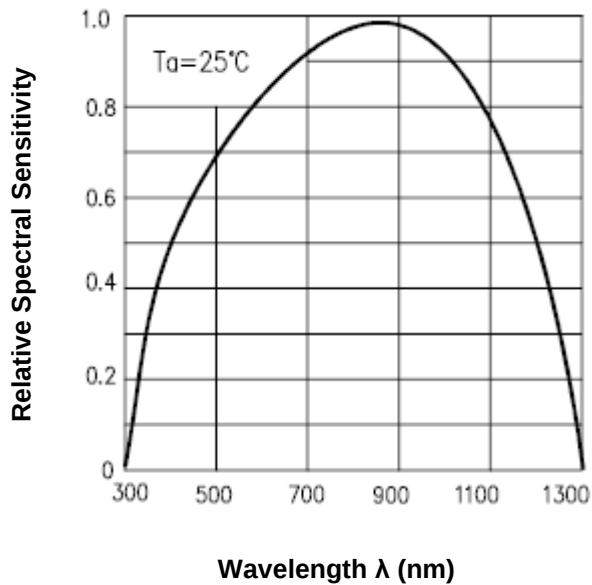
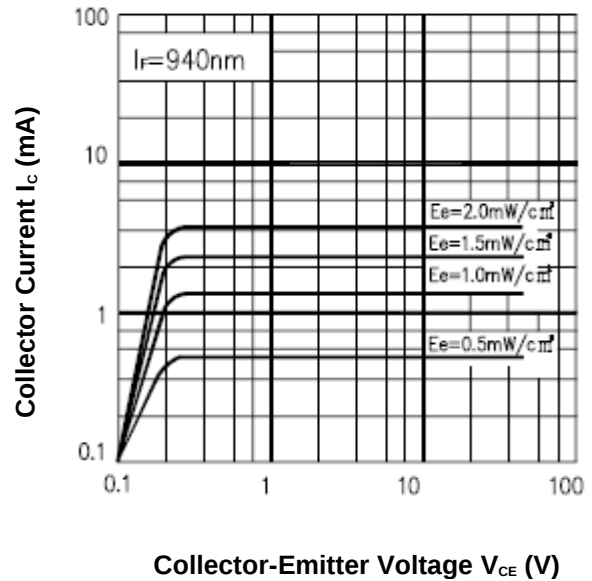
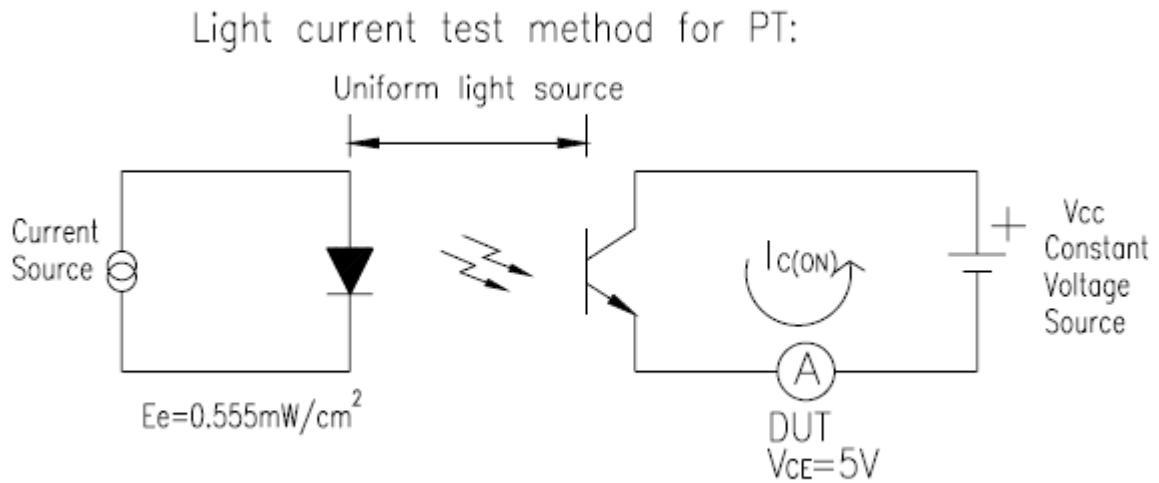


Fig.6- Collector Current vs. Collector-Emitter Voltage



Test Method



Ranks

Parameter	Symbol	Min	Max	Unit	Test Condition
Bin1	$I_{C(ON)}$	0.80	1.53	mA	$V_{CE} = 5V$ $E_e = 0.555 \text{ mW/cm}^2$
Bin2		1.11	1.98		
Bin3		1.43	2.68		
Bin4		1.59	3.06		
Bin5		2.00	5.00		

Technical drawing of a transistor package showing dimensions and pinout.

Dimensions:

- Top view:
 - Width: 4.5 ± 0.1
 - Height: 2.25 ± 0.2
 - Pin spacing: 2.54
- Front view:
 - Width: 4.5 ± 0.1
 - Height: 5.7 ± 0.2
 - Pin height: 10.0 ± 0.5
 - Pin thickness: 0.4
 - Pin diameter: $\phi 1.5 \pm 0.2$
- Side view:
 - Width: 1.5 ± 0.2
 - Pin height: 0.8
 - Pin thickness: 0.7

Pinout Diagram:

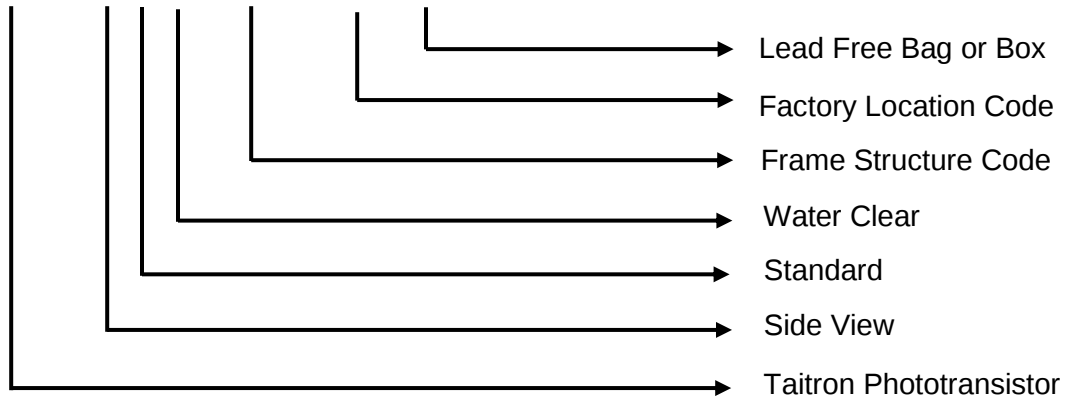
- ② Collector
- ① Emitter

Packing Quantity Specification

Packing Type	PCS per Bag	PCS Per Inner Box	PCS Per Carton
Bulk	1,000	10,000	100,000

Ordering Information

PTI - S S C-9087 - XX- BL



Label Format

CAT: Ranks
HUE: Peak Wavelength
REF: Reference

P/N: 

QTY:  CAT:
HUE:
REF:
LOT NO: 

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