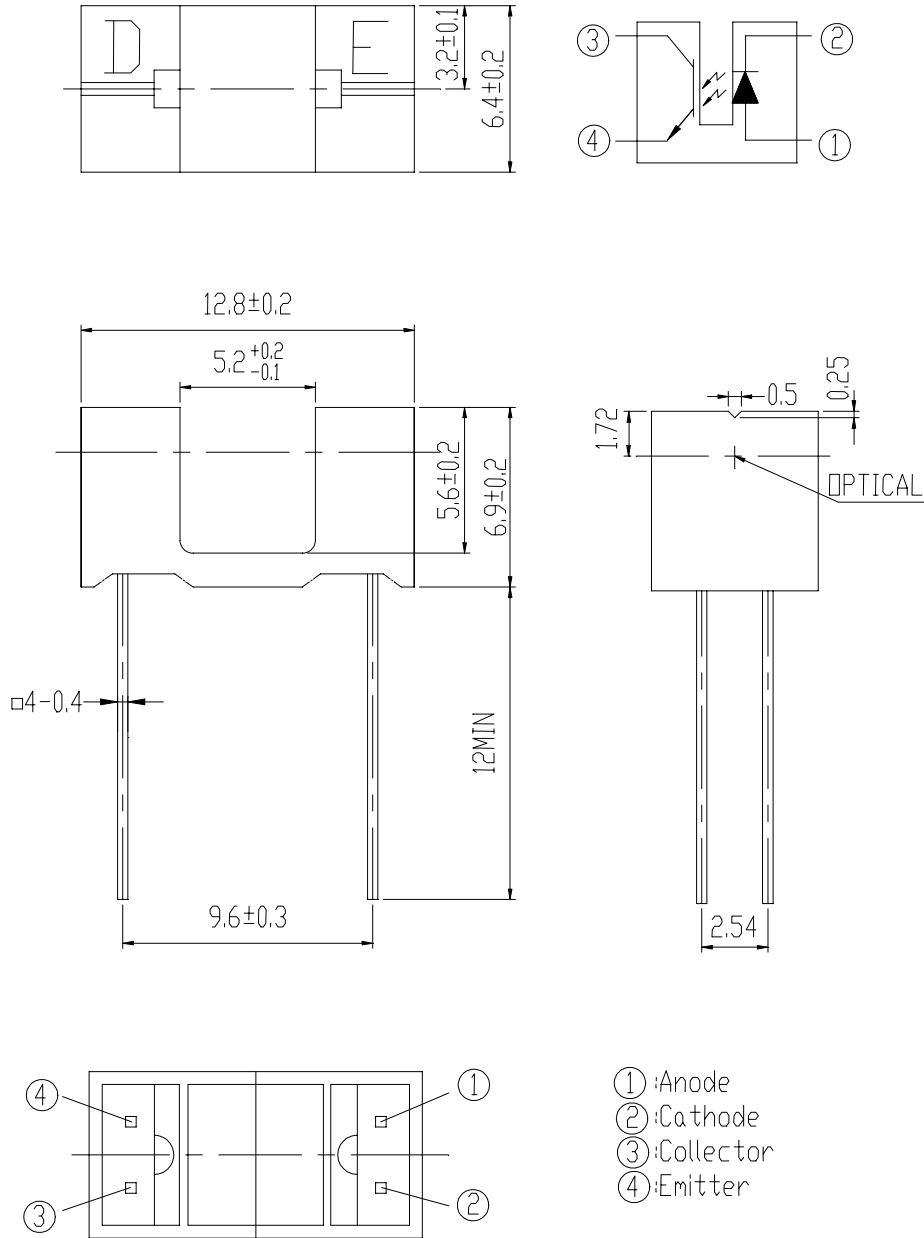


■ Package Dimensions :



©Notes :

- 1.All dimensions are in millimeter.
- 2.General Tolerance:± 0.2mm
- 3.Lead spacing is measured where the lead emerge from the package.
- 4.Above specification may be changed without notice. EVERCOLOR will reserve authority on material change for above specification.
- 5.These specification sheets include materials protected under copyright of EVERCOLORS corporation. Please don't reproduce or cause anyone to reproduce them without EVERCOLORS's consent.
- 6.When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERCOLORS 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.

■ Descriptions:

The ITR9707 (Slot Optical Switch) is a gallium arsenide infrared emitting diode which is coupled with a silicon photo transistor in a plastic housing. The packaging system is designed to optimizes the mechanical resolution, coupling efficiency, and insulates ambient light. The slot in the housing a provides a means of interrupting the signal with printer, scanner, copier, or other opaque material, switching the output from an " ON" to" OFF" state.

■ Features:

- Wide gap between light emitter and detector(5.2mm)
- High sensing accuracy
- PWB mounting type package

■ Applications:

- Copier
- Printer
- Facsimile
- Ticket vending machine
- Opto-electronic switch

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at (or below) 25°C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current 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	°C
Storage Temperature		Tstg	-40~+85	°C
Lead Soldering Temperature (1/16 inch from body for 5 seconds)		Tsol	260	°C

Electro-Optical Characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V _F	-	1.2	1.5	V	I _F =20mA
	Reverse Current	I _R	-	-	10	μA	V _R =5V
	Peak Wavelength	λ _p	-	940	-	nm	I _F =20mA
	View Angle	2 ³ 1/2	-	60	-	Deg	I _F =20mA
Output	Collector Dark Current	I _{CEO}	-	-	100	nA	V _{CE} =20V Ee=0mW/cm ²
Transfer Characteristic	C-E Saturation Voltage	V _{CE(sat)}	-	-	0.4	V	I _C =0.5mA Ee=10mW/cm ²
	Collector Current	I _{C(ON)}	0.5	-	-	mA	V _{CE} =5V I _F =20mA
	Rise time	t _r	-	20	-	μsec	V _{CE} =5V
	Fall time	t _f	-	20	-	μsec	I _C =1mA R _L =1KΩ

Typical Characteristics For IR

Fig. 1 Forward Current vs. Ambient Temperature

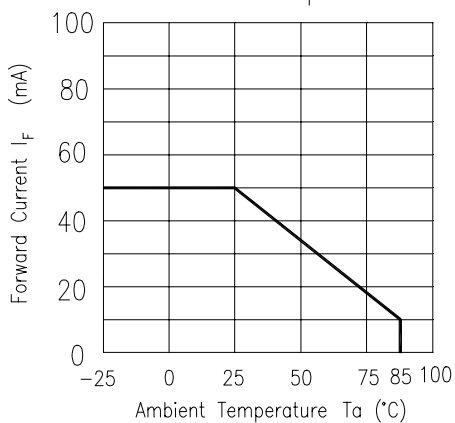


Fig. 2 Spectral Distribution

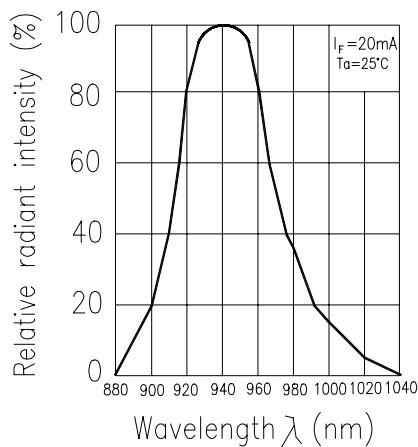


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

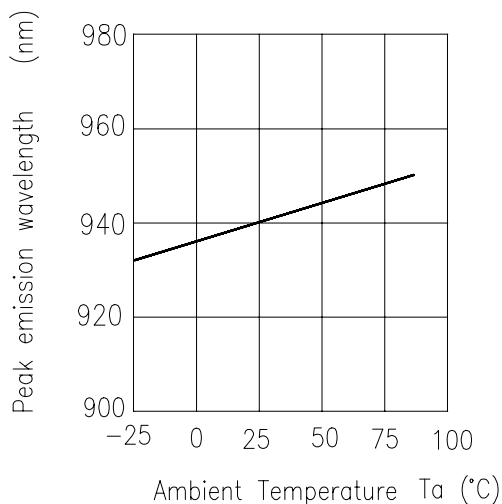


Fig. 4 Forward Current vs. Forward Voltage

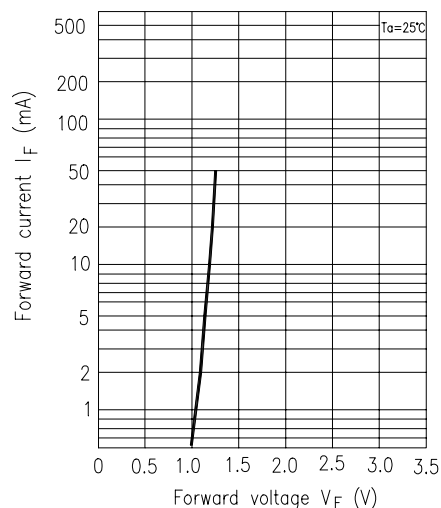


Fig. 5 Forward Voltage vs. Ambient Temperature

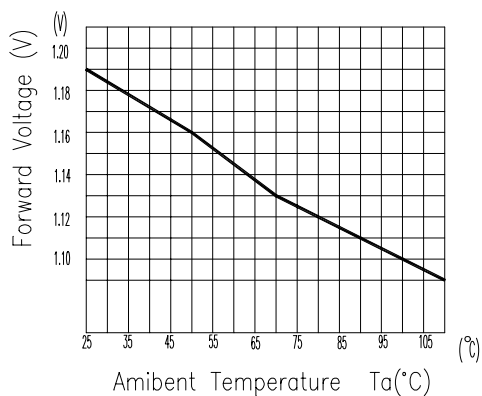
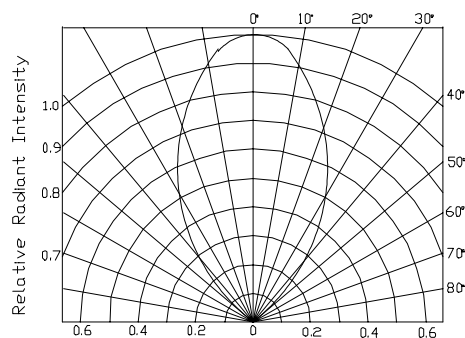
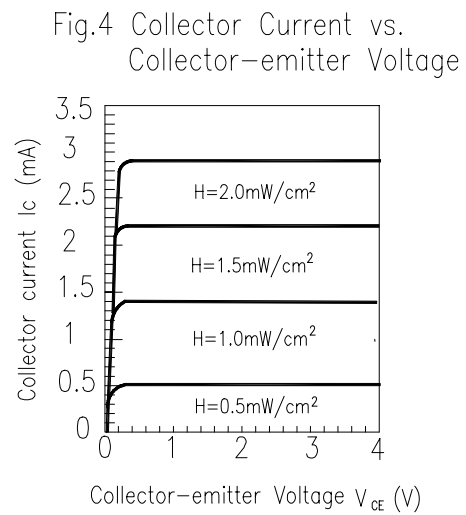
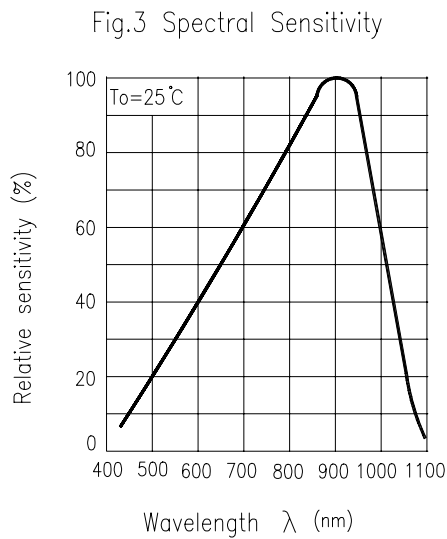
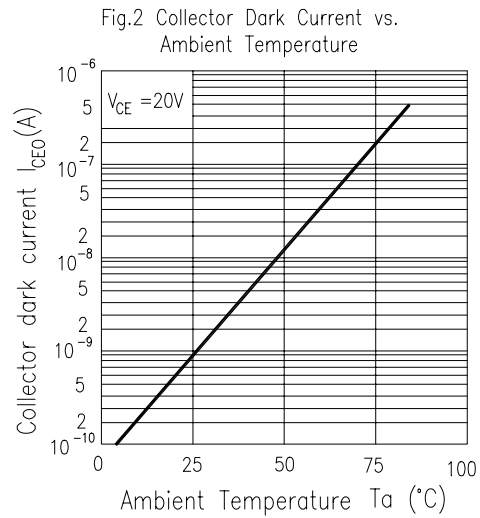
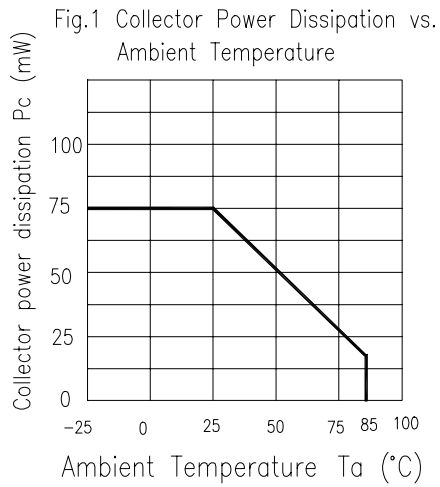


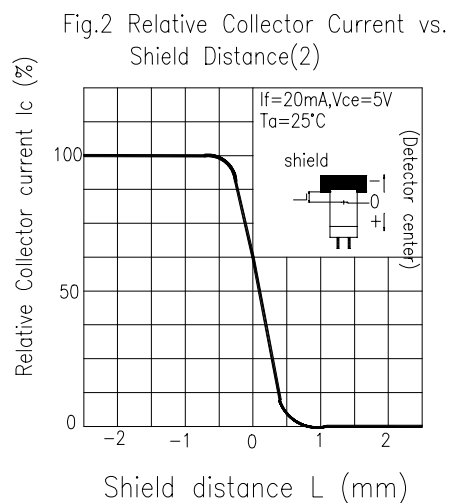
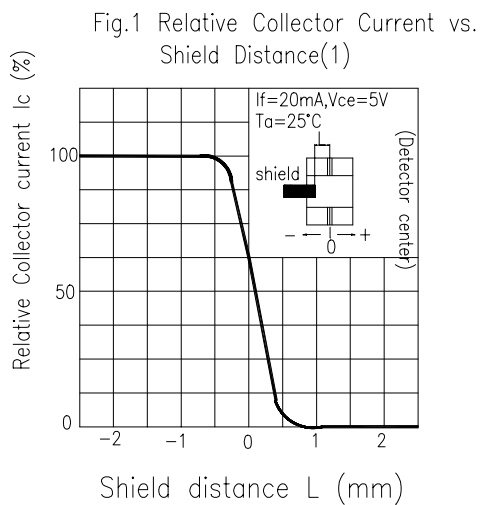
Fig. 6 Relative Radiant Intensity vs. Angular Displacement



Typical Characteristics For PT



Typical Characteristics For ITR



■ Reliability test item and condition

The reliability of products shall be satisfied with item listed below:

Confidence level :90%

LTPD:10%

Parameter	Purpose & Condition	Failure Judgement Criteria	Samples(n) Defective(c)
Temperature Cycle	<p>Evaluates product's ability to withstand exposure to high temperature, low temperature, and temperature variation between two limit temperature. Standard test Condition:</p> <p style="text-align: center;"> $85^{\circ}\text{C} \sim 25^{\circ}\text{C} \sim -55^{\circ}\text{C} \sim 25^{\circ}\text{C}$ $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$ 30min 5min 30min 5min 50 cycle </p>	$I_R \geq U \times 2$ $I_{c(on)} \leq L \times 0.8$ $V_F \geq U \times 1.2$ U : Upper specification limit L : Lower specification limit	n =22 , c=0
Thermal Shock	<p>Evaluates product's ability to withstand rapid temperature change Standard test Condition:</p> <p style="text-align: center;"> $85^{\circ}\text{C} \sim -55^{\circ}\text{C}$ 5min 5min 50cycle </p>		n =22 , c=0
High Temperature Storage	<p>Evaluates product's ability to withstand prolonged storage at high temperature Standard test Condition:</p> <p style="text-align: center;"> Temperature : 100 °C Time : 1000hrs </p>		n =22 , c=0
Low Temperature Storage	<p>Evaluates product's ability to withstand prolonged storage at low temperature Standard test Condition:</p> <p style="text-align: center;"> Temperature : -55 °C Time : 1000hrs </p>		n =22 , c=0