# Specification

## 产品规格书

| | |
|---|---|
| 客户名称 (CUSTOMER): | |
| 样品名称 (DESCRIPTION): | 光电开关 |
| 型号 (Part No): | DP-ITR9707 |
| 日期 (Date): | 2022-12-2 |

公司邮箱：josensong@163.com
销售电话：15914189777

| 生产部 Production Dept. | 品质部 Quality Dept. | 工程部 Engineering Dept. | 市场部 Marketing Dept. |
|---|---|---|---|
| | | | |

| 客户承认结果 Customer acknowledges Results | 客户签名确认 Customer signature confirmation | 批　准 Approval | 制　定 Formulate |
|---|---|---|---|
| | | | |

# Technical Data Sheet
# Opto Interrupter



## ■ Features

.Fast response time
.High analytic
.Cut-offvisible wavelength λp=940nm
.High sensitivity
.Pb free
.The product itselfwill remain within RoHS compliant version.

## ■ Descriptions

The 9707 consist ofan infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black Thermoplastic Housing The phototransistor receives radiation from the IRLED only .This is the normal Situation. But when an object is in between , phototransistor could not receives the radiation. For additional component information , please refer to IR908-6C and PT908-6C

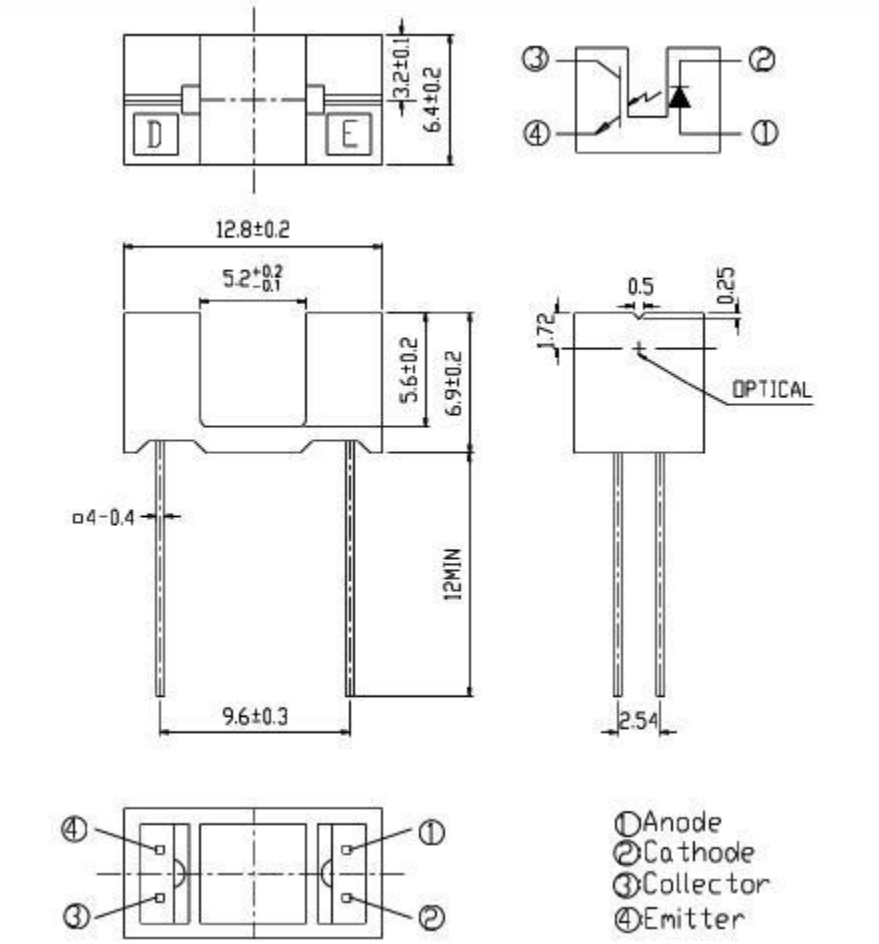
## ■ Applications

.Mouse Copier
.Switch Scanner
.Floppy disk driver
.Non-contact Switching
.For Direct Board

## ■ Device Selection Guide

| Device No. | Chip Material | LENS COLOR |
|---|---|---|
| IR908 | GaAlAs | Water clear |
| PT908 | Silicon | Water clear |

## ■ Package Dimensions




**Notes:**

1. All dimensions are in millimeters.
2. Tolerances unless dimensions ±0.2mm.
3. Lead spacing is measured where the lead emerge from the package.

## ■ Absolute Maximum Ratings (Ta=25℃)

| Parameter | | Symbol | Ratings | Unit |
|---|---|---|---|---|
| Input | Power Dissipation at(or below) 25℃Free Air Temperature | Pd | 75 | mW |
| | Reverse Voltage | $V_R$ | 5 | V |
| | Forward Current | $I_F$ | 50 | mA |
| | Peak Forward Current (*1) Pulse width ≤100μs, Duty cycle=1% | $I_{FP}$ | 1 | A |
| Output | Collector Power Dissipation | $P_C$ | 75 | mW |
| | Collector Current | $I_C$ | 20 | mA |
| | Collector-Emitter Voltage | $V_{CEO}$ | 30 | V |
| | Emitter-Collector Voltage | $V_{ECO}$ | 5 | V |
| Operating Temperature | | Topr | -25~+85 | ℃ |
| Storage Temperature | | Tstg | -40~+100 | ℃ |
| Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds) | | Tsol | 260 | ℃ |

(*1) tw=100 μ sec. , T=10 msec. (*2) t=5 Sec

## ■ Electro-Optical Characteristics (Ta=25℃)

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|---|
| Input | Forward Voltage | $V_F$ | --- | 1.2 | 1.5 | V | $I_F$=20mA |
| | Reverse Current | $I_R$ | --- | --- | 10 | μA | $V_R$=5V |
| | Peak Wavelength | $\lambda_P$ | --- | 940 | --- | nm | $I_F$=20mA |
| | View Angle | 2θ1/2 | --- | 60 | --- | Deg | $I_F$=20mA |
| Output | Dark C urrent | $I_{CEO}$ | --- | --- | 100 | nA | $V_{CE}$=20V,Ee=0mW/cm$^2$ |
| | C-E Saturation Voltage | $V_{CE}$(sat) | --- | --- | 0.4 | V | $I_C$=2mA Ee=1mW/cm$^2$ |
| Transfer Characteristics | Collect Current | $I_C$(ON) | 0.50 | --- | --- | mA | $V_{CE}$=5V $I_F$=20mA |
| | Rise time | $t_r$ | --- | 15 | --- | μ sec | $V_{CE}$=5V $I_C$=1mA $R_L$=1KΩ |
| | Fall time | $t_f$ | --- | 15 | --- | μ sec | |

## ■ Typical Electrical/Optical/Characteristics Curves for IR

Fig.1 Forward Current vs. Ambient Temperature

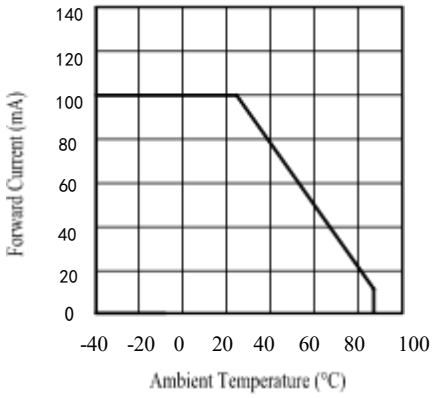



Fig.2 Spectral Distribution

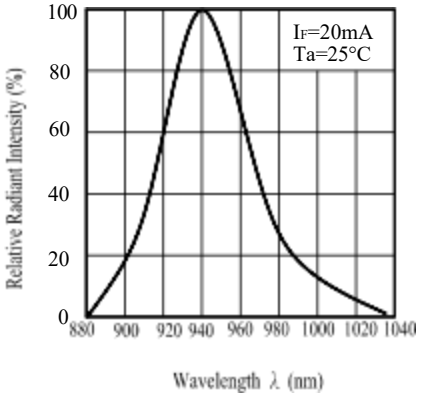



Fig.5 Relative Intensity vs. Forward Current

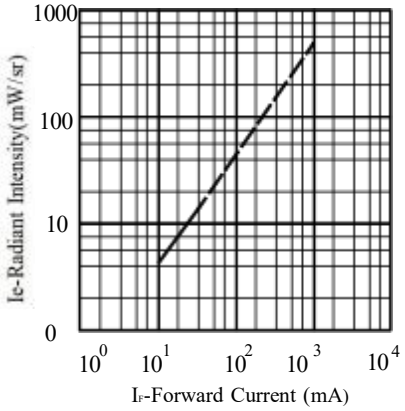



Fig.6 Relative Radiant Intensity vs. Angular Displacement

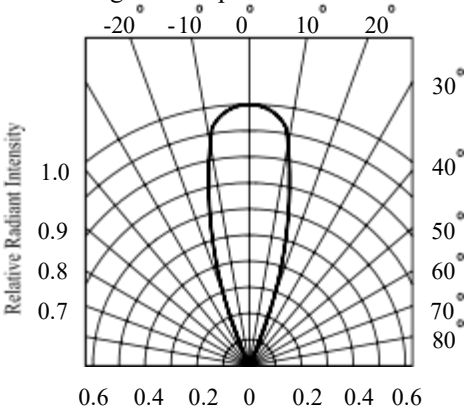



Fig.7 Relative Intensity vs. Ambient Temperature(。C)

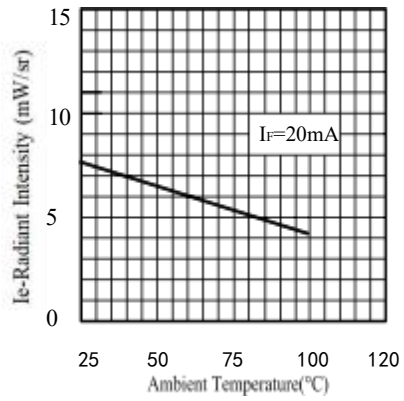
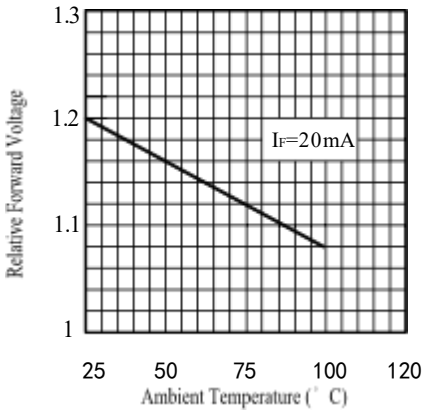



Fig.8 Forward Current vs. Ambient Temperature(°C)



## ■ Typical Electrical/Optical/Characteristics Curves for PT

Fig.1Collector Power Dissipation vs. Ambient Temperature

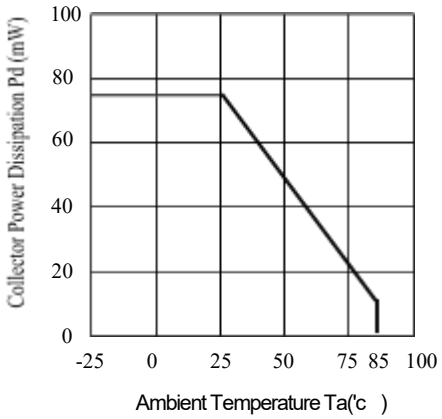



Fig.2 Spectral Sensitivity

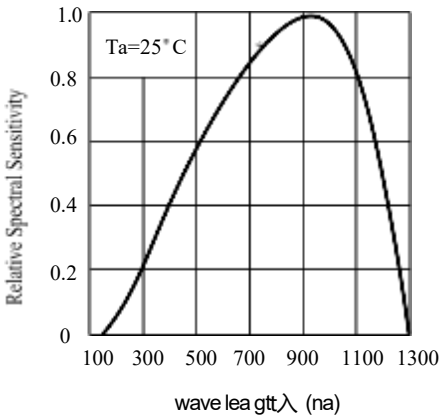



Fig.3 Relative Collector Current vs. Ambient Temperature

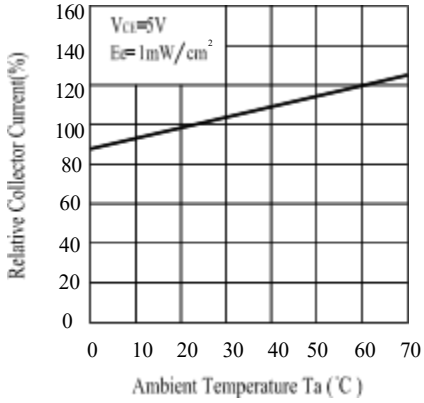



Fig.4 Collector Current vs. Irradiance

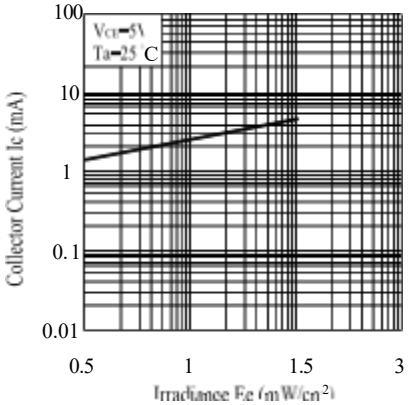



Fig.5 Collector Dark Current vs. Ambient Temperature

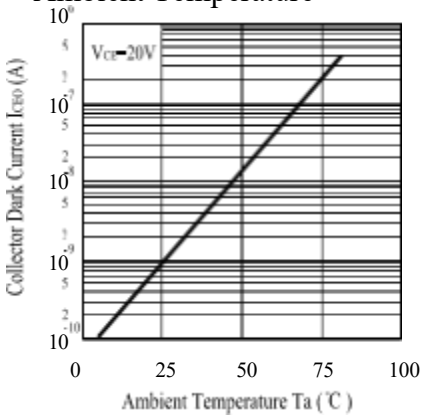



Fig.6 Collector Current vs. Collector-Emitter Voltage

