



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Technical Data Sheet Opto Interrupter EAITRDA8

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.



Description

The **EAITRDA8** 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 Material	LENS COLOR
IR	GaAlAs	Blue
PT	Silicon	Black

Absolute Maximum Ratings (Ta=25°C)

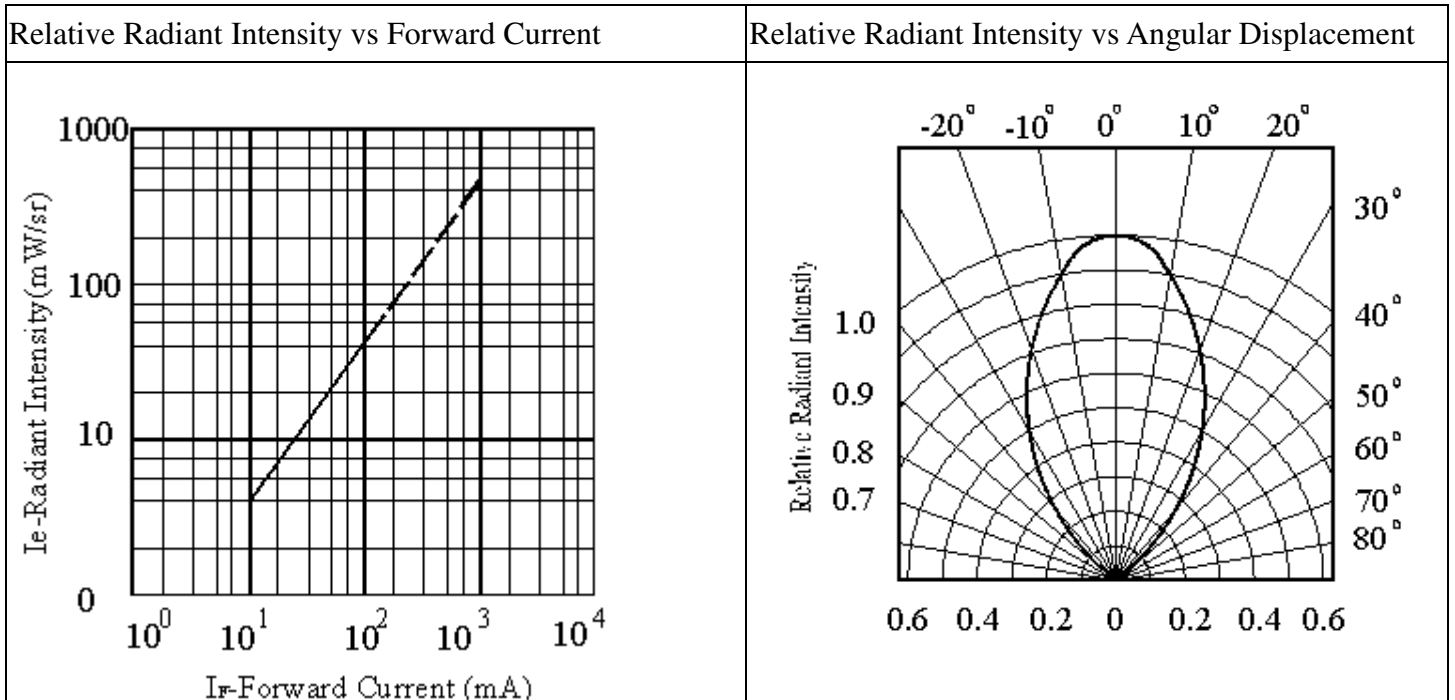
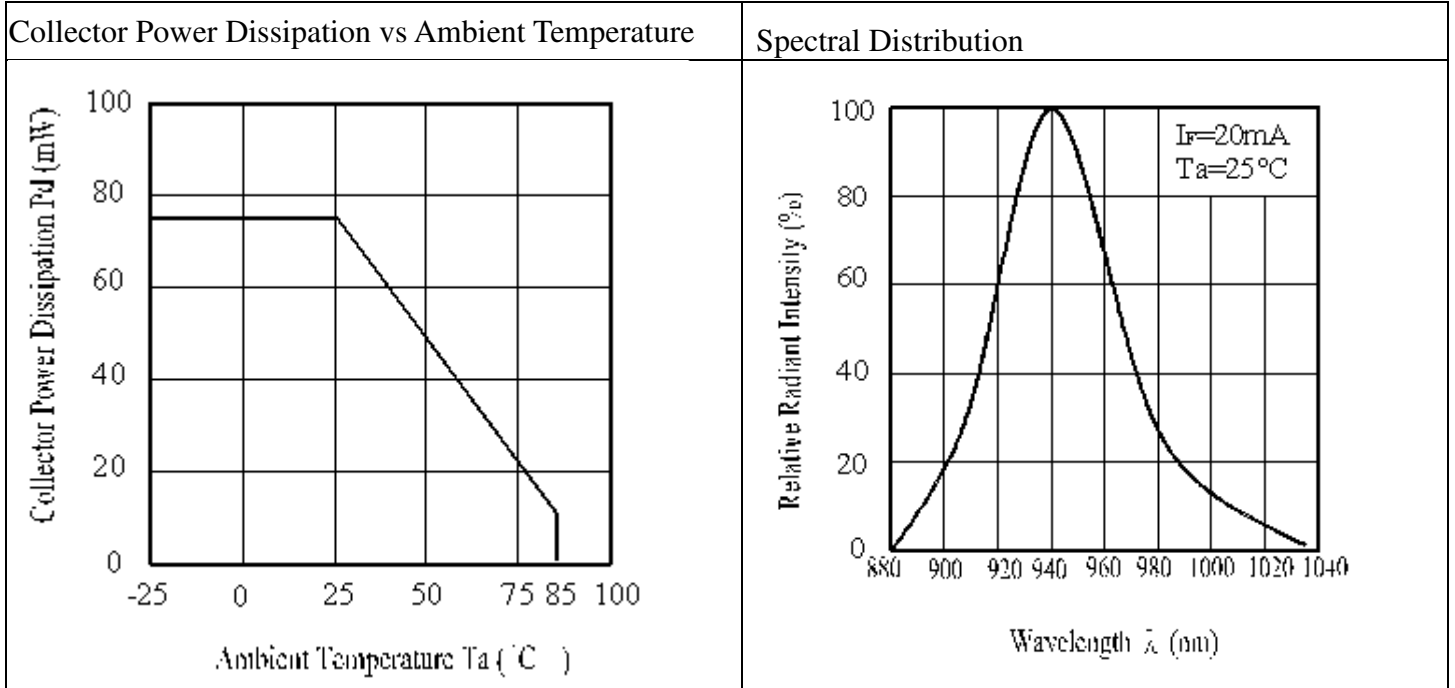
Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	100	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1) Pulse width ≤100μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _d	100	mW
	Collector Current	I _C	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

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

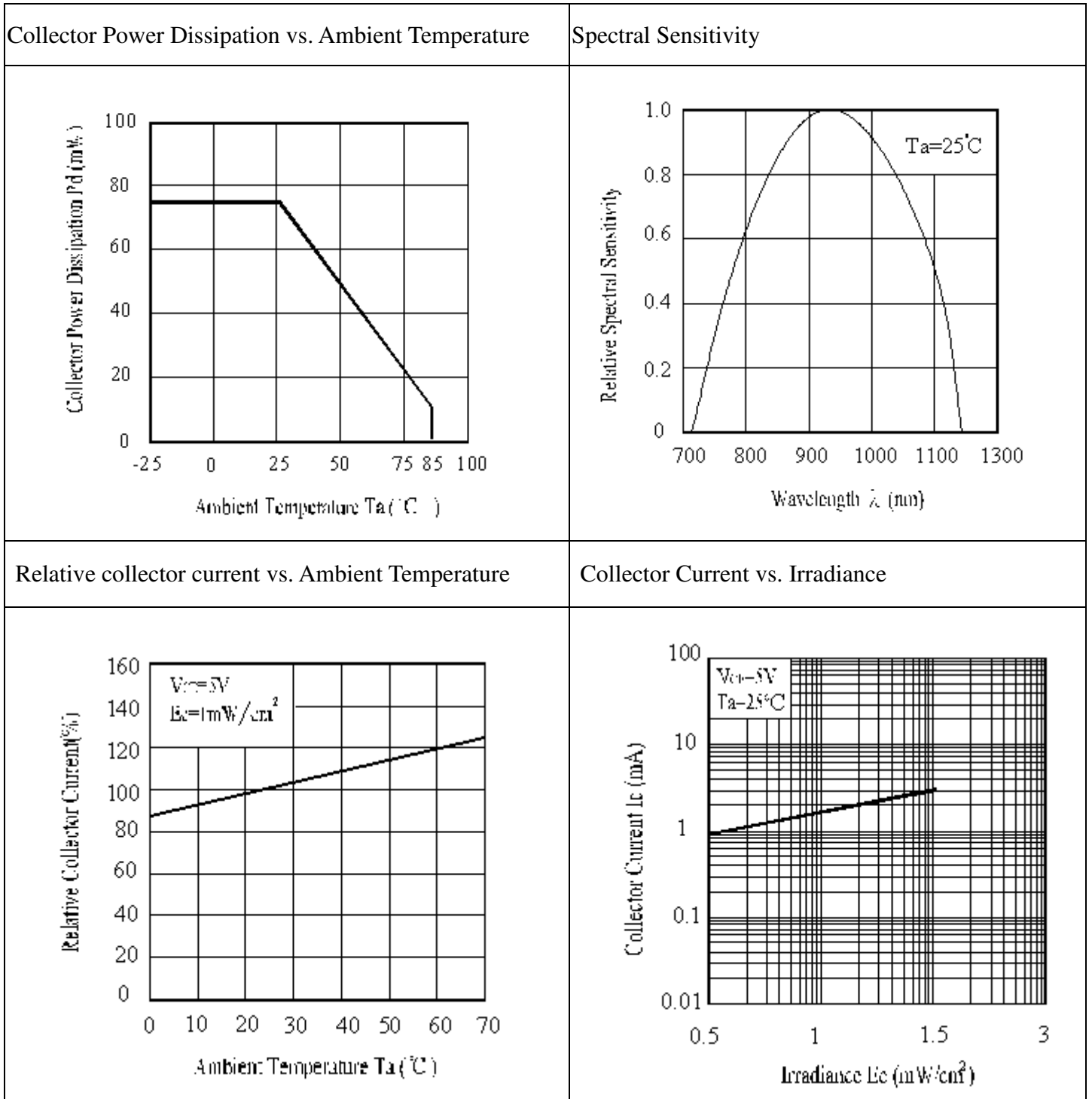
Electro-Optical Characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V_{F1}	-	1.2	1.5	V	$I_F=20mA$
		V_{F2}	-	1.4	1.85		$I_F=100mA, t_p=100\mu s, t_p/T=0.01$
		V_{F3}	-	2.6	4.0		$I_F=1A, t_p=100\mu s, t_p/T=0.01$
	Reverse Current	I_R	-	-	10	μA	$V_R=5V$
	Peak Wavelength	λ_P	-	940	-	nm	$I_F=20mA$
Output	Dark Current	I_{CEO}	-	-	100	nA	$V_{CE}=20V, E_e=0mW/cm^2$
	C-E Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C=2mA, E_e=1mW/cm$
Collector Current		$I_{C(ON)}$	200	-	-	μA	$V_{CE}=5V, I_F=20mA$
Response Time	Rise Time	t_R	-	15	-	μs	$V_{CE}=5V, I_C=1mA, R_L=1K\Omega$
	Fall Time	t_F	-	15	-	μs	

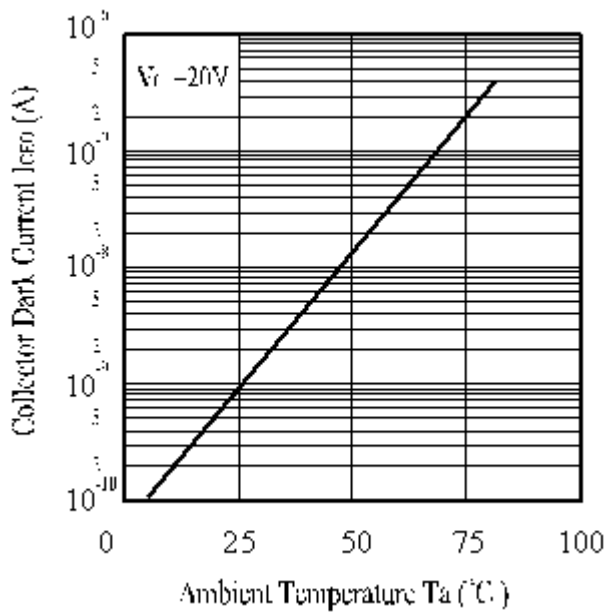
Typical Electrical/Optical/Characteristics Curves for IR



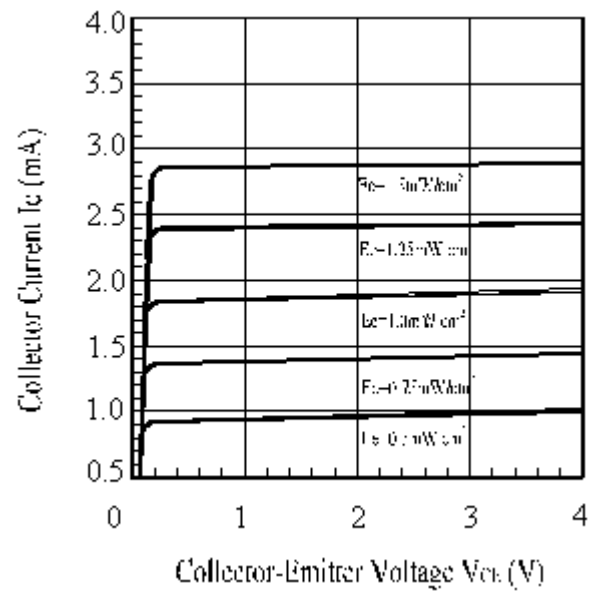
Typical Electro/Optical/Characteristics Curves for PT



Collector Dark Current vs. Ambient Temperature



Collector Current vs. Collector-Emitter Voltage



Reliability Test Item And Condition

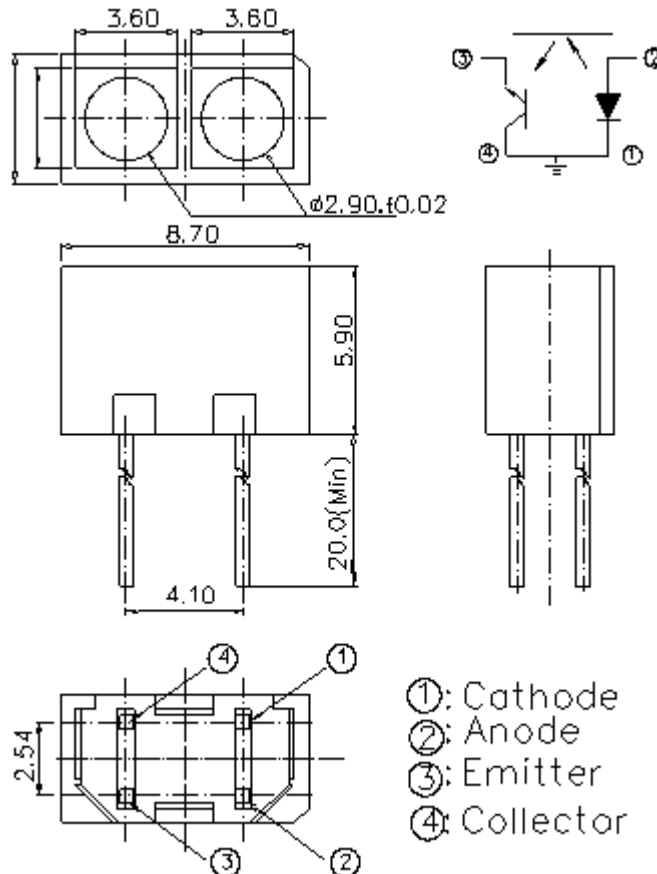
The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

NO.	Item	Test Condition	Test Hours/ Cycle	Sample Size	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	10 sec	22 PCs	Ic(on) ≤ L×0.8 L :Lower specification limit	0/1
2	Temperature Cycle	H : +100°C 15 mins ↑ 5 min ↓ L : -40°C 15 min	300 cycle	22 PCs		0/1
3	Thermal Shock	H : +100°C 5 min ↑ 10 sec ↓ L : -10°C 5 min	300 cycle	22 PCs		0/1
4	High Temperature Storage	TEMP. : +100°C	1000 hrs	22 PCs		0/1
5	Low Temperature Storage	TEMP. : -40°C	1000 hrs	22 PCs		0/1
6	DC Operating Life	V _{CE} =5V I _F =20mA	1000 hrs	22 PCs		0/1
7	High Temperature / High Humidity	85°C / 85% R.H.	1000 hrs	22 PCs		0/1

Package Dimension



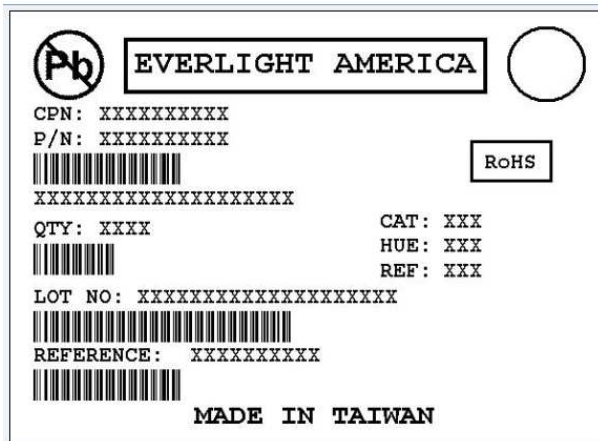
Notes:

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

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