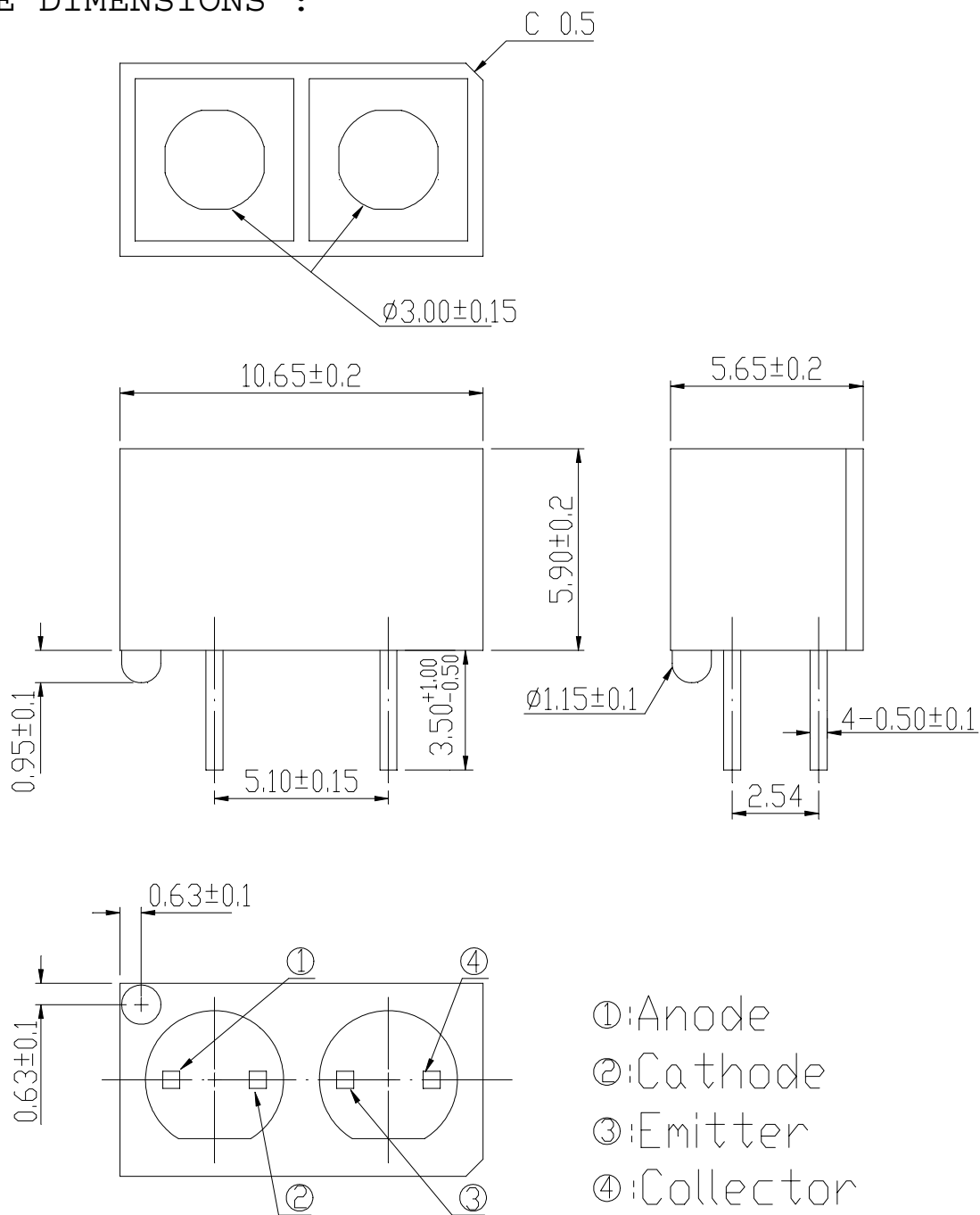


■ PACKAGE DIMENSIONS :



DESIGNER	CHECKER	APPROVED

Office: NO 25, Lane 76, Chung Yang Rd, ,Sec.3
 Tucheng, Taipei 236, Taiwan, R.O.C.
 TEL: 886-2-2267-2000, 2267-9936 (22Lines)
 FAX: 886-2-2267-6189

DESCRIPTION

The **ITR9908** 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 **IR204/L10** and **PT204-6B**.

FEATURES

ITR:

- Fast response time
- High analytic
- Cut-off visible wavelength $\lambda_p=840\text{nm}$
- High sensitivity

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter		Symbol	Rated	Unit
Input	Power Dissipation	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	60	mA
	Peak Forward Current (*1)	I _{FP}	1	A
Output	Collector Power Dissipation	PC	100	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	V _{CE}	20	V
	Emitter-Collector Voltage	V _{EC}	5	V
Operating Temperature		Topr	-25~+85	°C
Storage Temperature		Tstg	-25~+85	°C
Soldering Temperature (*2)		Tsol	260	°C

(*1) tw=100 μsec. , T=10 msec. (*2) t=5 Sec

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V _{F1}	-	1.2	1.5	V	I _F =20mA
		V _{F2}	-	1.4	1.85	V	I _F =100mA
		V _{F3}	-	2.6	4.0	V	I _F =1A
	Reverse Current	I _R	-	-	10	μA	V _R =5V
	Peak Wavelength	λ _P	-	940	-	nm	-
	View Angle	2 ³ 1/2	-	35	-	Deg	I _F =20mA
Output	Dark Current	I _{CEO}	-	-	100	nA	V _{CE} =10V
	C-E Saturation Voltage	V _{CE (sat)}	-	-	0.4	V	I _C =2mA I _B =0.1mA
Collector Current		I _{C (ON)}	0.5	-	20	mA	V _{CE} =3V
Leakage Current		I _{CEOD}	-	-	1	μA	I _F =40mA
Rise time		t _R	-	25	-	μsec	V _{CE} =2V
Speed	Fall time	t _F	-	25	-	μsec	I _C =100 μA R _L =1KΩ

TYPICAL CHARACTERISTICS FOR IR

Fig. 1 Forward Current vs. Ambient Temperature

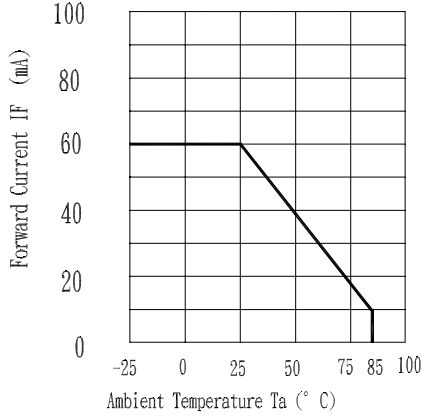


Fig. 2 Spectral Distribution

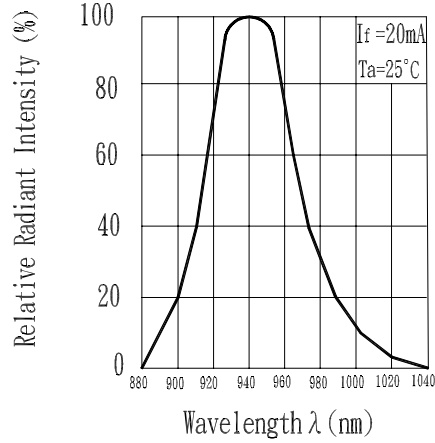


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

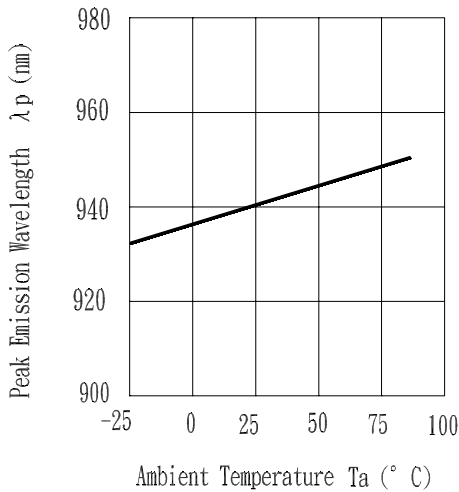


Fig. 4 Forward Current vs. Forward Voltage

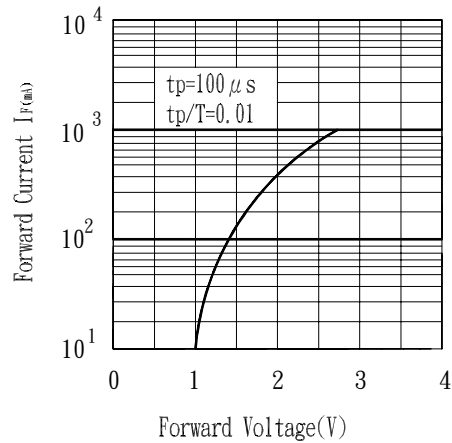


Fig. 5 Relative Intensity vs. Forward Current

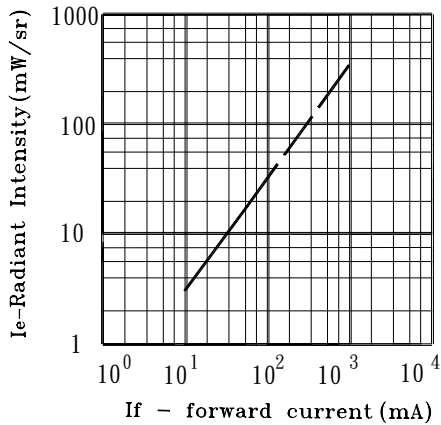
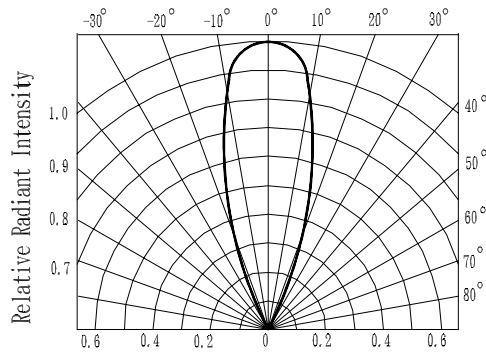
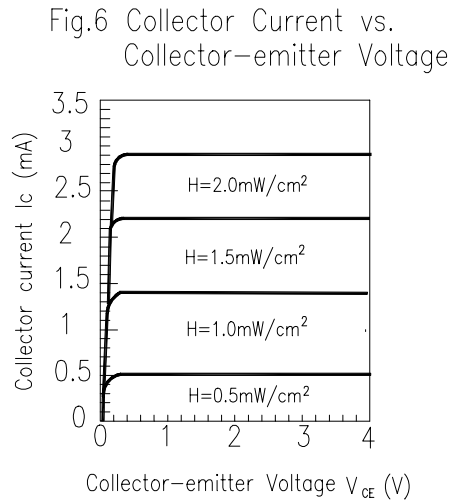
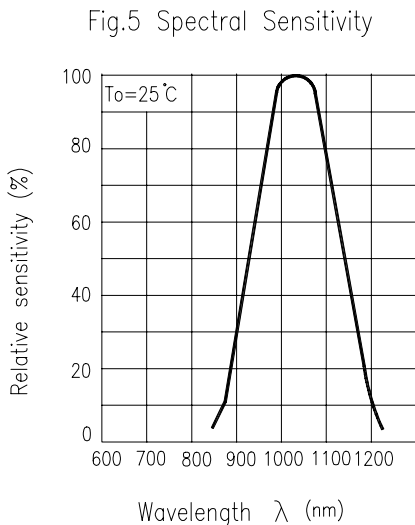
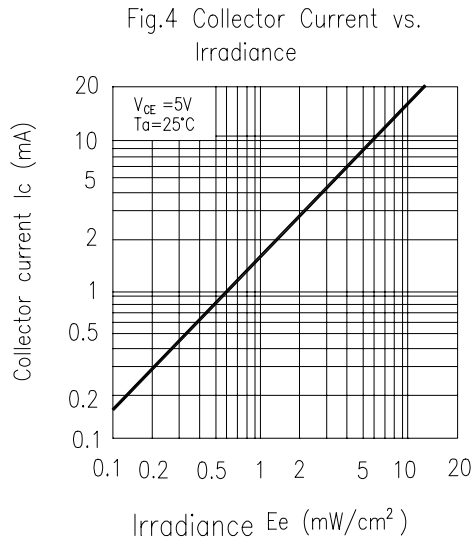
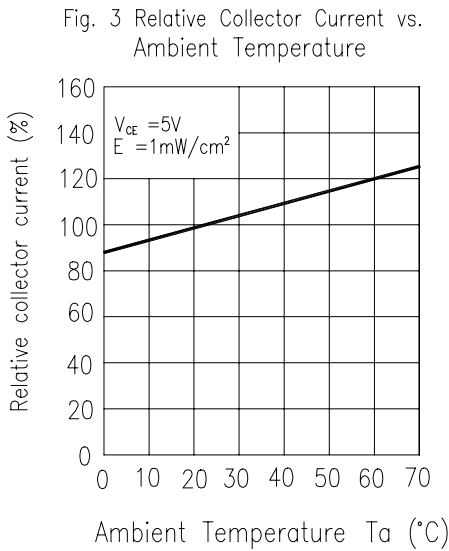
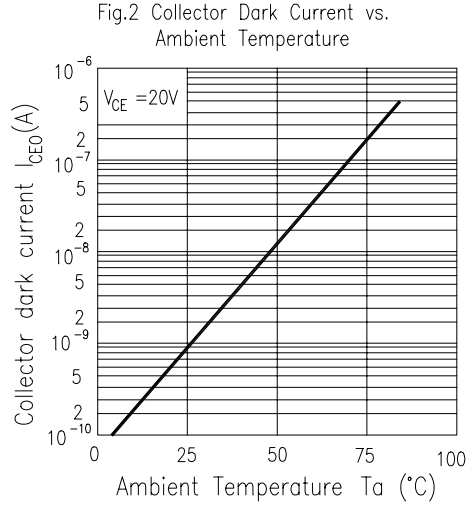
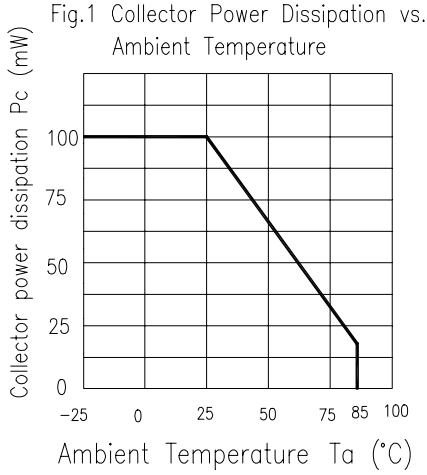


Fig. 6 Relative Radiant Intensity vs. Angular Displacement



TYPICAL CHARACTERISTICS FOR PT



Items	Purpose & Condition	Failure Judgement Criteria	Samples (n)
			Defective (c)
Operating Life	Evaluates product's endurance to prolonged electrical or temperature stresses. Standard test Condition: $V_{CE}=5V$ $I_F=20mA$ Time : 1000hrs	$I_R \geq U \times 2$ $I_c(on) \leq L \times 0.8$ $V_F \geq U \times 1.2$	n =22 , c=0
High Temperature High Humidity	Evaluates product's ability to withstand prolonged storage at high temperature and high humidity. Standard test Condition: Temperature: 85°C Relative humidity:85% Time : 1000hrs	U : Upper specification limit L : Lower specification limit	n =22 , c=0
Soldering Heat	Evaluates product's ability to withstand soldering heat Standard test conditions Solder temperature : 260±5°C Solder time : 10 seconds		n =22 , c=0

Supplement

1. Parts

(1) Chip

Type	Material	Peak Wavelength
IR	GaAlAs	940nm
PT	Silicon	860nm

(2) Material

Type	Lead frame	Wire	Package	Holder
ITR	SPCC	Gold	Epoxy	NORYL

PACKING SPECIFICATIONS

1. Bag

2. Box

3. Carton

Unit: cm

EVERLIGHT

CPN:
P/N:
ITR9908
QTY: 150
LOT NO:

CAT:
HUE:
REF:

MADE IN TAIWAN

CPN: Customer's product number
P/N: Product number
QTY: Packing quantity
CAT: Ranks
HUE: Peak wavelength
REF: Reference
LOT NO: Lot number
MADE IN TAIWAN: Production Place

Packing Quantity Specification

- 1. 200Pcs/1Bag
- 2. 6Bags/1Box
- 3. 10Boxes/1Carton