



## Technical Data Sheet

# 1.6mm Side Looking Infrared Emitting Diode

### IR958-8P

#### ■ Features

- Low forward voltage
- Peak wavelength  $\lambda_p=950\text{nm}$
- High reliability
- Pb free
- The product itself will remain within RoHS compliant version.



#### ■ Descriptions

The IR958-8P is a GaAs infrared emitting diode. The miniature side-facing device is a chip that emits radiation from the side of the pink clear package.

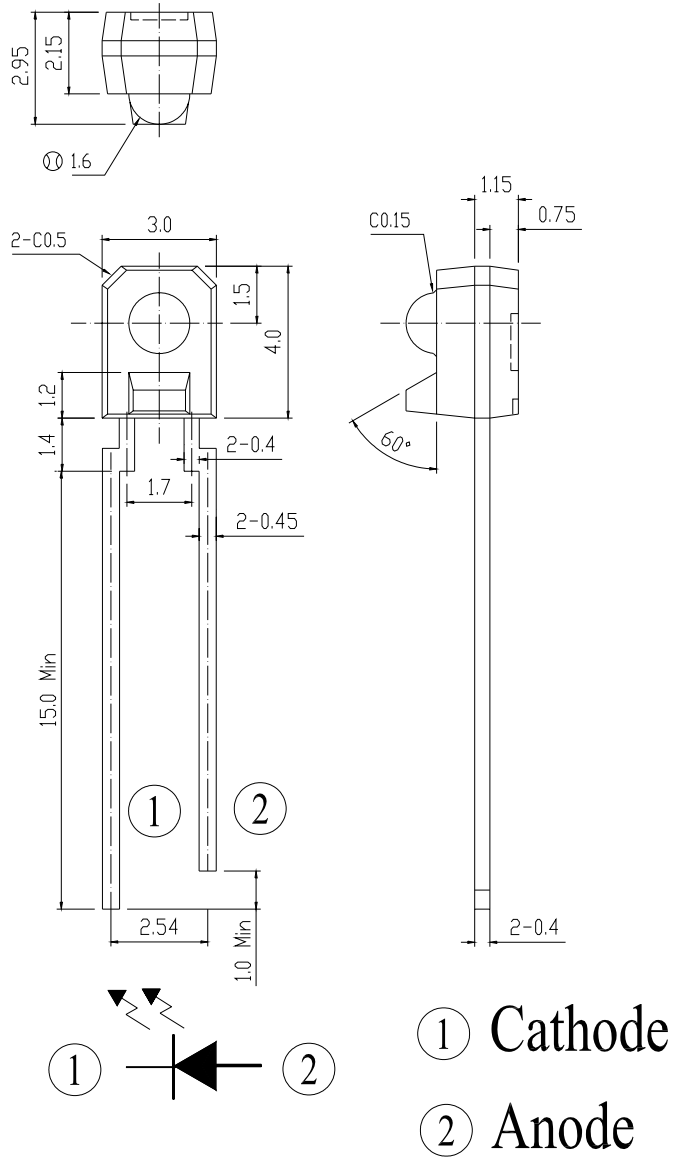
#### ■ Applications

- VCR
- Floppy disk drive
- Automatic stroboscope
- Cassette type recorder
- Optoelectronic switch
- Photo interrupter

#### ■ Device Selection Guide

Part No.	Chip	Lens Color
	Material	
IR	GaAs	Pink

**Package Dimensions**



**Notes:** 1.All dimensions are in millimeters  
2.Tolerances unless dimensions  $\pm 0.2$ mm

**Absolute Maximum Ratings (Ta=25°C)**

Item	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	75	mW
Reverse Voltage	V <sub>R</sub>	6	V
Forward Current	I <sub>F</sub>	50	mA
Peak Forward Current (*1)	I <sub>FP</sub>	1	A
Operating Temperature	T <sub>opr</sub>	-25~+85	°C
Storage Temperature	T <sub>stg</sub>	-40~+85	°C
Soldering Temperature (1/16 inch from body for 5 seconds)	T <sub>sol</sub>	260	°C

**Notes:** (\*1)  $t_w=100\mu$  secs.     $T=10$  m secs.

**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Collector Current	I <sub>c(on)</sub>	300	-	2000	$\mu$ A	I <sub>F</sub> =4mA, V <sub>CE</sub> =3.5V
Peak Wavelength	$\lambda_p$	-	950	-	nm	I <sub>F</sub> =20mA
Spectral Bandwidth	$\Delta \lambda$	-	80	-	nm	I <sub>F</sub> =20mA
View Angle	2 $\theta$ 1/2	-	±11	-	Deg	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	-	1.2	1.5	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-	-	10	$\mu$ A	V <sub>R</sub> =6V

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**Typical Electro-Optical Characteristics Curves**

Fig.1 Forward Current vs. Ambient Temperature

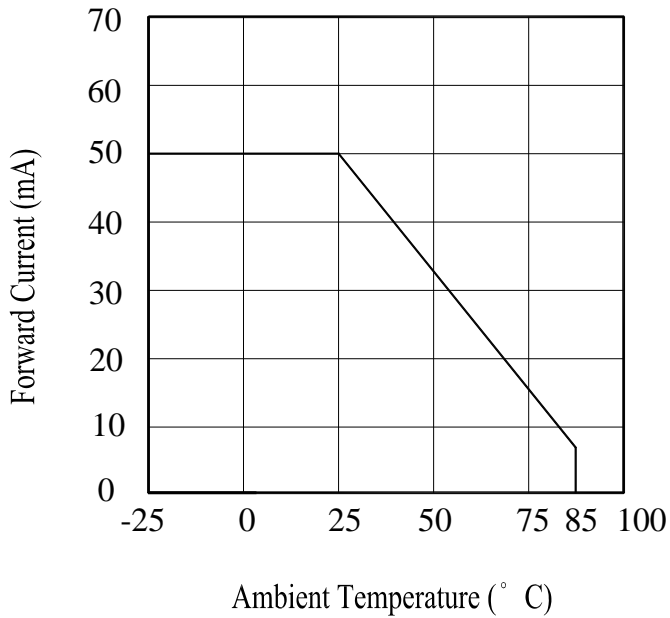


Fig.2 Spectral Distribution

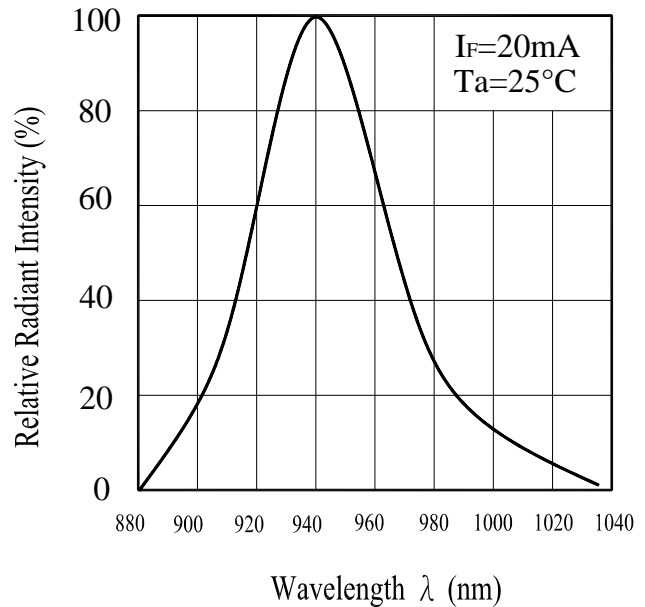


Fig.3 Peak Emission Wavelength vs. Ambient Temperature

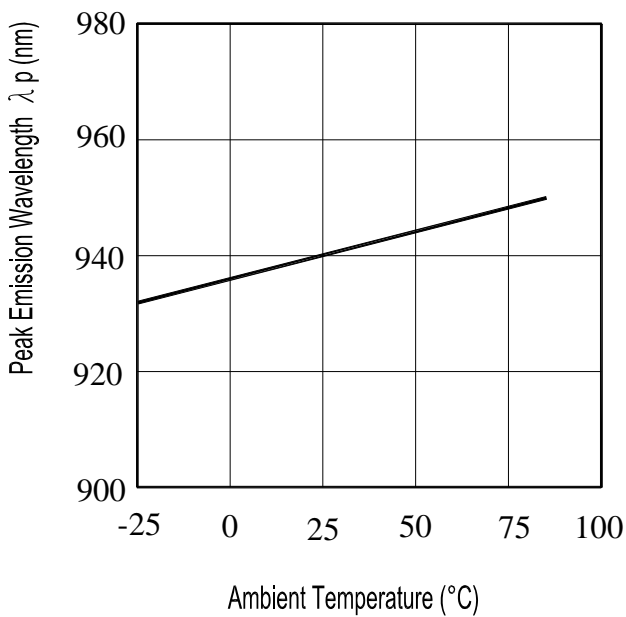
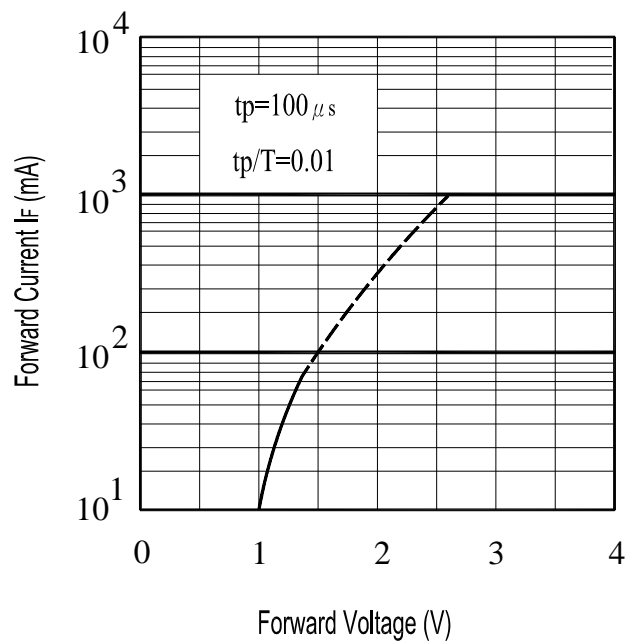


Fig.4 Forward Current vs. Forward Voltage



**Typical Electro-Optical Characteristics Curves**

Fig.5 Relative Intensity vs. Forward Current

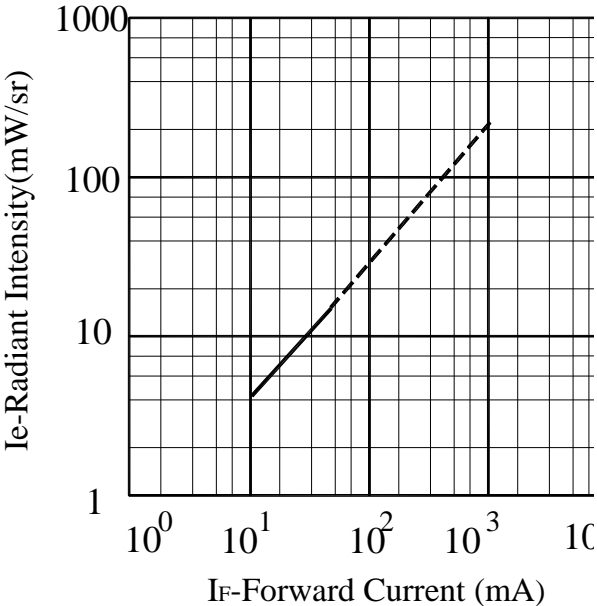
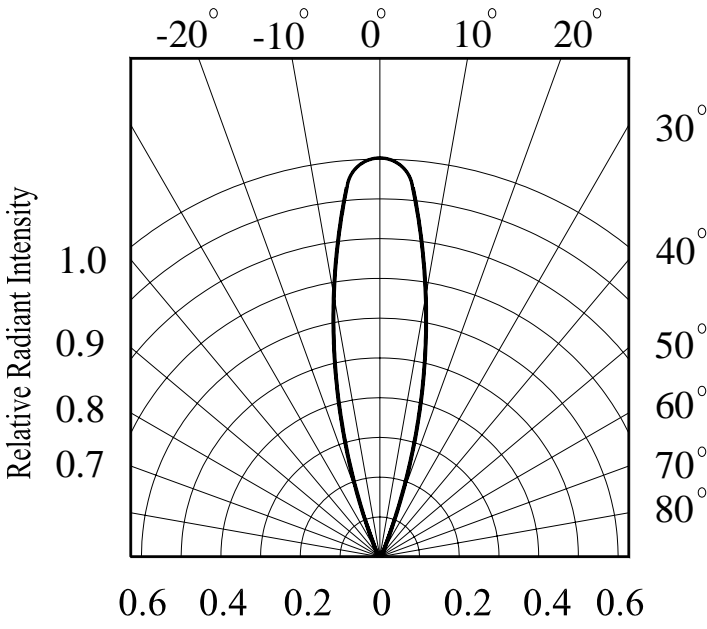
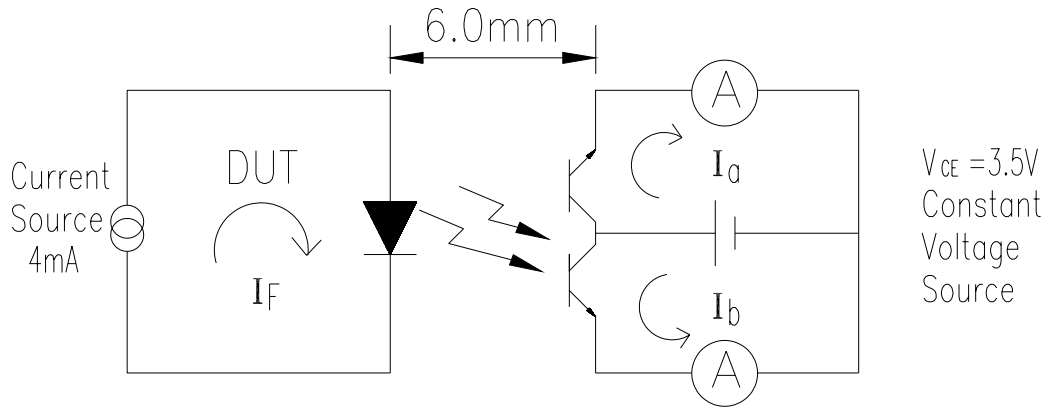


Fig.6 Relative Radiant Intensity vs Angular Displacement



### Test Method

The intensity testing method of Infrared emitting diode:



### To Distinguish Intensity:

#### Ranks

Color Code	Parameter	Symbol	Min	Max	Unit	Test Condition
No paint	7-2	$I_c(\text{on})$	300	450	$\mu A$	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
No paint	7-1	$I_c(\text{on})$	330	565	$\mu A$	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
No paint	6-2	$I_c(\text{on})$	450	770	$\mu A$	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
No paint	6-1	$I_c(\text{on})$	630	1300	$\mu A$	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$
No paint	5-2	$I_c(\text{on})$	1000	2000	$\mu A$	$I_F=4\text{mA}, V_{CE}=3.5\text{V}$

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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/ Cycles	Sample Sizes	Failure Judgment Criteria	Ac/Re
1	Solder Heat	TEMP. : 260°C±5°C	10 secs	22pcs	$I_R \geq U \times 2$ $I_{C(ON)} \leq L \times 0.8$ $V_F \geq U \times 1.2$  U : Upper Specification  Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : +85°C    30mins ↓ 5mins L : -55°C    30mins	50 Cycles	22pcs		0/1
3	Thermal Shock	H : +100°C    5mins ↓ 10secs L : -10°C    5mins	50 Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 hrs	22pcs		0/1
6	DC Operating Life	$I_F = 20mA$	1000 hrs	22pcs		0/1
7	High Temperature/ High Humidity	85°C / 85% R.H	1000 hrs	22pcs		0/1

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