

## Reflective Interrupter

MODEL NO : \_\_\_\_\_ ITR9907 \_\_\_\_\_

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### ■ Features :

- Fast response time
- High analytic
- Cut-off visible wavelength  $\lambda_p=980\text{nm}$
- High sensitivity
- Small package
- Pb free

### ■ Description :

The **ITR9907** consists of an infrared emitting diode and a silicon phototransistor , encased in a black Thermo-plastic housing. The advantage of the device is the small package. phototransistor receives radiation from the IRED only, and avoids the noise from ambient light.

### ■ Applications :

- Camera
- Copier
- Scanner
- Non-contact Switching
- For Direct PC Board

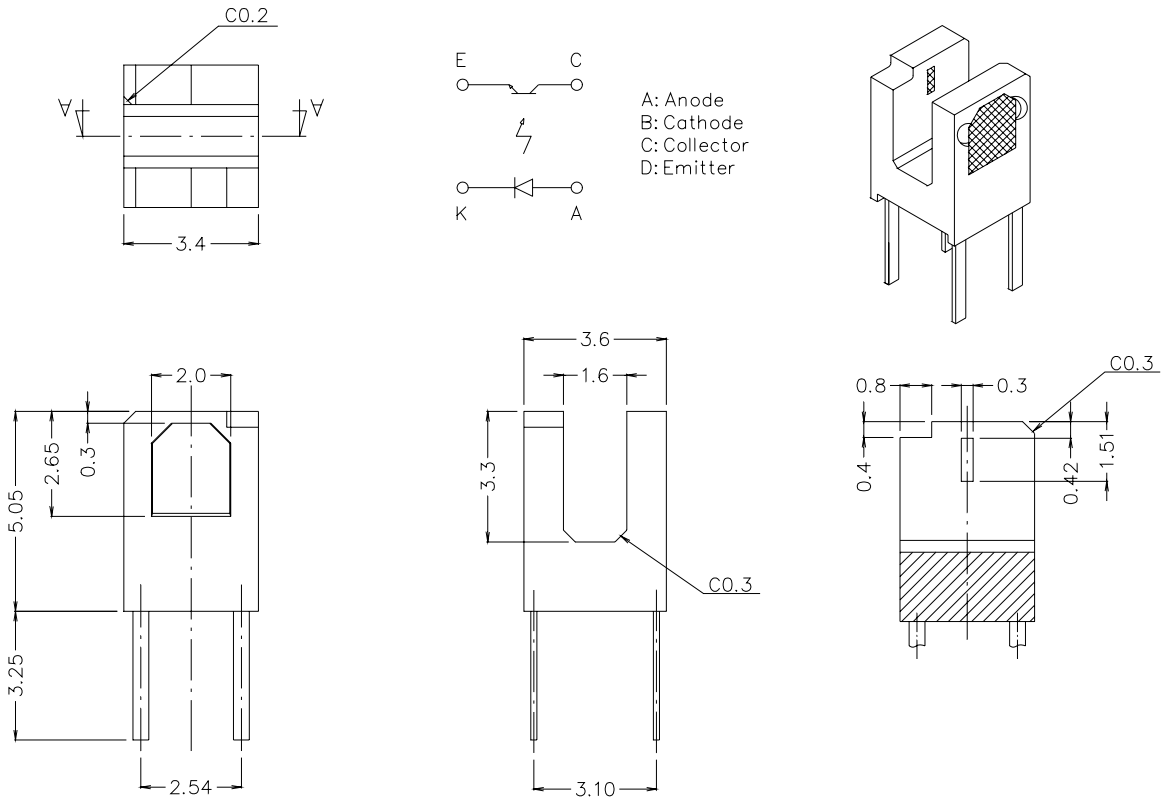
PART NO.	CHIP	LENS COLOR
	MATERIAL	
IR	GaAIAs	Clear
PT	Silicon	Black

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## ■ Package Dimension :



## ■ Notes :

- 1.All dimensions are in millimeter.
- 2.General tolerance:  $\pm 0.2$ mm
- 3.Lead spacing is measured where the lead emerge from the package.

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## ■ Absolute Maximum Ratings at T<sub>A</sub> = 25°C

Parameter		Symbol	Rating	Unit
Input	Power Dissipation	P <sub>D</sub>	75	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current(*1)	I <sub>FP</sub>	1.0	A
Output	Collect Power Dissipation	P <sub>C</sub>	75	mW
	Collect Current	I <sub>C</sub>	20	mA
	Collector-Emitter Voltage	V <sub>CE</sub>	30	V
	Emitter-Collector Voltage	V <sub>EC</sub>	5	V
Operating Temperature		T <sub>opr</sub>	-25~+85	°C
Storage Temperature		T <sub>stg</sub>	-40~+85	°C
Soldering Temperature(*2)		T <sub>sol</sub>	260	°C

(\*1) Pause width= 100 μs, Duty Cycle=1%      (\*2) t=5 secs

## ■ Electronic Optical Characteristics at T<sub>A</sub> = 25°C:

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V <sub>F1</sub>	-	1.2	1.6	V	I <sub>F</sub> =20mA
	Reverse Current	I <sub>R</sub>	-	-	10	μA	V <sub>R</sub> =5V
	Peak Wavelength	λ <sub>P</sub>	-	940	-	nm	---
Output	Dark Current	I <sub>CEO</sub>	-	-	100	nA	V <sub>CE</sub> =20V, Ee=0mW/cm <sup>2</sup>
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	-	-	0.4	V	I <sub>C</sub> =2mA, I <sub>B</sub> =0.1mA
Collect Current		I <sub>C(ON)A</sub>	50	-	-	μA	V <sub>CE</sub> =5V, I <sub>F</sub> =5mA
Response Time	Rise Time	t <sub>R</sub>	-	15	-	μs	V <sub>CE</sub> =2V, I <sub>C</sub> =1mA, R <sub>L</sub> =1KΩ
	Fall Time	t <sub>F</sub>	-	15	-	μs	

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

Fig. 1 Forward Current vs. Ambient Temperature

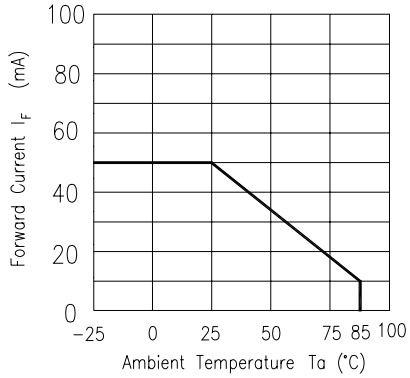


Fig. 2 Spectral Distribution

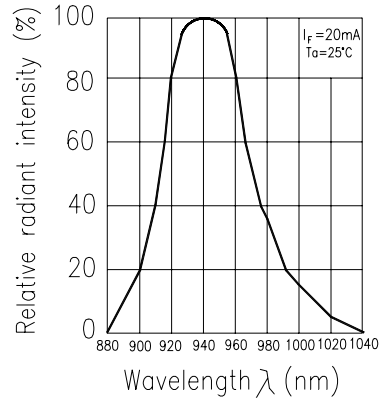


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

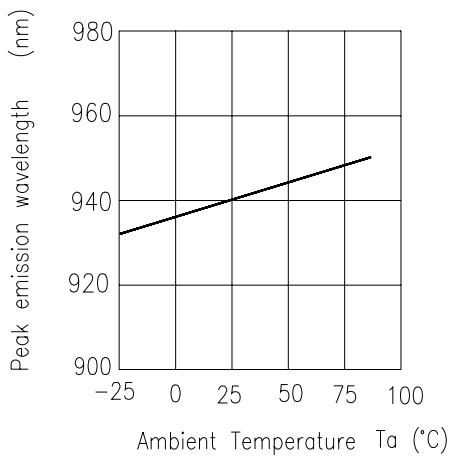


Fig. 4 Forward Current vs. Forward Voltage

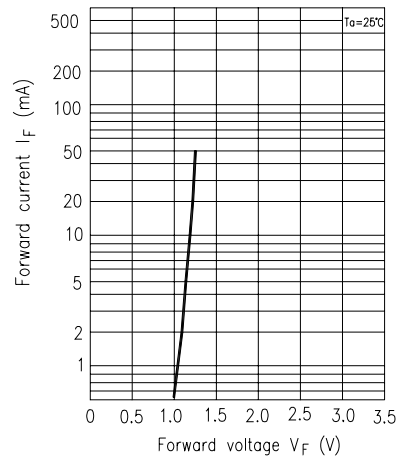
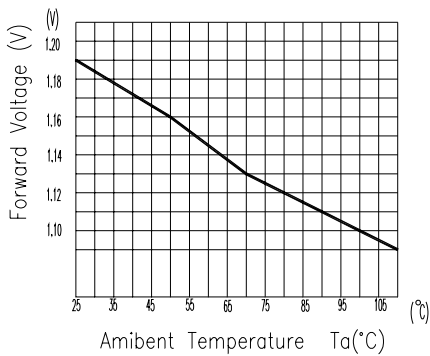


Fig. 5 Forward Voltage vs. Ambient Temperature





# Photointerrupter

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## ■ Reliability Test Item And Condition

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

Confidence level:90%

LTPD:10%

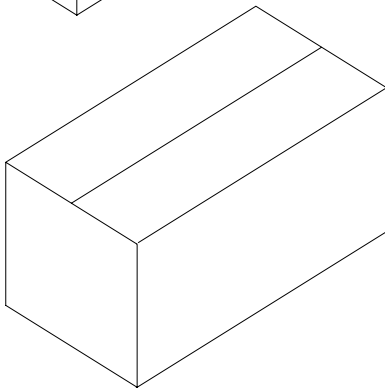
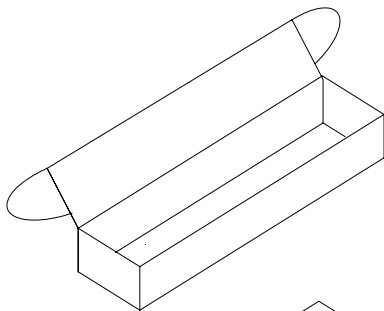
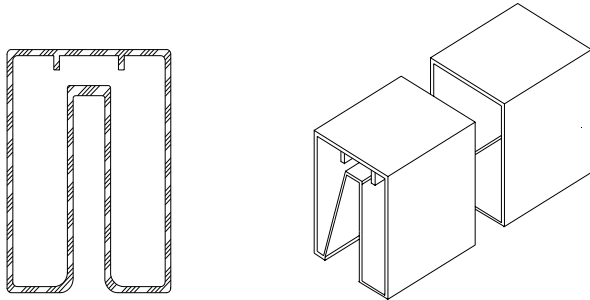
NO.	Item	Test Conditions	Test Hours/ Cycle	Sample Size	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 sec	22 PCs	$I_{c(on)} \leq L \times 0.8$  L :Lower specification limit	0/1
2	Temperature Cycle	H : +85°C    30 min ↑ 5 min ↓ L : -55°C    30 min	50 cycle	22 PCs		0/1
3	Thermal Shock	H : +100°C    5 min ↑ 10 sec ↓ L : -10°C    30 min	50 cycle	22 PCs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22 PCs		0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 hrs	22 PCs		0/1
6	DC Operating Life	$V_{CE}=5V$	1000 hrs	22 PCs		0/1
7	High Temperature / High Humidity	85°C / 85% R.H.	1000 hrs	22 PCs		0/1



Opto Interrupter

MODEL NO : ITR8307/T18/F43

■ Packing Specifications



CPN:

P/N:



ITR9907

QTY:



LOT NO:

CAT:

HUE:

REF:

MADE IN TAIWAN

CPN : Customer's Production Number

P/N : Production Number

QTY : Packing Quantity

CAT : Ranks

HUE : Peak Wavelength

REF : Reference

LOT NO : Lot Number

MADE IN TAIWAN : Production place

Unit:mm

■ Packing Quantity Specification

1.100pcs/1tube , 45tubes/1box

2.6boxes/1carton