Technical Data Sheet
1.5mm Side Looking Phototransistor

PT908-7C

Features

- Fast response time
- High sensitivity
- Small junction capacitance

Descriptions

PT908-7C 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

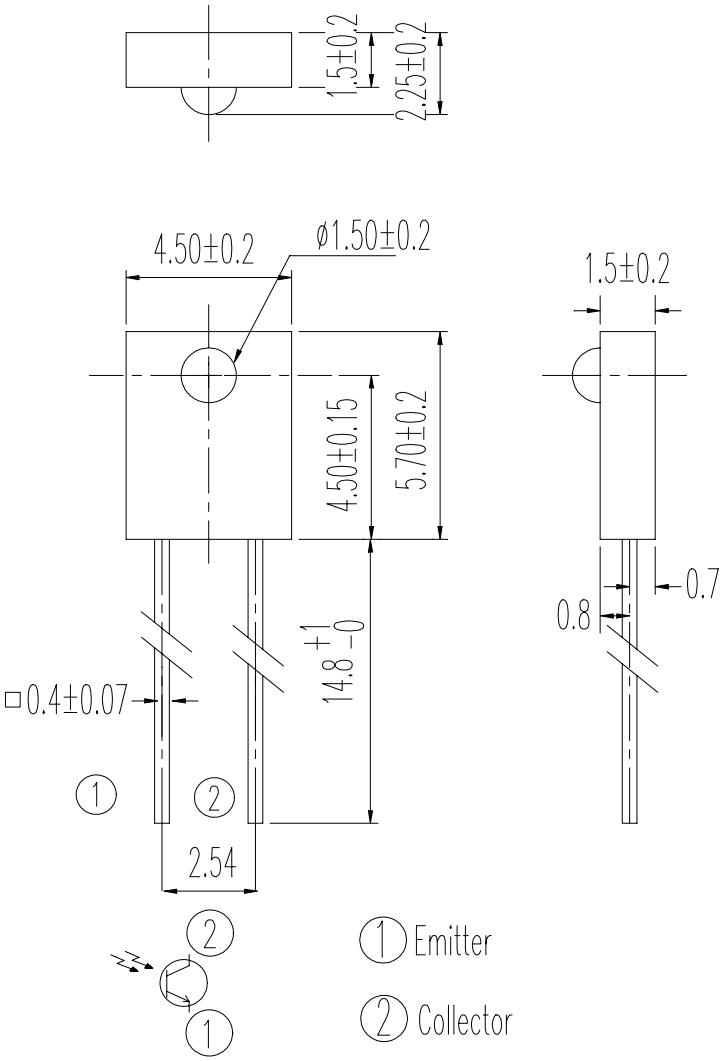
- Optoelectronic switch
- VCR，Video Camera
- Floppy disk drive
- Infrared applied system

Device Selection Guide

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

Device No:DPT-090-081

Package Dimensions



Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ± 0.1mm

Absolute Maximum Ratings (Ta=25℃)

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	Topr	-25 ~ +85℃	℃
Storage Temperature	Tstg	-40 ~ +85℃	℃
Lead Soldering Temperature	Tsol	260	℃
Power Dissipation at (or below) 25℃ Free Air Temperature	Pc	75	mW

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Collector – Emitter Breakdown Voltage	BV_{CEO}	I_C=100 μA Ee=0mW/cm^2	30	---	---	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	I_E=100 μA Ee=0mW/cm^2	5	---	---	V
Collector-Emitter Saturation Voltage	$V_{CE)(sat)}$	I_C=2mA Ee=1mW/cm^2	---	---	0.4	V
Rise Time	t_r	V_{CE}=5V I_C=1mA RL=1000Ω	---	15	---	μS
Fall Time	t_f		---	15	---	
Collector Dark Current	I_{CEO}	Ee=0mW/cm^2 V_{CE}=20V	---	---	100	nA
On State Collector Current	$I_{C(on)}$	Ee=0.555mW/cm^2 V_{CE}=5V	0.78		3.12	mA
Wavelength of Peak Sensitivity	λp	---	---	860	---	nm
Rang of Spectral Bandwidth	$\lambda_{0.5}$	---	400	---	1100	nm

Device No:DPT-090-081

Typical Electro-Optical Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

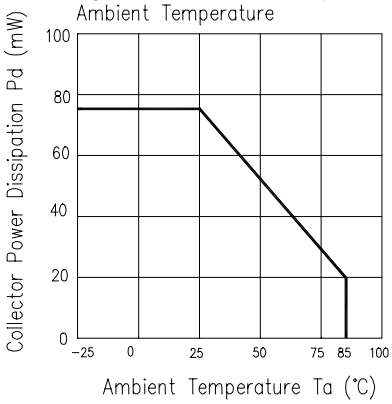


Fig.2 Collector Dark Current vs.Ambient Temperature

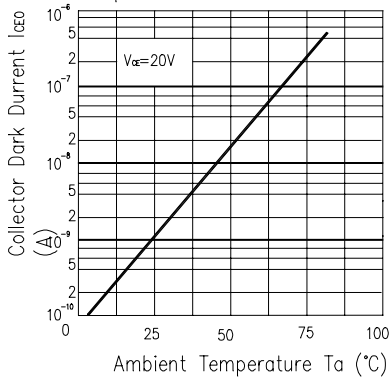


Fig.3 Relative Collector Current vs. Ambient Temperature

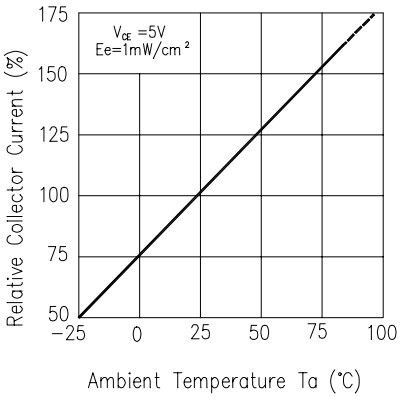


Fig.4 Collector Current vs. Irradiance

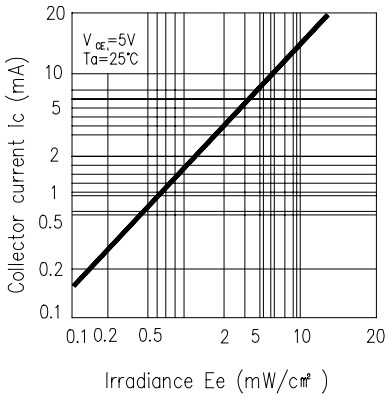


Fig.5 Spectral Sensitivity

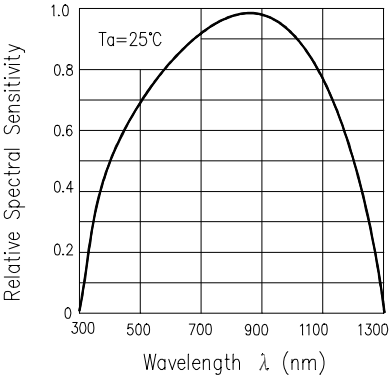
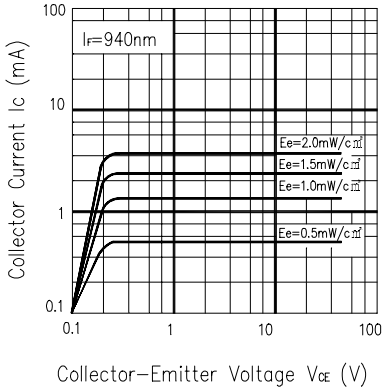
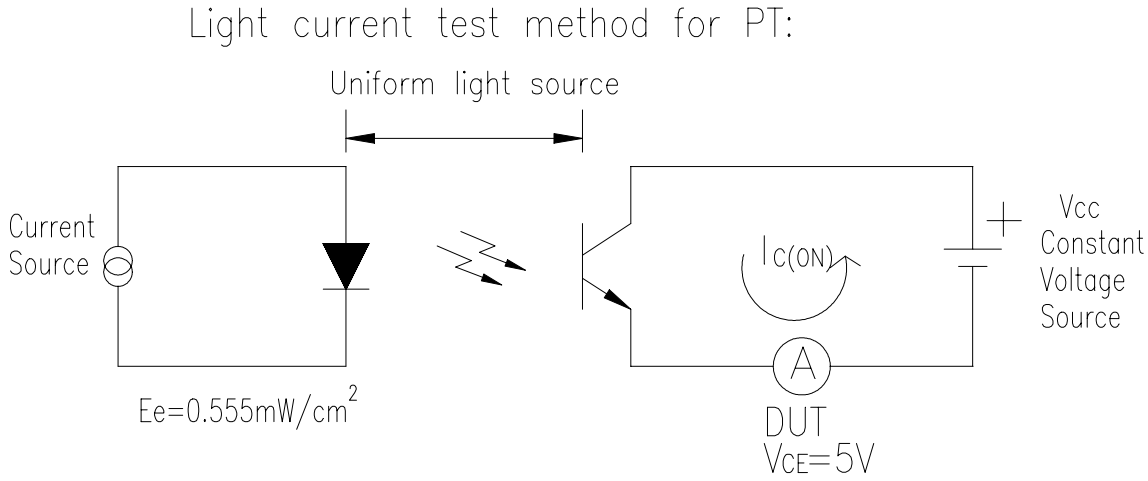


Fig.6 Collector Current vs. Collector Current Ic (mA)



Device No:DPT-090-081

Test method



Ranks

Color code	Parameter	Symbol	Min	Max	Unit	Test condition
Black	BIN1	$I_{C(ON)}$	0.78	1.56	mA	V_{CE}=5V Ee=0.555mW/cm^2
Black	BIN2		1.09	2.02		
Black	BIN3		1.40	2.73		
Black	BIN4		1.56	3.12		

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℃± 5℃	10sec	22pcs	More than 90% of lead to be covered by soldering I_R≧U× 2 Ee≦L× 0.8 V_F≧U× 1.2 U：Upper Specification Limit L：Lower Specification Limit	0/1
2	Temperature Cycle	H : +85℃ 30mins ↕ 5mins L : -55℃ 30mins	50Cycle	22pcs		0/1
3	Thermal Shock	H :+100℃ 5mins ↕ 10secs L :-10℃ 5mins	50Cycle	22pcs		0/1
4	High Temperature Storage	TEMP.：+100℃	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP.：-55℃	1000hrs	22pcs		0/1
6	DC Operating Life	V_{CE}=5V	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85℃ / 85% R.H	1000hrs	22pcs		0/1

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