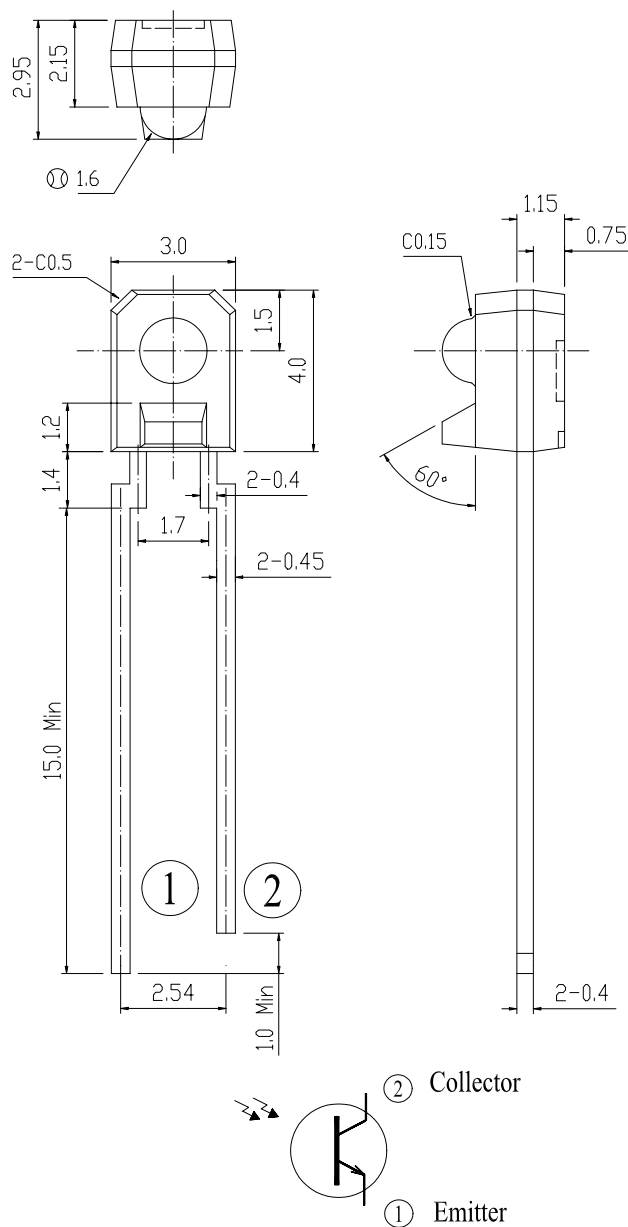


Package Dimensions:

DESIGNER	CHECKER	APPROVED

Office: NO 25,Lane 76,Chung Yang Rd.,Sec.3

Tucheng,Taipei 236,Taiwan,R.O.C.

TEL: 886-2-2267-2000,2267-9936(22Lines)

FAX: 886-2-2267-6189

©Notes :

- 1.All dimensions are in millimeter.
- 2.General tolerance : $\pm 0.2\text{mm}$
- 3.Lead spacing are measured where the lead emerges from the package.
- 4.Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
- 5.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.
- 6.When using this product , please observe the absolute maximum ratings and the instructions for use 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.

Description

The **PT958-6C** is a high speed and high sensitivity single photo transistor;molded in a clear plastic package with spherical side view lens.

The device is spectrally matched with IR emitters.

Features

- Wide angle of half sensitivity $\theta = \pm 11^\circ$
- High sensitivity
- Fast response time
- Pb free

Applications

- VCR
- Floppy Disk Drive
- Automatic stroboscope
- Cassette type recorder
- Optoelectronic Switch
- Photo interrupter

Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Rating	Unit
Collector Power Dissipation	P _c	75	mW
Collector-Emitter Voltage	V _{CEO}	35	V
Emitter-Collector Voltage	V _{ECO}	6	V
Collector Current	I _c	20	mA
Operating Temperature	T _{opr}	-25~+85	°C
Storage Temperature	T _{stg}	-40~+85	°C
Soldering Temperature (1/16 inch from body for 5 seconds)	T _{sol}	260	°C

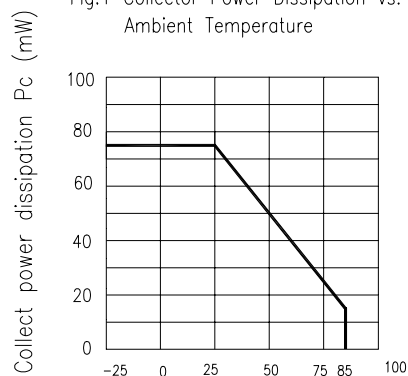
Electro-Optical Characteristics

(Ta=25°C)

Parameter		Symbol	Min	Typ	Max	Unit	Condition
Collector Dark Current		I _{CEO}	-	-	100	nA	V _{CE} =20V, Ee=0mW/cm ²
C-E Saturation Voltage		V _{CE(Sat)}	-	-	0.4	V	I _c =0.5mA, Ee=10mW/cm ²
Collector Current		I _{c(on)}	210	-	910	μA	V _{CE} =5V, Ee=1mW/cm ²
Wavelength of Peak Sensitivity		λ _p	-	860	-	nm	---
Range of Spectral Bandwidth		λ _{0.5}		400...1200	-	nm	---
Response Time	Rise Time	t _r	-	15	-	μSec	V _{CE} =5V I _c =1mA R _L =1000Ω
	Fall Time	t _f	-	15	-	μSec	
Half sensitivity angle		2θ _{1/2}	-	±11	-	Deg	---

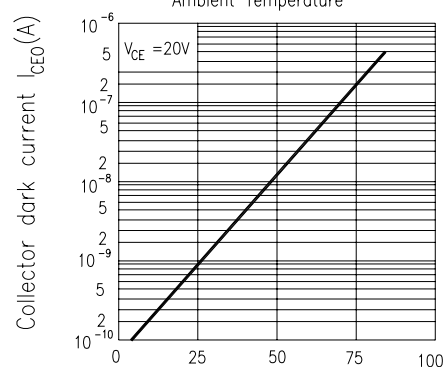
Typical Characteristics

Fig.1 Collector Power Dissipation vs. Ambient Temperature



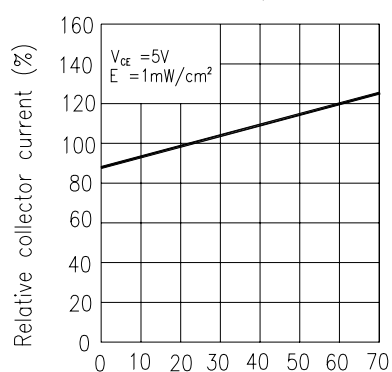
Ambient Temperature T_a (°C)

Fig.2 Collector Dark Current vs. Ambient Temperature



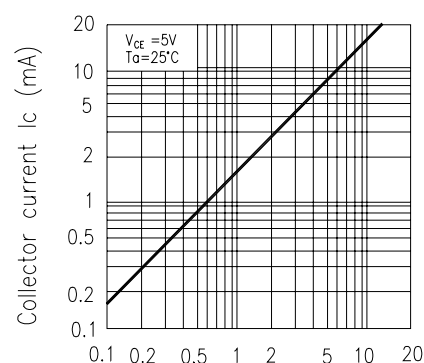
Ambient Temperature T_a (°C)

Fig. 3 Relative Collector Current vs. Ambient Temperature



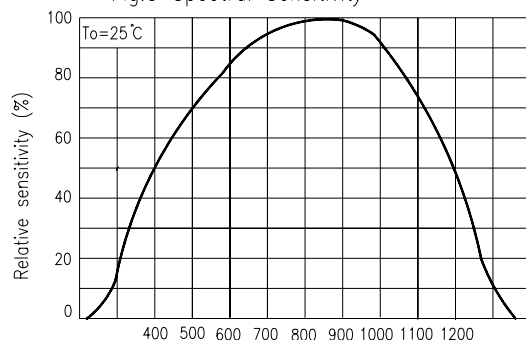
Ambient Temperature T_a (°C)

Fig.4 Collector Current vs. Irradiance



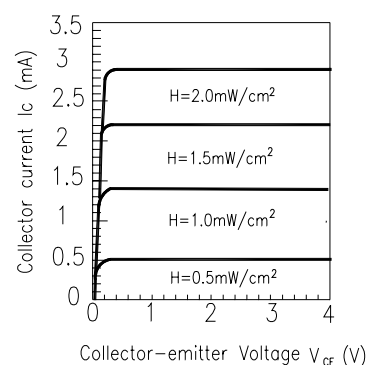
Irradiance E_e (mW/cm²)

Fig.5 Spectral Sensitivity



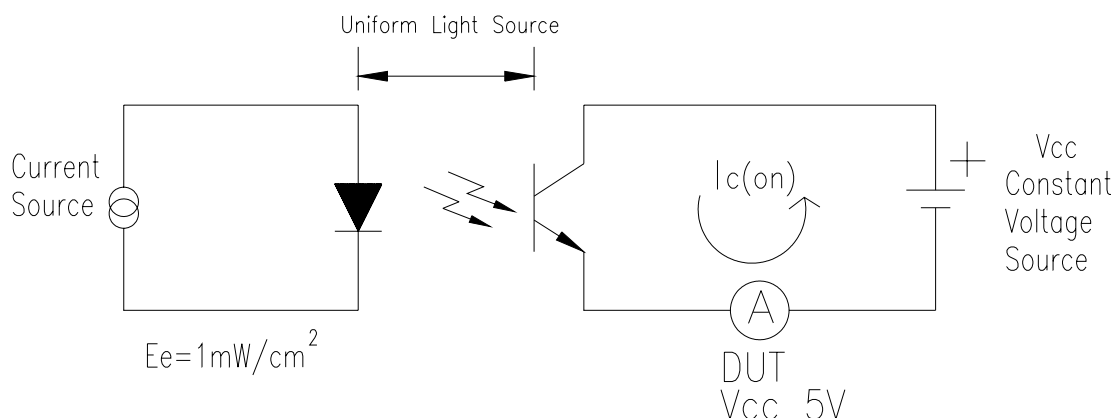
Wavelength λ (nm)

Fig.6 Collector Current vs. Collector-emitter Voltage



Test Method

The collector current testing method for PTR:



Ranks

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
7-3	$I_{c(on)}$	0.52	---	1.22	mA	$E_e = 0.555 \text{ mW/cm}^2$ $V_{ce} = 5\text{V}$
7-2	$I_{c(on)}$	0.87	---	1.74	mA	$E_e = 0.555 \text{ mW/cm}^2$ $V_{ce} = 5\text{V}$
7-1	$I_{c(on)}$	1.22	---	2.26	mA	$E_e = 0.555 \text{ mW/cm}^2$ $V_{ce} = 5\text{V}$
6-2	$I_{c(on)}$	1.56	---	3.04	mA	$E_e = 0.555 \text{ mW/cm}^2$ $V_{ce} = 5\text{V}$
6-1	$I_{c(on)}$	1.74	---	3.48	mA	$E_e = 0.555 \text{ mW/cm}^2$ $V_{ce} = 5\text{V}$

Supplement

1. Parts

(1) Chip

Type	Material	Peak Wavelength
PT	Silicon	860nm

(2) Material

Type	Lead frame	Wire	Package
Material	SPCC	Gold	Epoxy

Reliability

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

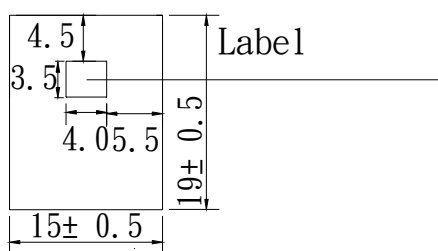
Confidence level : 90%

LTPD : 10%

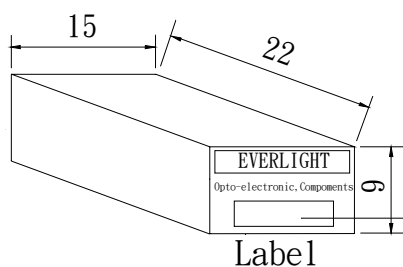
Test Items	Test Conditions	Failure Judgement Criteria	Samples(n)
			Defective(c)
Operating life test	$V_{CE}=5V$ $T_a : 25^{\circ}C$ 1000hrs	$I_{c(on)} \leq L \times 0.8$ L : Lower specification limit	n =22 , c=0
Temperature cycle	1cycle $-55^{\circ}C$ to $+25^{\circ}C$ to $+85^{\circ}C$ (30min) (5min) (30min) 50 cycle test		n =22 , c=0
Thermal shock	$-55^{\circ}C$ to $+85^{\circ}C$ (5min) (10sec) (5min) 50cycle test		n =22 , c=0
High temperature storage	Temp : $+100^{\circ}C$ 1000hrs		n =22 , c=0
Low temperature storage	Temp : $-55^{\circ}C$ 1000hrs		n =22 , c=0
High temperature High humidity	$T_a : 85^{\circ}C$ RH : 85% 1000hrs		n =22 , c=0
Solder heat	Temp : $260 \pm 5^{\circ}C$ 10 sec		n =22 , c=0
Solderability	Temp : $230 \pm 5^{\circ}C$ 3 sec 4mm from the bottom of the package.	More than 90% of lead to be covered by soldering	n =22 , c=0

Packing Specifications

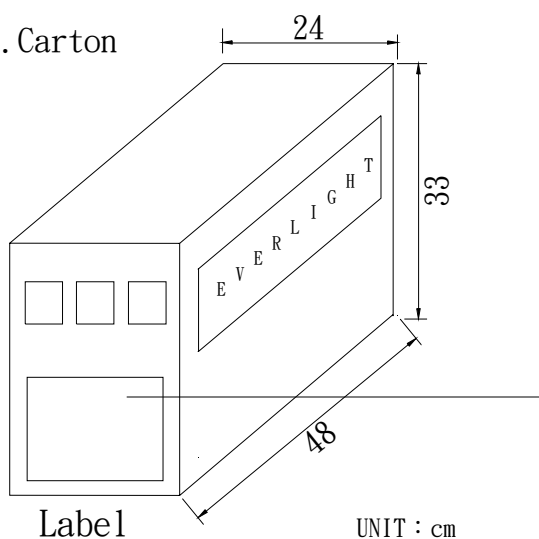
1. Bag



2. Box



3. Carton

**CPN: Customer's product number****P/N: Product number****QTY: Packing quantity****CAT: Ranks****HUE: Reference****REF: Reference****LOT NO: Lot number****MADE IN TAIWAN: Production place****Packing Quantity Specification**

1.1000Pcs/1Bag

2.10Bags/1Box

3.10Boxes/1Carton