



DATA SHEET

MODEL NO : ITR9803

DATE : 07, 21, 2005

DEPARTMENT : R&D 2

REVISION : 2

RECEIVED			
<input checked="" type="checkbox"/> MASS PRODUCTION			
<input type="checkbox"/> PRELIMINARY			
<input type="checkbox"/> CUSTOMER DESIGN			
DEVICE NUMBER : DRX-803-075			
PAGE :7			
CUSTOMER	DESIGNER	CHECKER	APPROVER

REV	DESCRIPTION	RELEASE DATE

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<http://www.everlight.com>



EVERLIGHT ELECTRONICS CO., LTD.

DEVICE NUMBER : DRX-803-075

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Photointerrupter

MODEL NO : ITR9803

■ Features :

- Wide gap between light emitter and detector(6.0mm)
- High sensing accuracy
- PWB mounting type package
- Pb free
- The product itself will remain within RoHS compliant version.

■ Description :

The **ITR9803** is a gallium arsenide infrared emitting diode coupled with a silicon dual photo transistor. The gap provides a means of interruption.

■ Applications :

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

PART NO.	CHIP	LENS COLOR
	MATERIAL	
IR	GaAs	CLEAR
PT	Silicon	CLEAR



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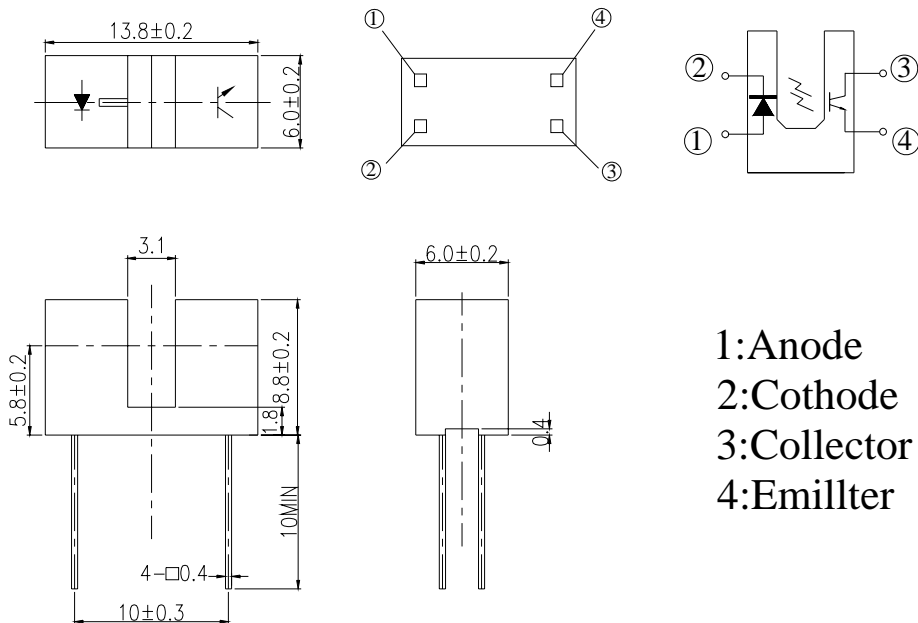
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Package Dimension :



Notes :

- 1.All dimensions are in millimeter.
- 2.General tolerance: ± 0.1 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.
- 5.These specification sheets include materials protected under copyright of EVERLIGHT corporation . Please don't reproduce or cause anyne to reproduce them without EVERLIGHT's consent.
- 6.When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERIGHT 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.



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■ 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 ≤ 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	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)

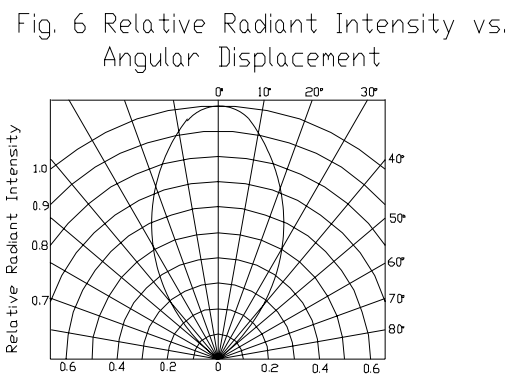
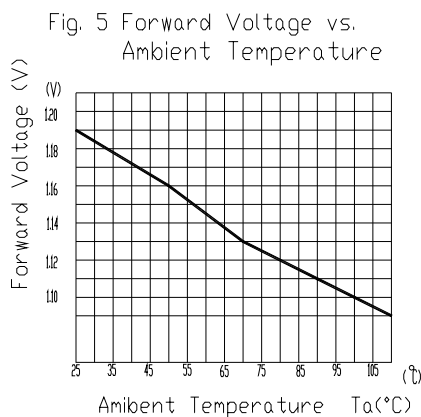
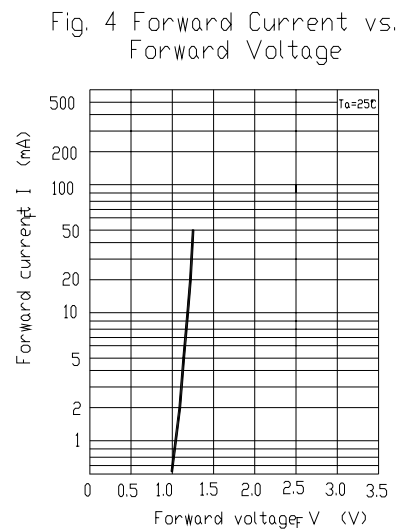
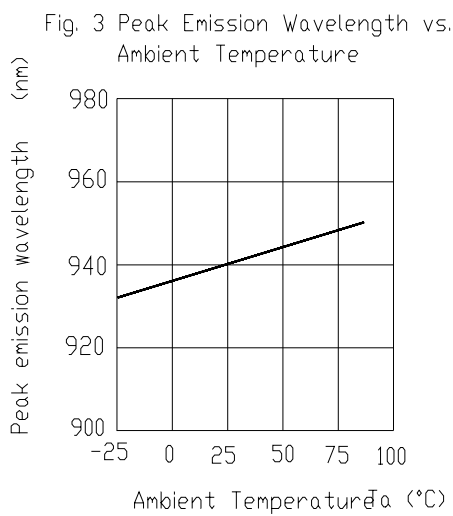
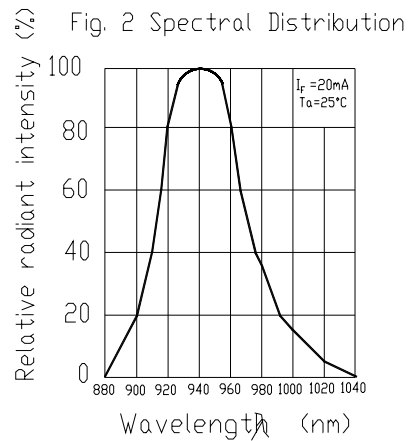
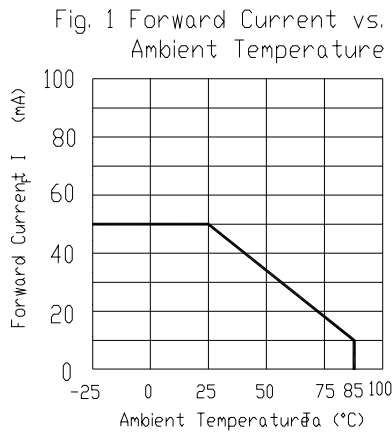
Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V _F	-	1.2	1.5	V	I _F =20mA
	Reverse Current	I _R	-	-	10	μA	V _R =5V
	Peak Wavelength	λ _P	-	940	-	nm	I _F =20mA
	View Angle	2□1/2	-	60	-	Deg	I _F =20mA
Output	Collector Dark Current	I _{CEO}	-	-	100	nA	V _{CE} =20V Ee=0mW/cm ²
Transfer 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	1.5	2.0	mA	V _{CE} =5V I _F =20mA
	Rise time	t _r	-	20	-	μsec	V _{CE} =5V
	Fall time	t _f	-	20	-	μsec	I _C =100 μA R _L =1KΩ



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Typical Electrical/Optical/Characteristics Curves For IR



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■ Typical Electrical/Optical/Characteristics Curves For PT

Fig.1 Collector Power Dissipation vs. Ambient Temperature

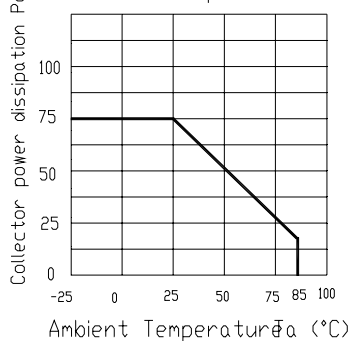


Fig.2 Collector Dark Current vs. Ambient Temperature

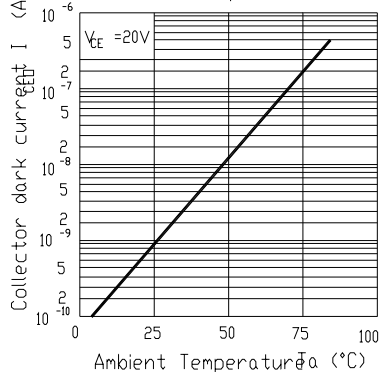


Fig.3 Spectral Sensitivity

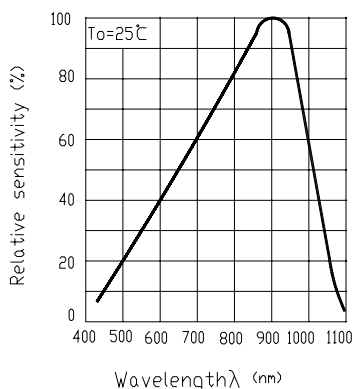
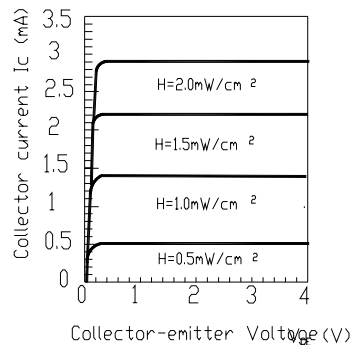


Fig.4 Collector Current vs. Collector-emitter Voltage



■ Typical Electrical/Optical/Characteristics Curves For ITR

Fig.1 Relative Collector Current vs. Shield Distance(1)

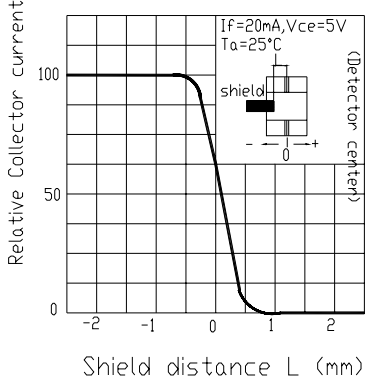
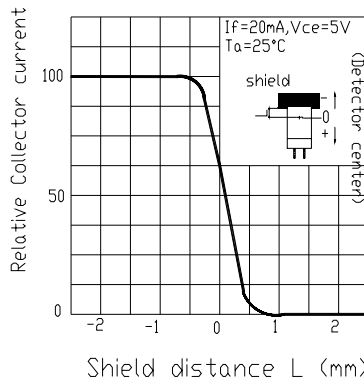


Fig.2 Relative Collector Current vs. Shield Distance(2)





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■ Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level:90%

LTPD:10%

NO.	Item	Test Conditions	Test Hours/ Cycle	Sample Size	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 sec	22 PCs	I _{c(on)} ≤ L×0.8 L :Lower specification limit	0/1
2	Temperature Cycle	H : +85°C 30 min ↑ 5 min ↓ L : -55°C 30 min	50 cycle	22 PCs		0/1
3	Thermal Shock	H : +100°C 5 min ↑ 10 sec ↓ L : -10°C 30 min	50 cycle	22 PCs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22 PCs		0/1
5	Low Temperature Storage	TEMP. : -55°C	1000 hrs	22 PCs		0/1
6	DC Operating Life	V _{CE} =5V	1000 hrs	22 PCs		0/1
7	High Temperature / High Humidity	85°C / 85% R.H.	1000 hrs	22 PCs		0/1



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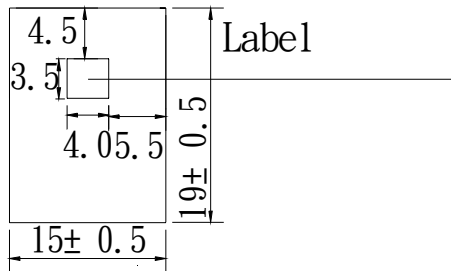
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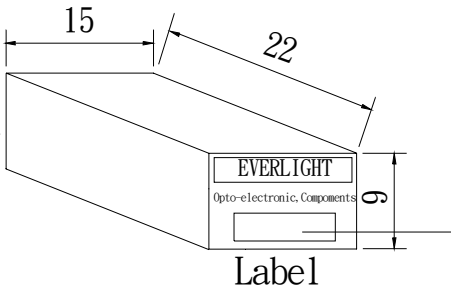
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■ Packing Specifications

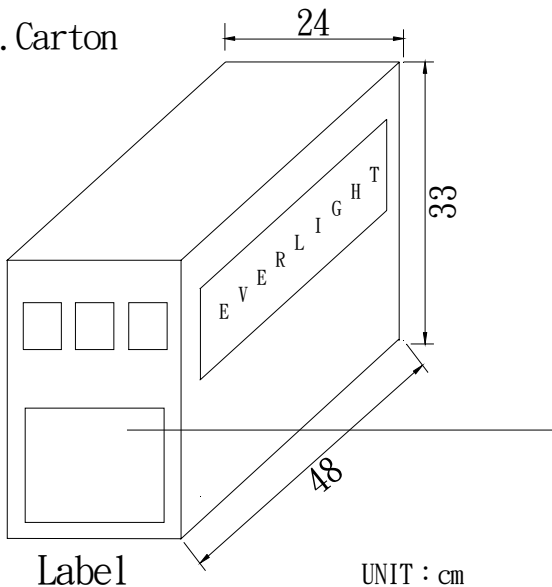
1. Bag



2. Box



3. Carton



UNIT : cm

EVERLIGHT

CPN:

P/N:



ITR9803

QTY:

CAT:



HUE:

REF:

LOT NO:

MADE IN TAIWAN

CPN : Customer's Production Number

P/N : Production Number

QTY : Packing Quantity

CAT : Ranks

HUE : Peak Wavelength

REF : Reference

LOT NO : Lot Number

MADE IN TAIWAN : Production place

■ Packing Quantity Specification

1.150Pcs/1Bag , 4Bags/1Box

2.10Boxes/1Carton