

Technical Data Sheet

Opto Interrupter

ITR20001/T24

■ Features

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



■ Descriptions

The **ITR20001/T24** 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 reflecting object close to ITR , phototransistor receives the reflecting radiation .For additional component information, please refer to IR2424-3C and PT2424-6B.

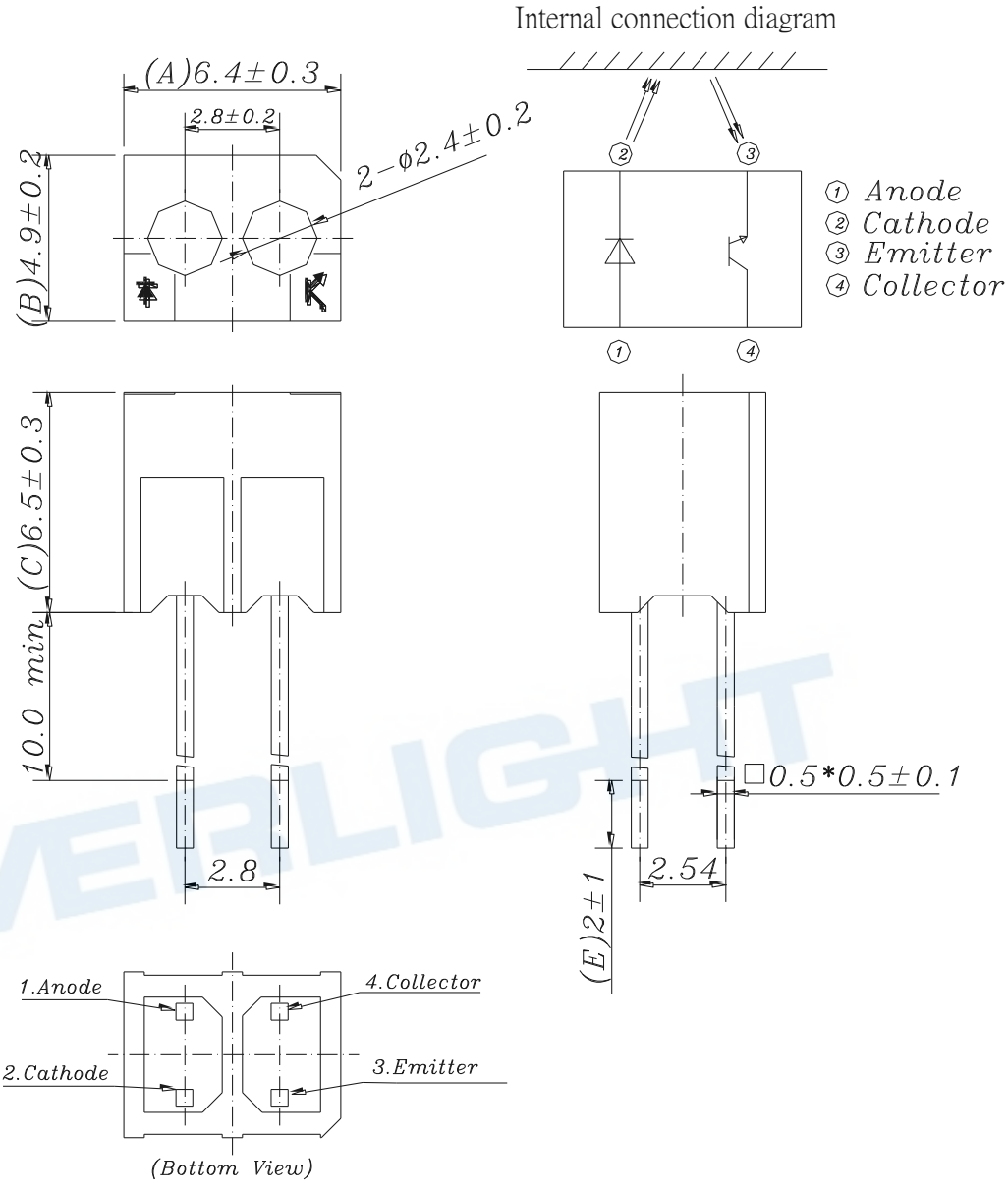
■ Applications

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

■ Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR2424-3C	GaAlAs	Water Clear
PT2424-6B	Silicon	Black

Package Dimensions



單位Unit : mm

圖中未標示的尺寸公差為 ± 0.20 mm

The tolerance not marked is ± 0.20 mm in the drawing.

標注前無英文字母為參考尺寸。

Dimensions without the English letter is just referenced.

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 ≤ 100 μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	75	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	B V _{CEO}	30	V
	Emitter-Collector Voltage	B V _{ECO}	5	V
Operating Temperature		Topr	-25~+85	°C
Storage Temperature		Tstg	-40~+100	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	°C

ITR20001/T24

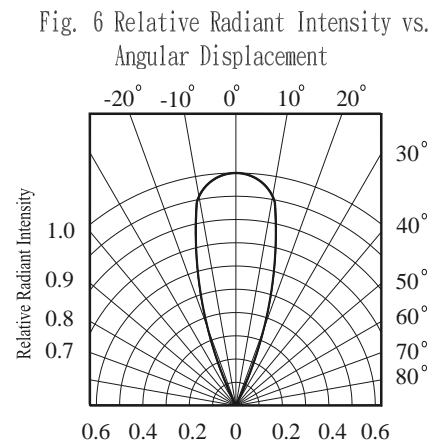
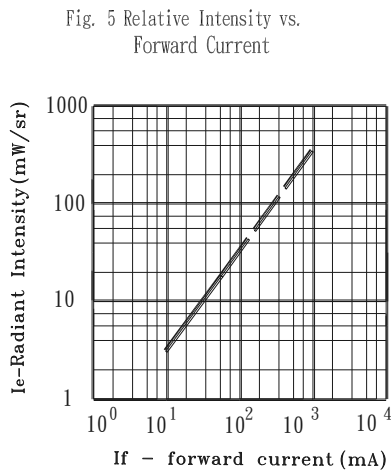
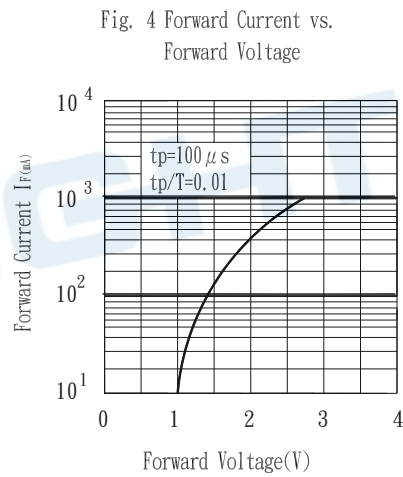
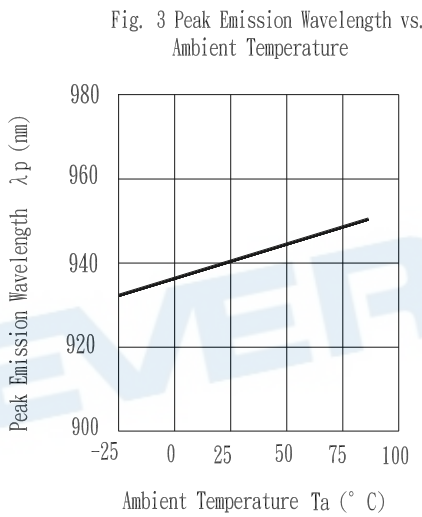
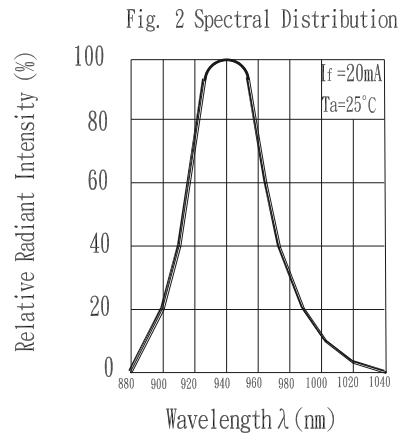
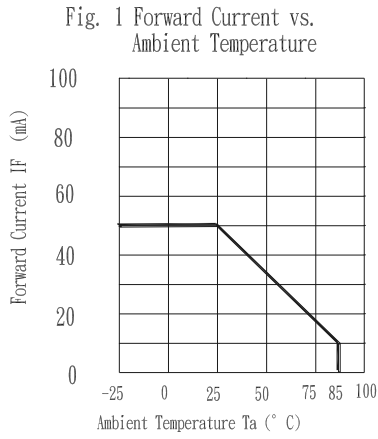
■ Electro-Optical Characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V _{F1}	-	1.2	1.5	V	I _F =20mA
		V _{F2}	-	1.4	1.8		I _F =100mA, tp=100 μs, tp/T=0.01
		V _{F3}	-	2.6	4.0		I _F =1A, tp=100 μs, tp/T=0.01
	reverse Current	I _R	-	-	10	μA	V _R =5V
	Peak Wavelength	λ _P	-	940	-	nm	I _F =20mA
	View Angle	2θ 1/2	-	35	-	Deg	I _F =20mA
Output	Dark Current	I _{CEO}	-	-	100	nA	V _{CE} =5V, Ee=0mW/cm ²
	C-E Saturation Voltage	V _{CE(sat)}	-	-	0.4	V	I _C =0.04mA, I _F =40mA
Collector Current(*3)		I _{C(ON) L}	400	-	900	μA	V _{CE} =2V, I _F =10mA
		I _{C(ON) K}	800	-	1800	μA	
		I _{C(ON) J}	1600	-	3600	μA	
		I _{C(OFF)}	-	-	2	μA	
Response Time	Rise Time	t _R	-	25	-	μs	V _{CE} =5V, I _C =100 μA , R _L =100Ω
	Fall Time	t _F	-	25	-	μs	

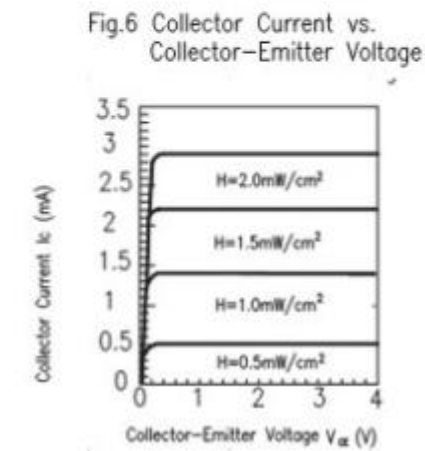
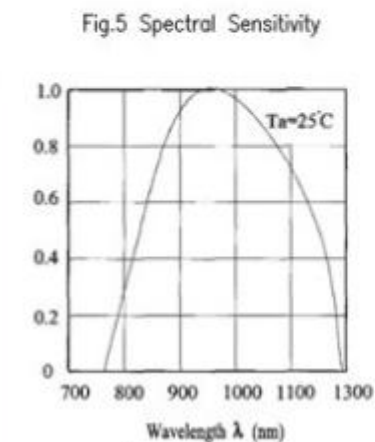
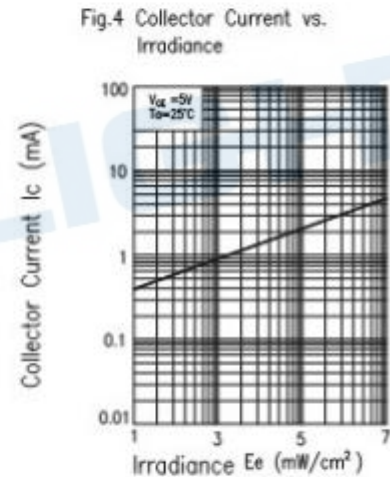
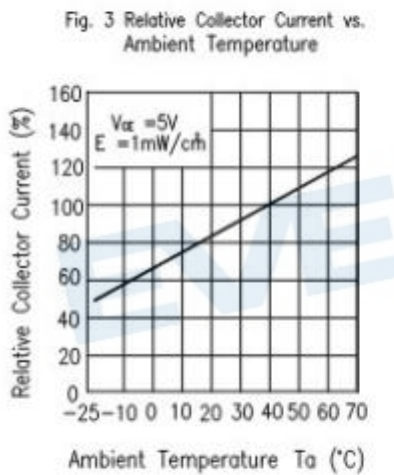
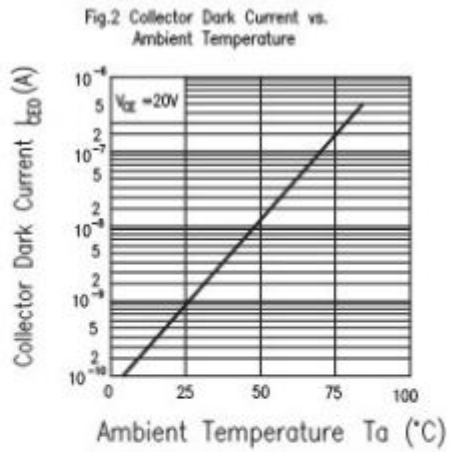
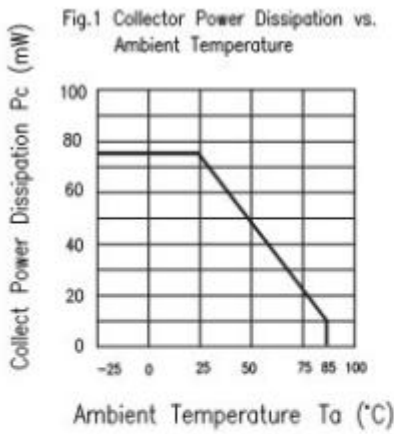
(*3) I_{C(on)} at the testing condition— with reflector in 5mm away,

I_{C(off)} at the testing condition— without reflector and external light less than 10 Lux at the module surface.

Typical Electrical/Optical/Characteristics Curves for IR



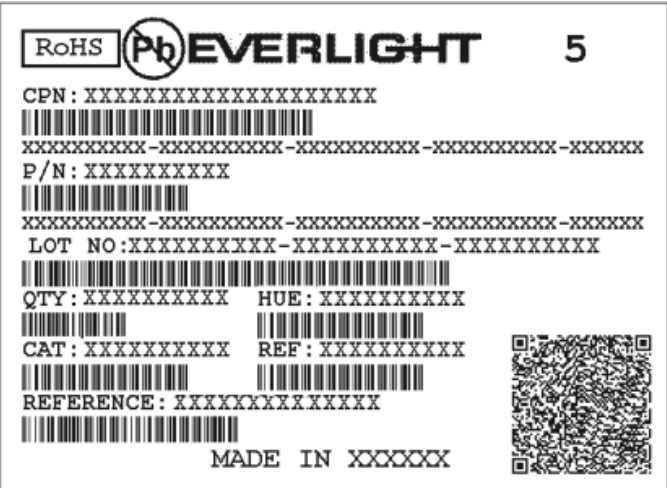
Typical Electrical/Optical/Characteristics Curves for PT



Packing Quantity Specification

- 1.200PCS/1Bag, 6Bags/1Box
- 2. 10Boxes/1Carton

Label Form Specification



CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number

Notes

- 1.All dimensions are in millimeters
- 2.Tolerances unless dimensions $\pm 0.2\text{mm}$
- 3.Lead spacing is measured where the lead emerge from the package
- 4.Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification
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