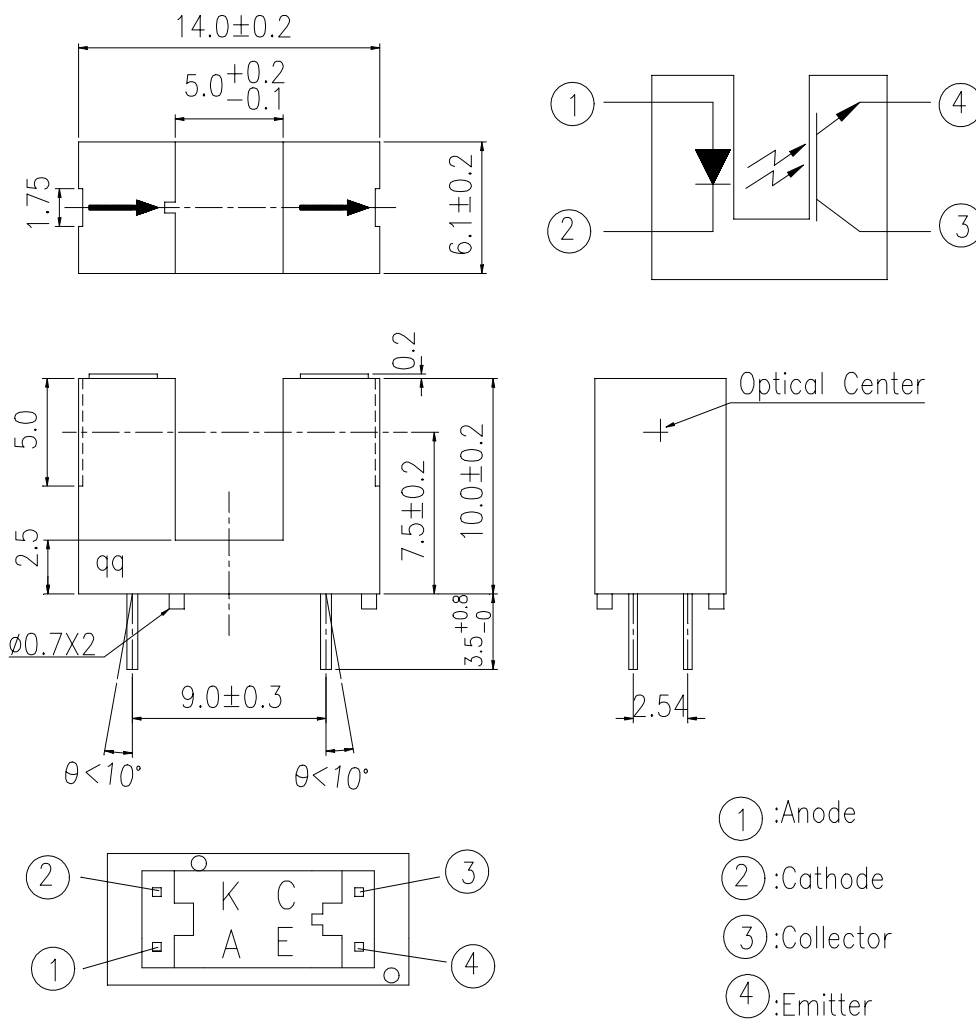


### ■ PACKAGE DIMENSIONS :



UNIT: mm

ABOVE SPECIFICATION MAY BE CHANGED WITHOUT NOTICE. SUPPLIER'S WILL RESERVE AUTHORITY ON MATERIAL CHANGE FOR ABOVE SPECIFICATION.

| 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 (22 Lines)  
FAX: 886-2-2267-6189

**DESCRIPTION**

**EVERLIGHT Infrared Emitting Diode** (IR908-7C) is a high power of infrared emitting diode, molded in a clear, pink tinted plastic package with spherical side view lens.

The device is spectrally matched to silicone phototransistor and photo diode, this type (ITR8406) is matched to silicone phototransistor.

**EVERLIGHT Photo Transistor** (PT908-6C) is a high speed and high sensitivity phototransistor, molded in a clear, clear tinted plastic package with spherical side view lens.

The epoxy package spectrally matched to IR emitters ( $\lambda_p=940\text{nm}$ ).

**FEATURES**

IR:

- Low Forward Voltage
- Peak wavelength  $\lambda_p=940\text{nm}$
- High radiant power and High radiant intensity
- High reliability

PT:

- High sensitivity
- Fast response time

ITR:

- Fast response time

**APPLICATIONS**

- Printer
- Opto-electronic Switches
- Scanner

## ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| PARAMETER                  |                             | SYMBOL | RATING  | UNIT |
|----------------------------|-----------------------------|--------|---------|------|
| INPUT                      | POWER DISSIPATION           | Pd     | 75      | mW   |
|                            | REVERSE VOLTAGE             | Vr     | 5       | V    |
|                            | FORWARD CURRENT             | If     | 50      | mA   |
|                            | PEAK FORWARD CURRENT (*1)   | Ifp    | 1       | A    |
| OUTPUT                     | COLLECTOR POWER DISSIPATION | Pc     | 100     | mW   |
|                            | COLLECTOR CURRENT           | Ic     | 30      | mA   |
|                            | C-E VOLTAGE BREAKDOWN       | Vceo   | 30      | V    |
|                            | E-C VOLTAGE BREAKDOWN       | Veco   | 5       | V    |
| OPERATING TEMPERATURE      |                             | Topr   | -20~+85 | °C   |
| STORAGE TEMPERATURE        |                             | Tstg   | -30~+85 | °C   |
| SOLDERING TEMPERATURE (*2) |                             | Tsol   | 260     | °C   |

(\*1)  $t_w=100 \mu\text{Sec.}$  ,  $T=10 \text{ mSec.}$  (\*2) 1/16 inch from body for 5 sec

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

| Parameter       |                        | Symbol               | Min | Typ | Max | Unit            | Condition                                                               |
|-----------------|------------------------|----------------------|-----|-----|-----|-----------------|-------------------------------------------------------------------------|
| Input           | Forward voltage        | $V_F$                | --- | 1.2 | 1.6 | V               | $I_F=20\text{mA}$                                                       |
|                 | Reverse current        | $I_R$                | --- | --- | 10  | $\mu\text{A}$   | $V_R=5\text{V}$                                                         |
|                 | Peak wavelength        | $\lambda_P$          | --- | 940 | --- | nm              |                                                                         |
| Output          | Dark current           | $I_{CE0}$            | --- | --- | 100 | nA              | $V_{CE}=10\text{V}$<br>$E_E=0\text{mw}/\text{cm}^2$                     |
|                 | C-E saturation voltage | $V_{CE}(\text{sat})$ | --- | --- | 0.4 | V               | $I_C=0.5\text{mA}$<br>$H=0.5\text{mw}/\text{cm}^2$<br>$I_F=20\text{mA}$ |
| Light current   |                        | $I_L$                | 0.5 | --- | --- | mA              | $V_{CE}=5\text{V}$                                                      |
| Leakage current |                        | $I_{CE0D}$           | --- | --- | 20  | $\mu\text{A}$   | $I_F=20\text{mA}$                                                       |
| Speed           | Rise time              | $T_R$                | --- | 20  | --- | $\mu\text{sec}$ | $V_{CC}=5\text{V}$                                                      |
|                 | Fall time              | $T_F$                | --- | 20  | --- | $\mu\text{sec}$ | $I_C=1\text{mA}$<br>$R_L=1000\Omega$                                    |

## ■ TYPICAL CHARACTERISTICS FOR IR

Fig. 1 Forward Current vs. Ambient Temperature

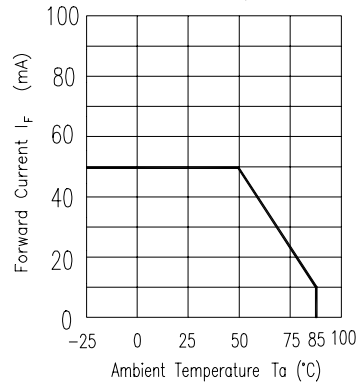


Fig. 2 Spectral Distribution

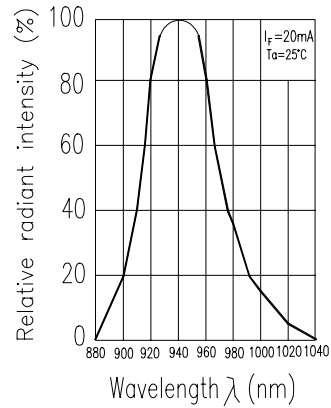


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

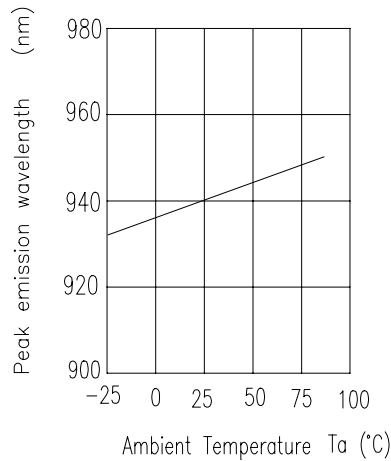


Fig. 4 Forward Current vs. Forward Voltage

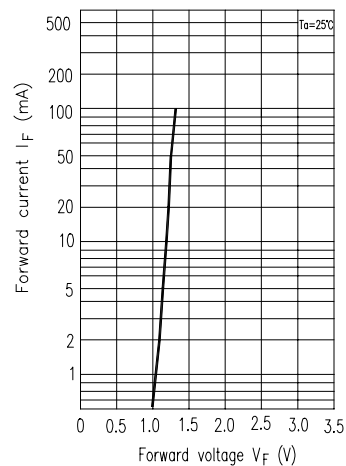


Fig. 5 Relative Radiant Flux vs. Ambient Temperature

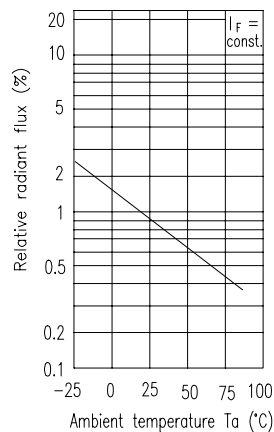
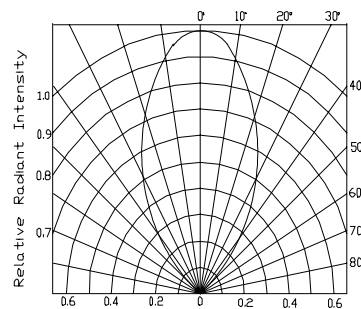
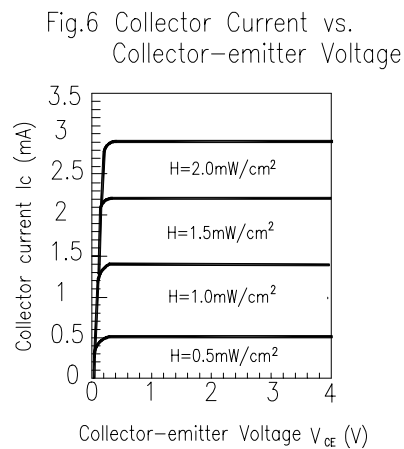
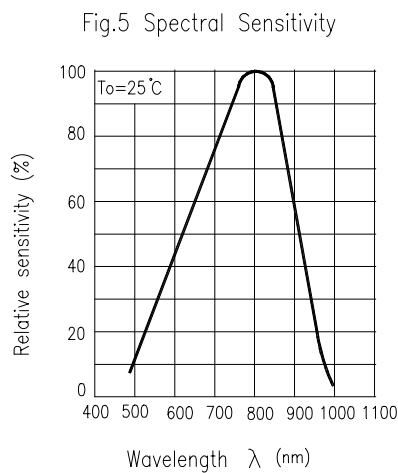
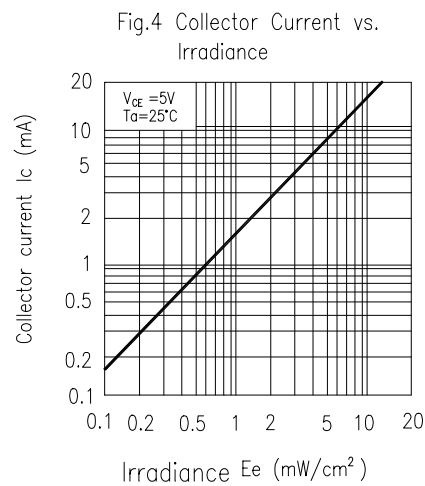
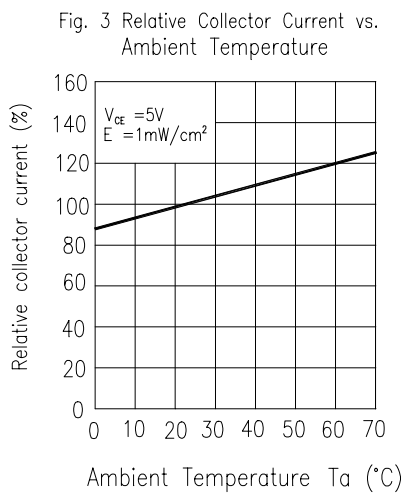
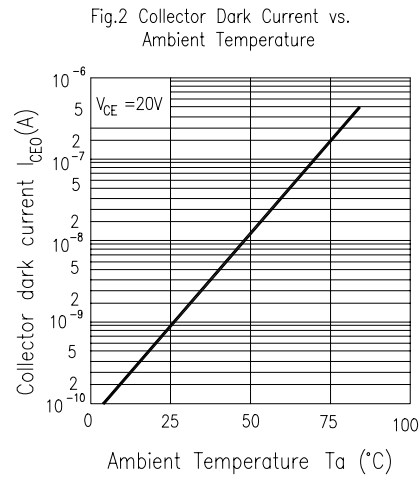
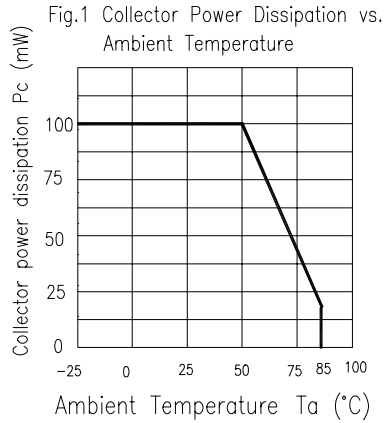


Fig. 6 Relative Radiant Intensity vs. Angular Displacement

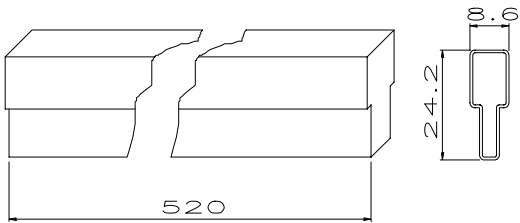


## TYPICAL CHARACTERISTICS FOR PT





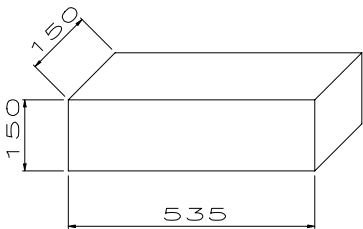
Package Style



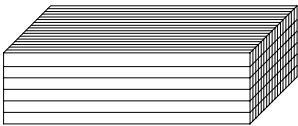
EVERLIGHT ELECTRONIC CO.,LTD.  
ITR8406-S NEW PACKING WAY

35 pcs/1 tube

unit:mm

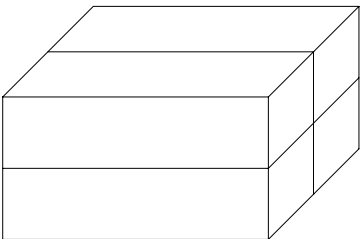
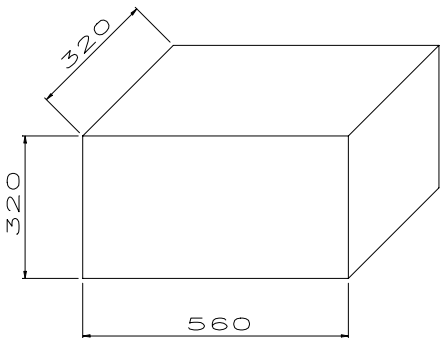


100 tubes(3500pcs)/1 box

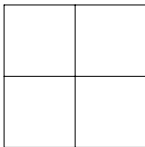


unit:mm

4 boxes(14000pcs)/1 carton



2 \* 2



unit:mm