

## Opto Interrupter ITR9608-F

### Features

- Fast response time
- High analytic
- Cut-off visible wavelength  $\lambda_p=940\text{nm}$
- High sensitivity
- Pb free
- This product itself will remain within RoHS compliant version

### Description

- The ITR9608-F consist of an 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 IRED 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 IR928-6C and PT928-6C

### Applications

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

**Device Selection Guide**

Device No.	Chip Materials	Lens Color
IR	GaAlAs	Water clear
PT	Silicon	Water clear

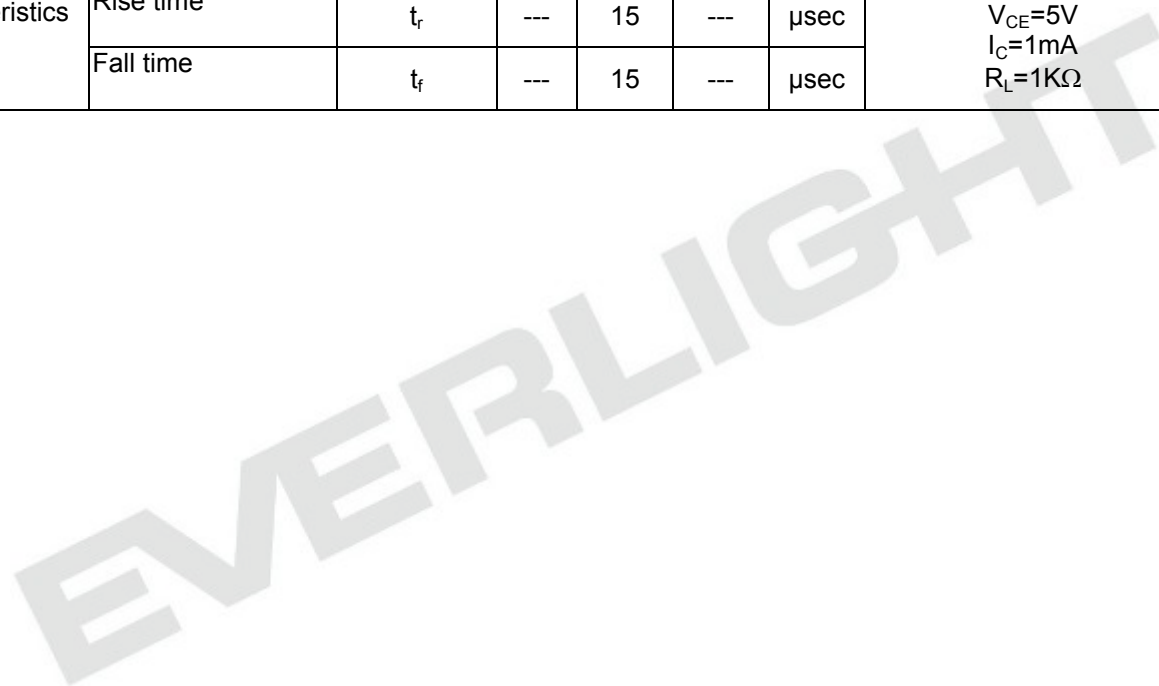
**Absolute Maximum Ratings (Ta=25 °C)**

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25 °C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current (*1) Pulse width 100µs, Duty cycle=1%	I <sub>FP</sub>	1	A
Output	Collector Power Dissipation	Pd	75	mW
	Collector Current	I <sub>C</sub>	20	mA
	Collector-Emitter Voltage	B V <sub>CEO</sub>	30	V
	Emitter-Collector Voltage	B V <sub>ECO</sub>	5	V
Operating Temperature		Topr	-25~+85	
Storage Temperature		Tstg	-40~+85	
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	

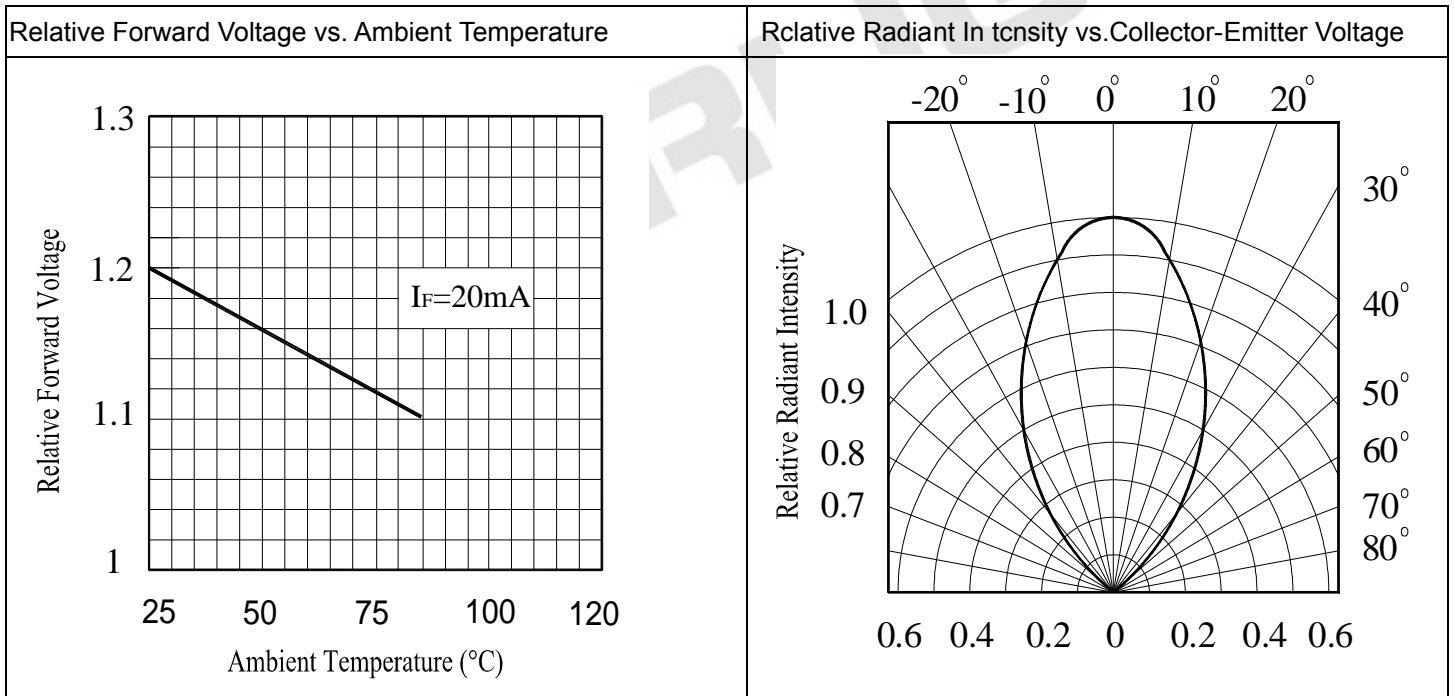
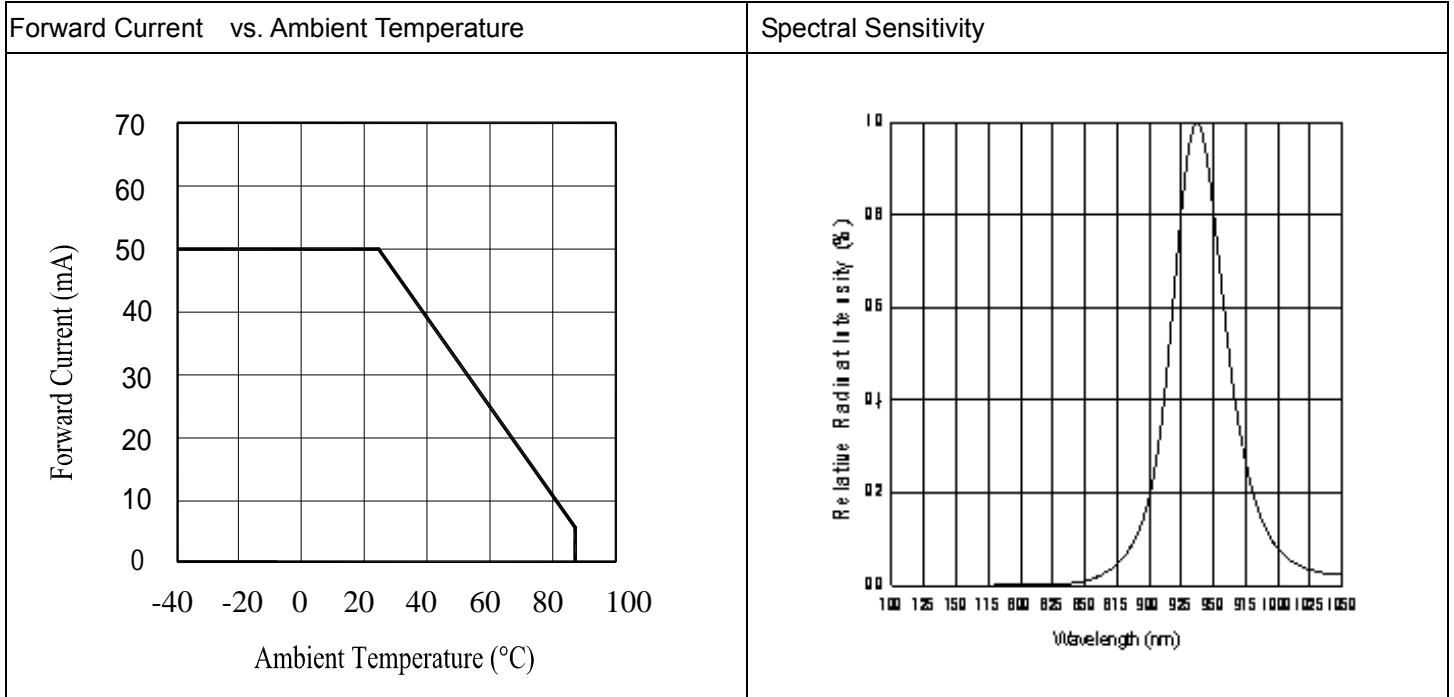
(\*1)  $t_w=100 \mu\text{sec.}$  ,  $T=10 \text{ msec.}$       (\*2)  $t=5 \text{ Sec}$

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

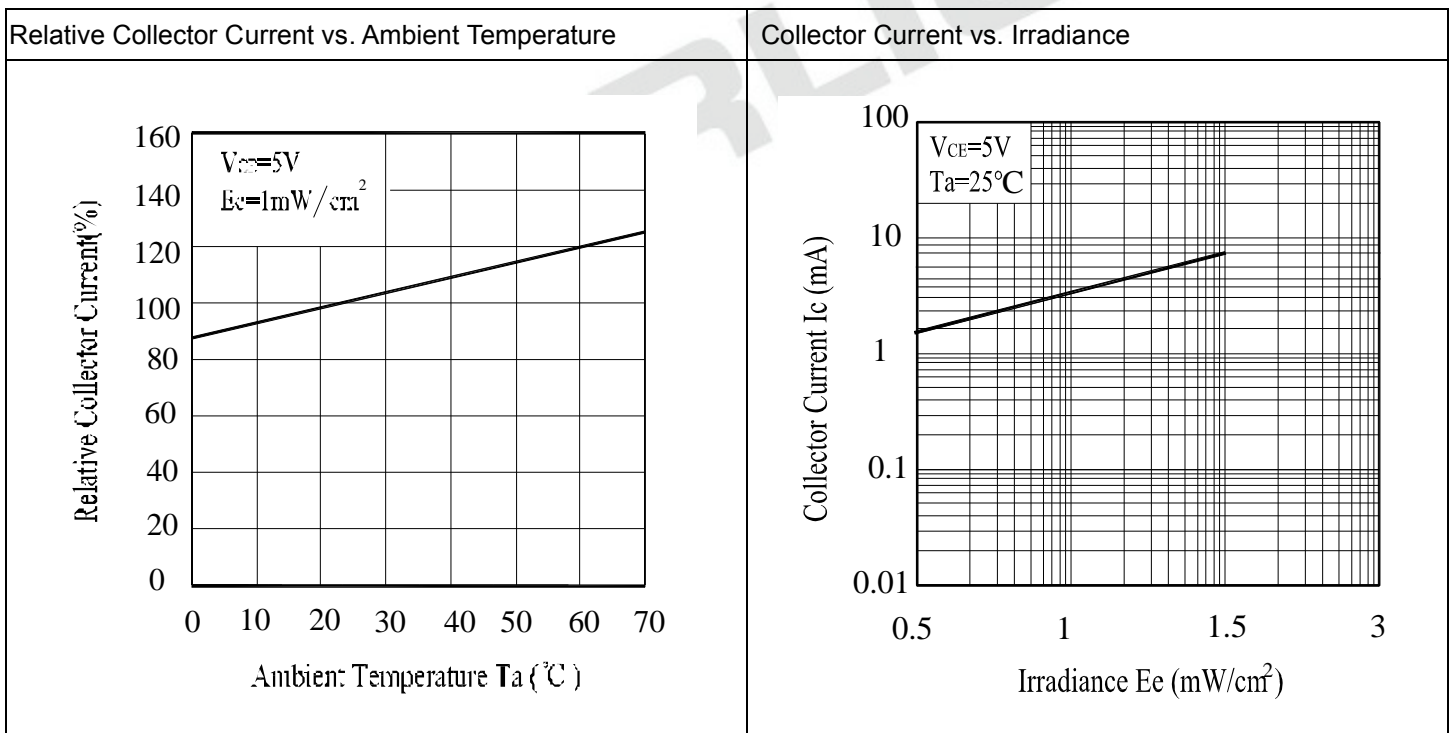
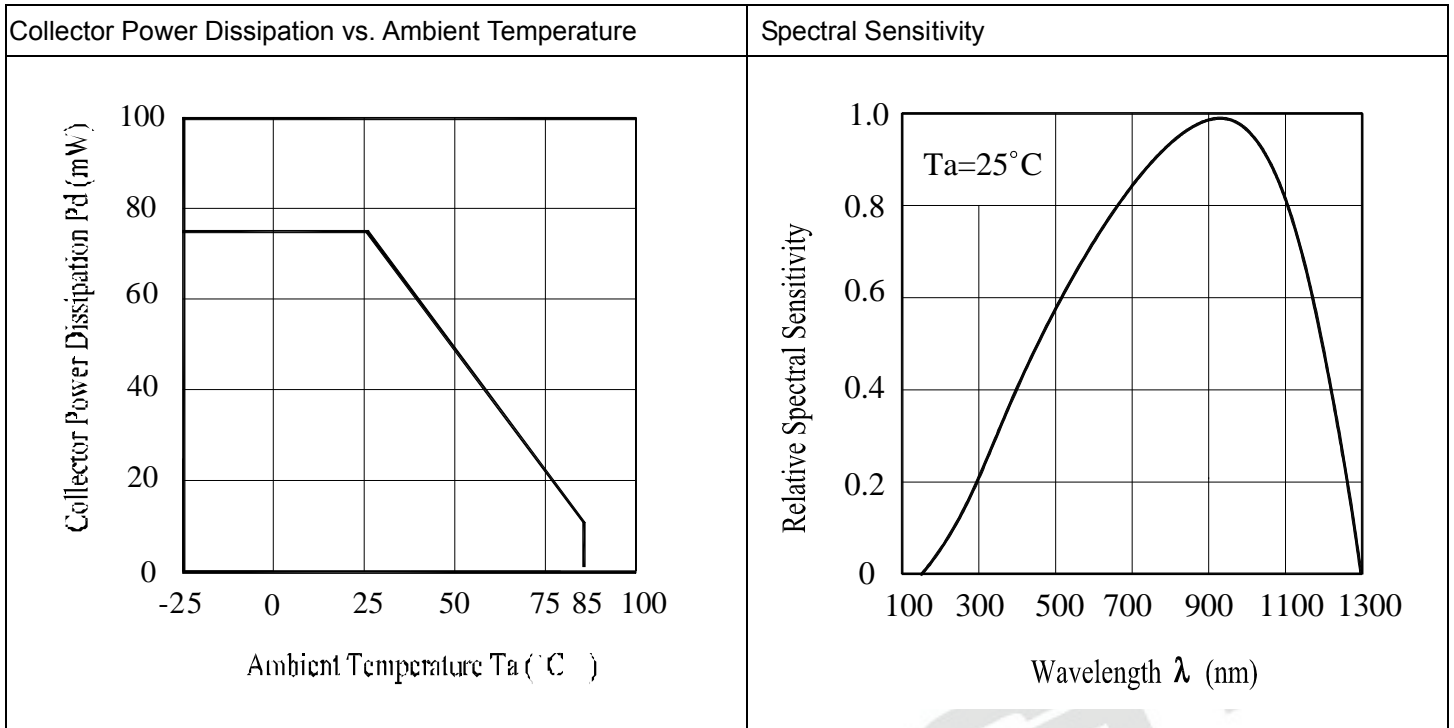
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	$V_F$	---	1.2	1.5	V	$I_F=20mA$
	Reverse Current	$I_R$	---	---	10	$\mu A$	$V_R=5V$
	Peak Wavelength	$\lambda_P$	---	940	---	nm	$I_F=20mA$
Output	Dark C urrent	$I_{CEO}$	---	---	100	nA	$V_{CE}=20V, E_e=0mW/cm^2$
	C-E Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=2mA, E_e=1mW/cm^2$
Transfer Characteristics	Collect Current	$I_C(ON)$	0.5	---	---	mA	$V_{CE}=5V, I_F=20mA$
	Rise time	$t_r$	---	15	---	$\mu sec$	$V_{CE}=5V, I_C=1mA, R_L=1K\Omega$
	Fall time	$t_f$	---	15	---	$\mu sec$	



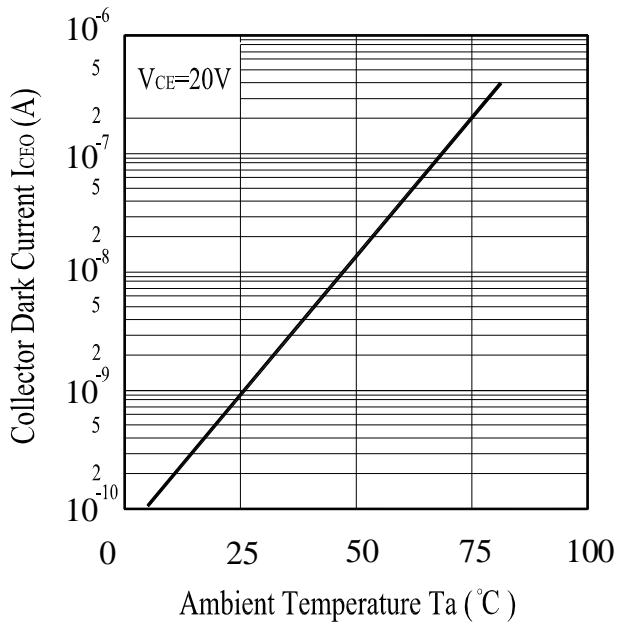
**Typical Electrical/Optical/Characteristics Curves for IR**



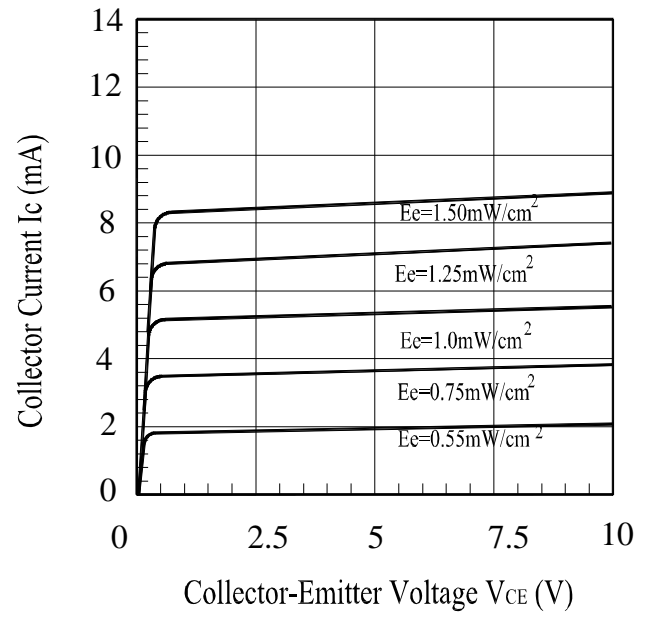
Typical Electrical/Optical/Characteristics Curves for PT



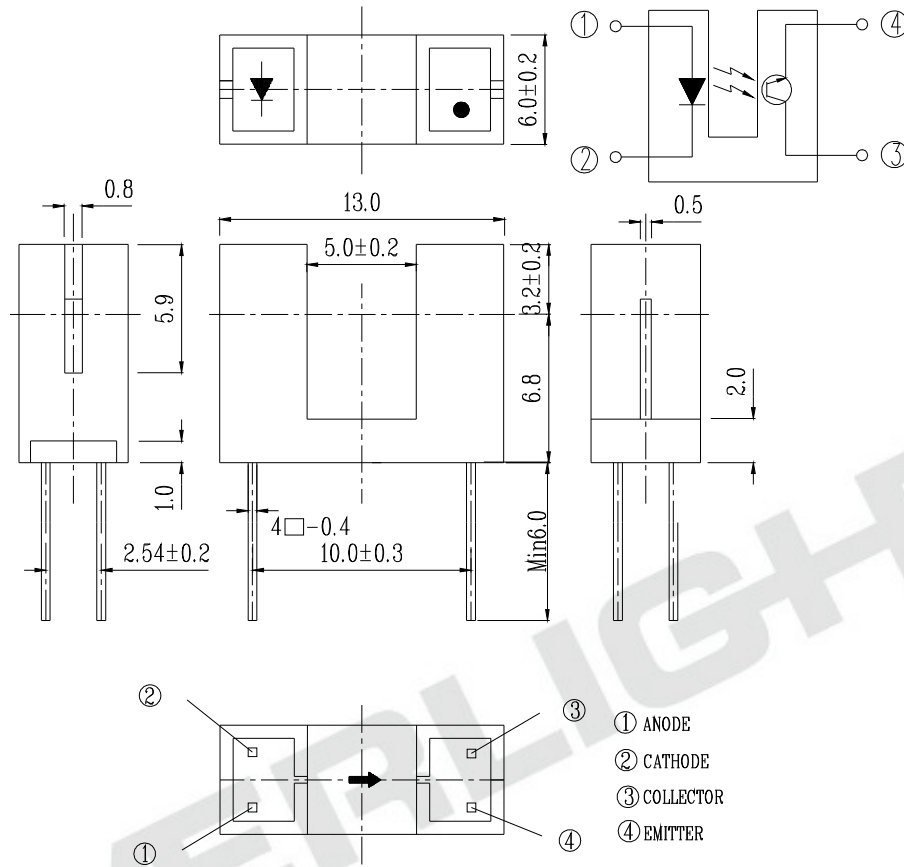
Collector Dark Current vs. Ambient Temperature



Collector Current vs. Collector-Emitter Voltage



Package Dimension



Note: Tolerances unless dimensions ±0.25mm