



PARA LIGHT ELECTRONICS CO., LTD.

11F., No. 8, Jiankang Rd., Zhonghe Dist., New Taipei City 235, Taiwan

Tel: 886-2-2225-3733

Fax: 886-2-2225-4800

E-mail: para@para.com.tw

www.paralighttaiwan.com

DATA SHEET

PART NO.: ITR-T-0001

REV: A / 3

CUSTOMER'S APPROVAL: _____

DCC: _____

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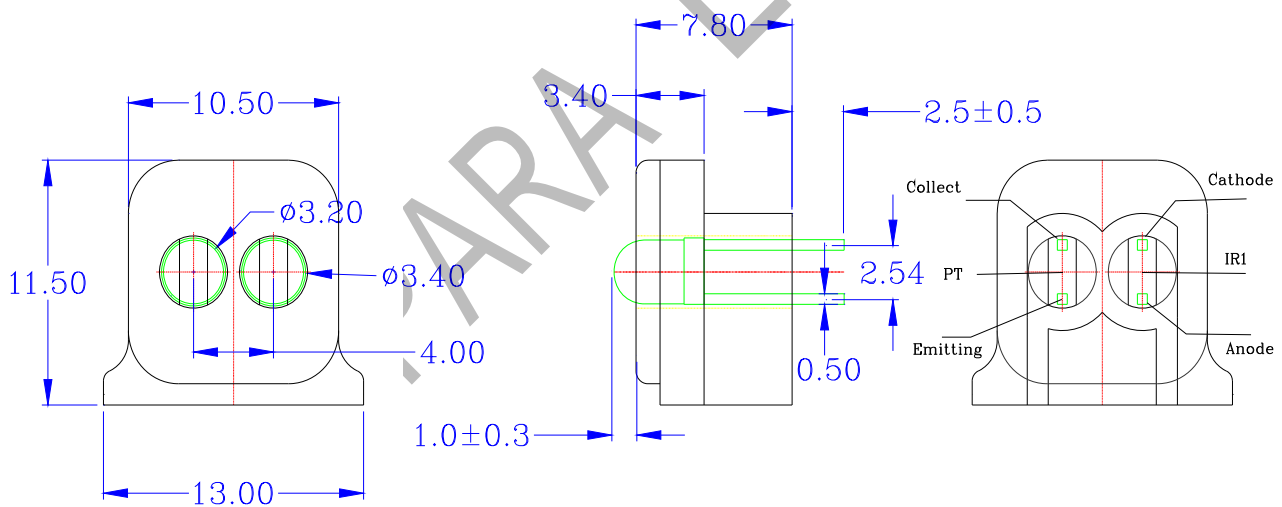
■ Descriptions

The ITR 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 IR and PT.

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

■ Package Dimensions



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions $\pm 0.25\text{mm}$



SURFACE MOUNT DEVICE LED

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Device Selection Guide

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

Absolute Maximum Ratings (Ta=25°C)

		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	45	mW
	Reverse Voltage	VR	5	V
	Forward Current	IF	30	mA
	Peak Forward Current (*1) Pulse width ≤ 100μs, Duty cycle=1%	IFP	1	A
Output	Collector Power Dissipation	Pd	45	mW
	Collector Current	IC	30	mA
	Collector-Emitter Voltage	B VCEO	30	V
	Emitter-Collector Voltage	B VECO	5	V
Operating Temperature		Topr	-40~+85	°C
Storage Temperature		Tstg	-40~+85	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	°C

ELECTRO-OPTICAL CHARACTERISTICS : (Ta = 25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	VF	---	1.20 1.23	1.4 1.5	V	IF=20mA IF=30mA (Max)
	Reverse Current	IR	---	---	10	μA	VR=5V
	Peak Wavelength	λP	---	940	---	nm	IF=20mA
Output	Dark Current	ICEO	---	---	100	nA	VCE=5V, Ee=0mW/cm ²
	C-E Saturation	VCE(sat)	---	---	0.4	V	IC=2mA
	Voltage						Ee=1mW/cm ²
Transfer	Rise time	Tf	---	25	---	μsec	VCE=5V, IC=100uA ,RL=100Ω
	Fall time	Tr	---	25	---	μsec	VCE=5V, IC=100uA ,RL=100Ω

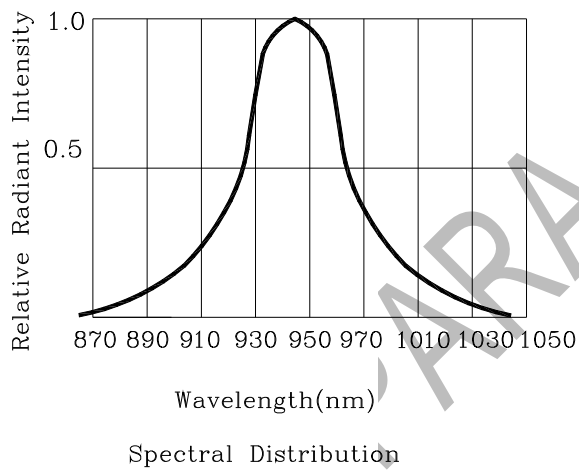
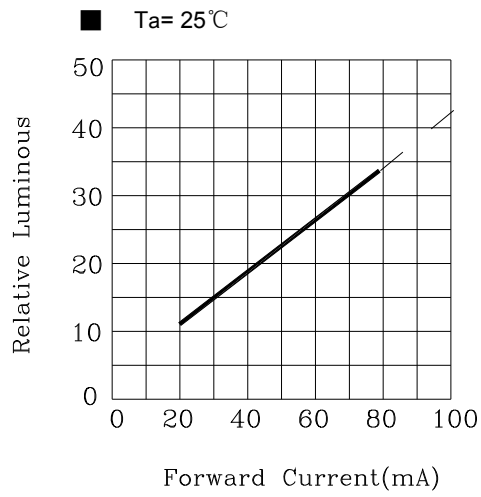
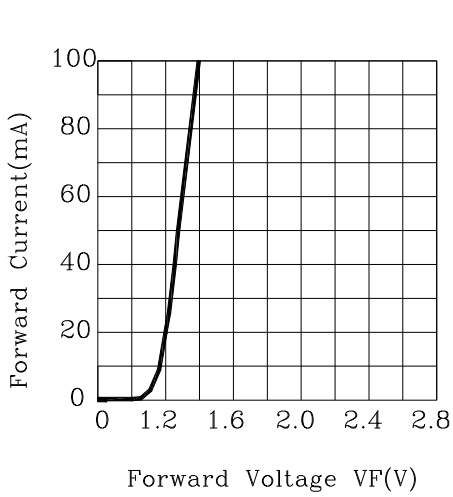


Fig. 1 Collector Power Dissipation vs. Ambient Temperature

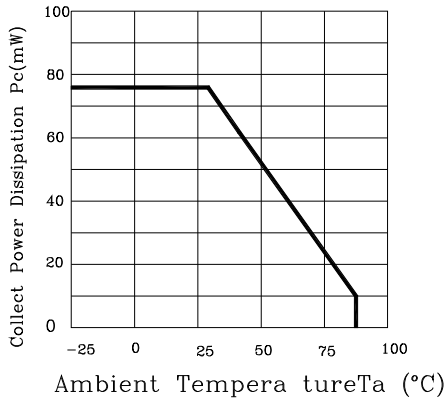


Fig. 2 Collector Dark Current vs. Ambient Temperature

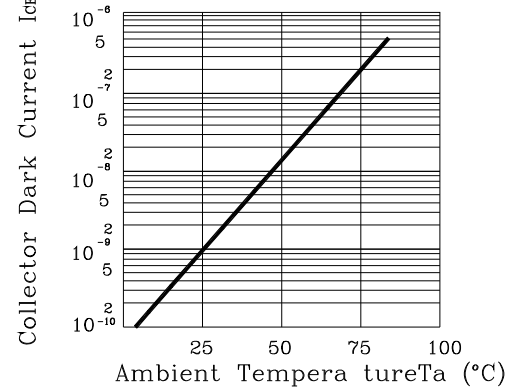


Fig. 3 Relative Collector Current vs. Ambient Temperature

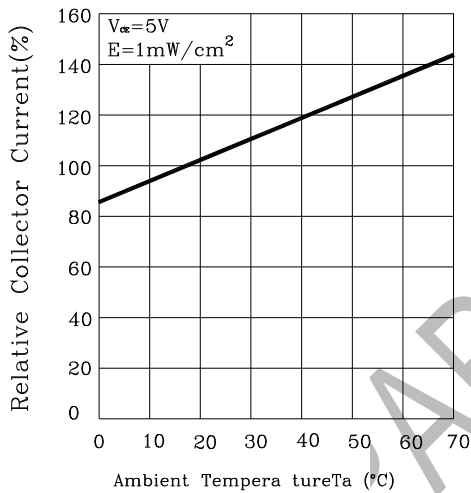


Fig. 4 Collector current vs Irradiance

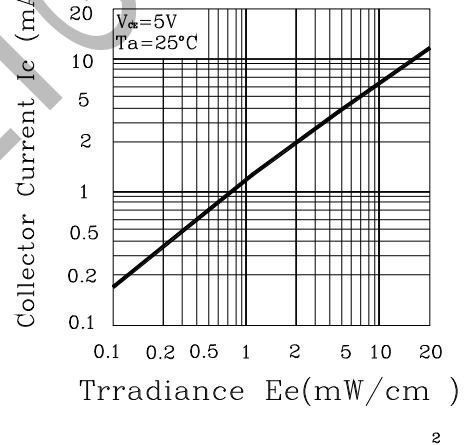


Fig. 5 Spectral Sensitivity

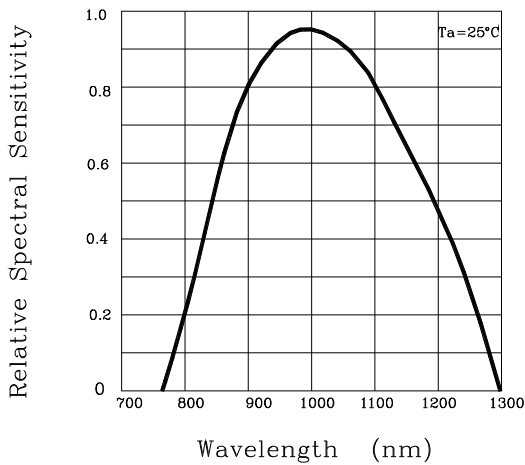
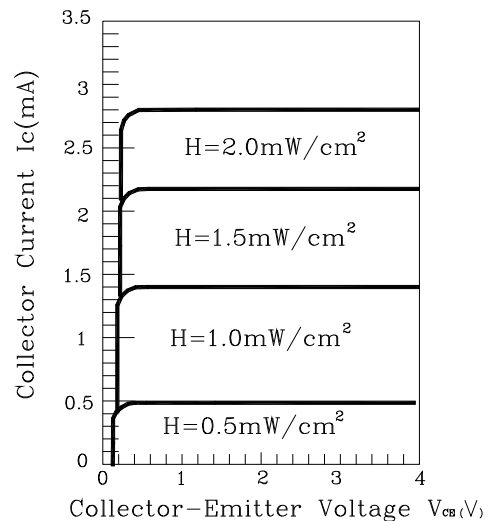


Fig. 6 Collector Current vs Collector-Emitter Voltage





SURFACE MOUNT DEVICE LED

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●OTHERS

- 1) Care must be taken to ensure that the reverse voltage will not exceed the absolute maximum rating when using the LEDs with matrix drive.
- 2) Flashing lights have been known to cause discomfort in people; you can prevent this by taking precautions during use. Also, people should be cautious when using equipment that has had LEDs incorporated into it.
- 3) The LEDs described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances). Consult PARA's sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipment, life support systems and safety devices).
- 4) User shall not reverse engineer by disassembling or analysis of the LEDs without having prior written consent from PARA. When defective LEDs are found, the User shall inform PARA directly before disassembling or analysis.
- 5) The formal specifications must be exchanged and signed by both parties before large volume purchase begins.
- 6) The appearance and specifications of the product may be modified for improvement without notice.