

Opto Interrupter ITR9909

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
- Copliance with EU REACH
- Compliance Halogen Free. (Br<900 ppm , Cl<900ppm , Br+Cl<1500ppm)

Description

- The ITR9909 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 IR 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 IR and PT

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	Blue
PT	Silicon	Black

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 (*1) Pulse width ≤ 100μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	Pd	75	mW
	Collector Current	I _C	50	mA
	Collector-Emitter Voltage	B V _{CEO}	30	V
	Emitter-Collector Voltage	B V _{ECO}	5	V
Operating Temperature		T _{opr}	-25~+85	°C
Storage Temperature		T _{stg}	-40~+85	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		T _{sol}	260	°C

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

Electro-Optical Characteristics (Ta=25°C) 业务技术咨询：TEL/微信: 13422876592

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	VF	---	1.2	1.5	V	$I_F=20\text{mA}$
			---	1.4	1.85		$I_F=100\text{mA}$, $t_p=100\mu\text{s}$, $t_p/T=0.01$
			---	2.6	4.0		$I_F=1\text{A}$, $t_p=100\mu\text{s}$, $t_p/T=0.01$
	Reverse Current	I_R	---	---	10	μA	$V_R=5\text{V}$
	Peak Wavelength	λ_P	---	940	---	nm	$I_F=20\text{mA}$
Output	Dark Current	I_{CEO}	---	---	100	nA	$V_{CE}=20\text{V}$, $E_e=0\text{mW/cm}^2$
	C-E Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=2\text{mA}$ $E_e=1\text{mW/cm}^2$
Transfer Characteristics	Collect Current	$I_C(ON)$	200	---	---	μA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
	Rise time	t_r	---	15	---	μsec	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$ $R_L=1000\Omega$
	Fall time	t_f	---	15	---	μsec	

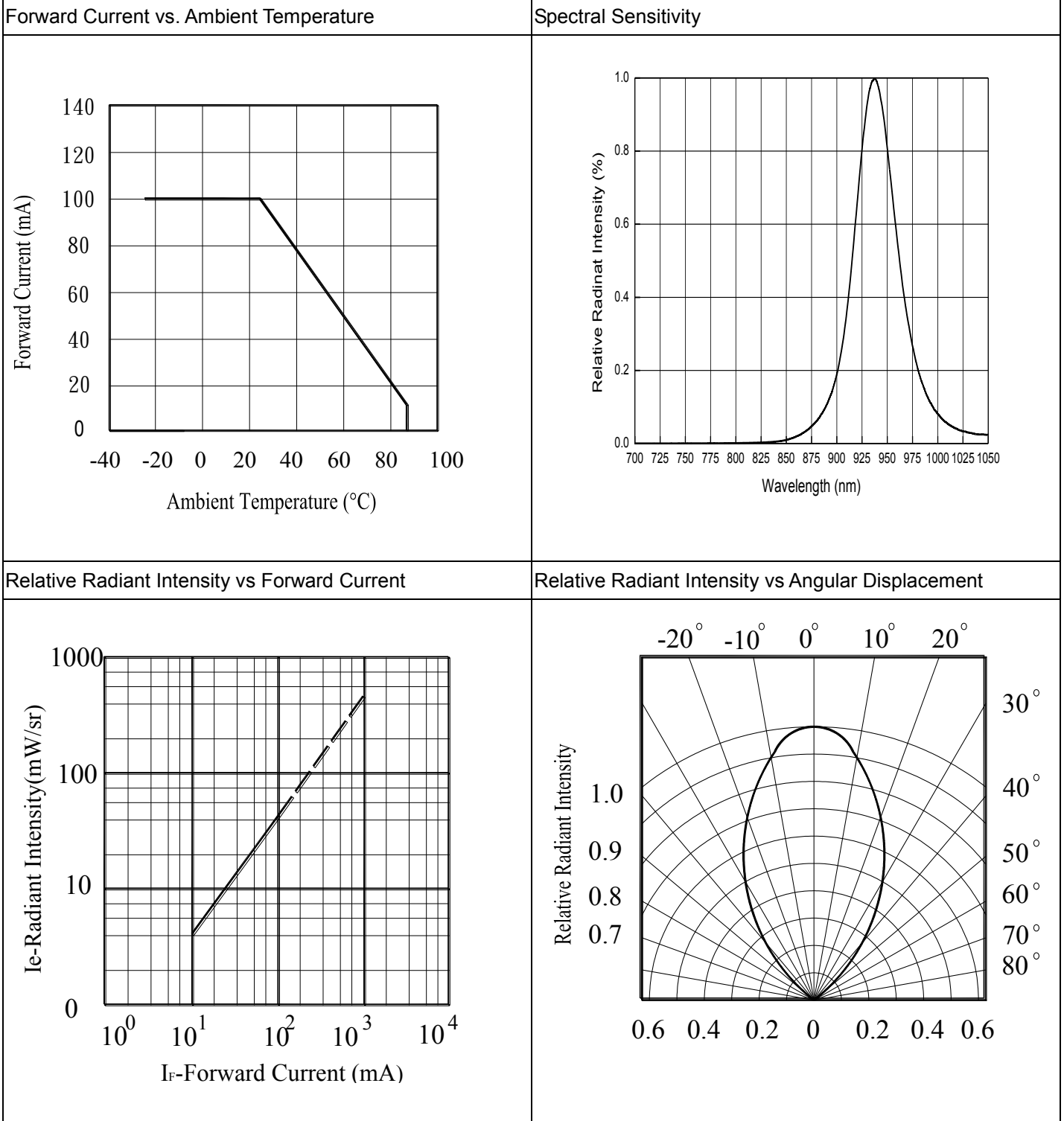
Note:

*Measurement Uncertainty of Forward Voltage: $\pm 0.1\text{V}$

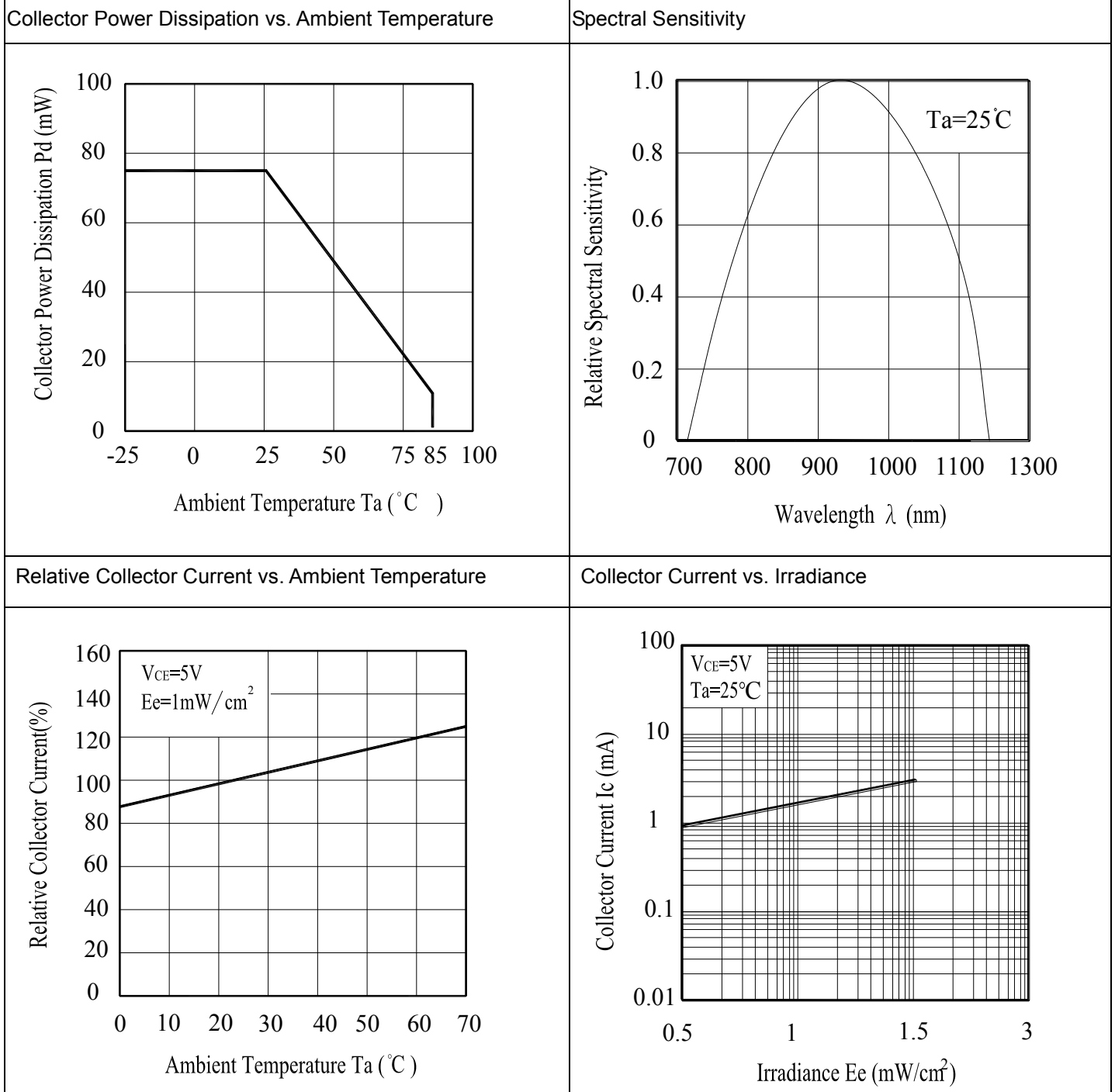
*Measurement Uncertainty of Luminous Intensity: $\pm 10\%$

*Measurement Uncertainty of Dominant Wavelength $\pm 1.0\text{nm}$

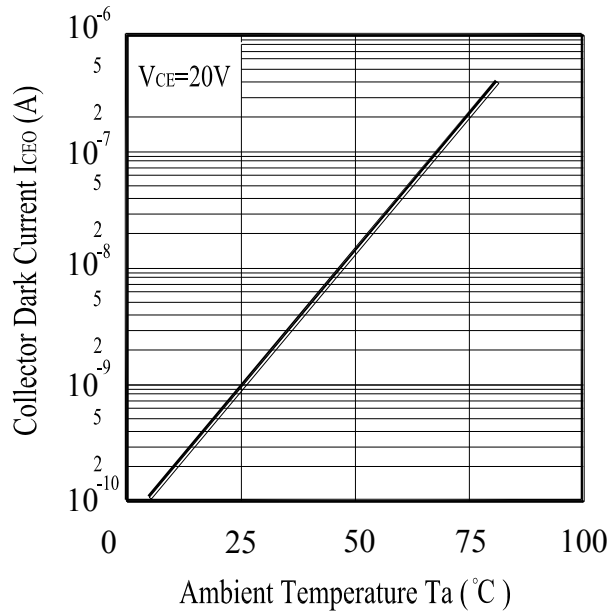
Typical Electrical/Optical/Characteristics Curves for IR



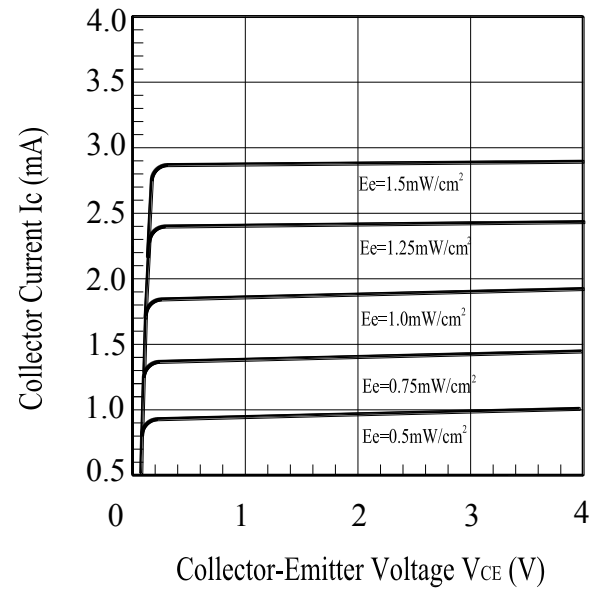
Typical Electrical/Optical/Characteristics Curves for PT



Collector Dark Current vs. Ambient Temperature

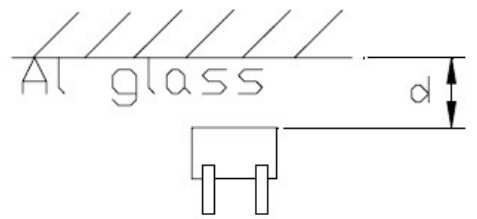
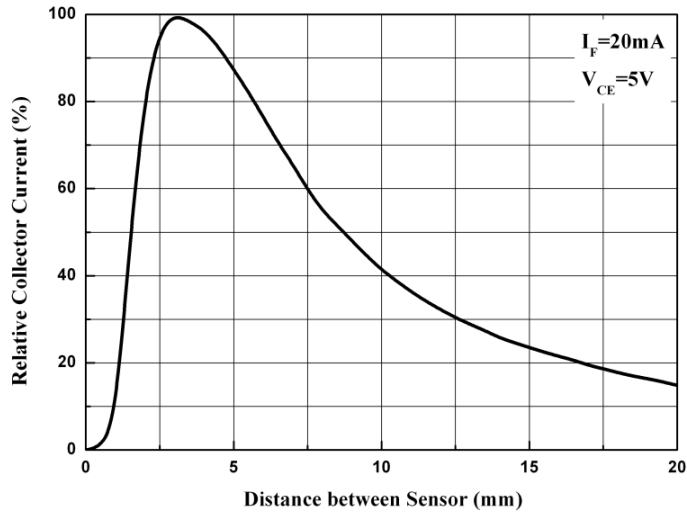


Collector Current vs. Collector-Emitter Voltage

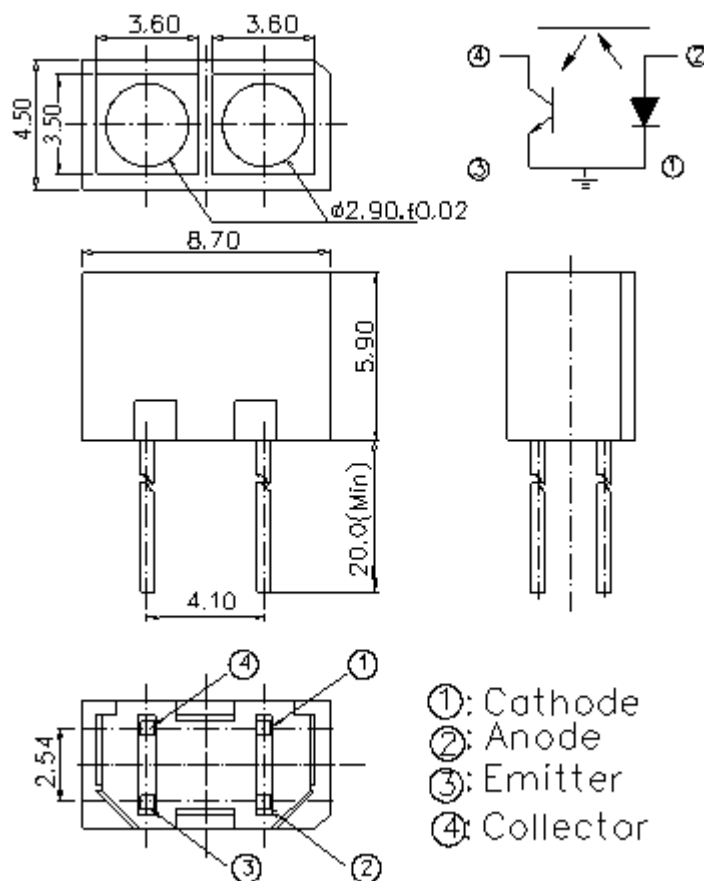


Typical Electrical/Optical/Characteristics Curves for ITR

Relative Collector Current vs Distance Between Sensor



Package Dimension

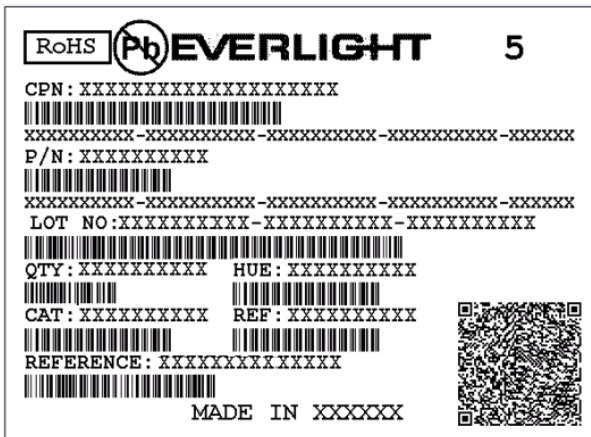


Note: Tolerances unless dimensions ± 0.25 mm

Packing Quantity Specification

- 1.150PCS/1 Bag, 5 Bags/1Box
- 2. 10Boxes/1Carton

Label Form Specification



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

DISCLAIMER

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
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