



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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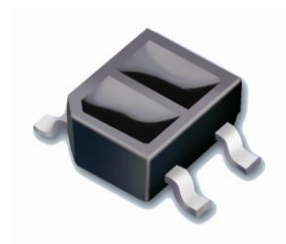
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



### EAITRCA8

#### Features

- Fast response time
- High sensitivity
- Cut-Off visible wavelength
- Thin
- Compact
- Pb free



#### Description

- EAITRCA8 is a light reflection switch which includes a GaAs IR-LED transmitter and a NPN photo-transistor with a high photosensitive receiver for short distance, operating in the infrared range. Both components are mounted side-by-side in a plastic package.

#### Applications

- Camera
- VCR
- Floppy disk driver
- Cassette type recorder
- Various microcomputer control equipment

## Device Selection Guide

Device No.	Chip Material
IR	GaAlAs
PT	Silicon

## 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 <sub>R</sub>	6	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current (*1) Pulse width ≤100μs, Duty cycle=1%	I <sub>FP</sub>	1	A
Output	Collector Power Dissipation	P <sub>C</sub>	100	mW
	Collector Current	I <sub>C</sub>	20	mA
	Collector-Emitter Voltage	B V <sub>CEO</sub>	35	V
	Emitter-Collector Voltage	B V <sub>ECO</sub>	6	V
Operating Temperature		T <sub>opr</sub>	-25~+85	°C
Storage Temperature		T <sub>stg</sub>	-30~+90	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		T <sub>sol</sub>	260	°C

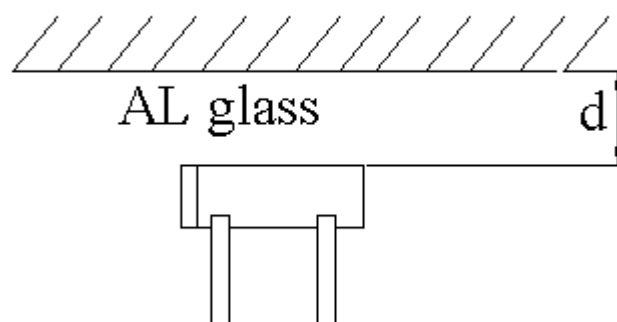
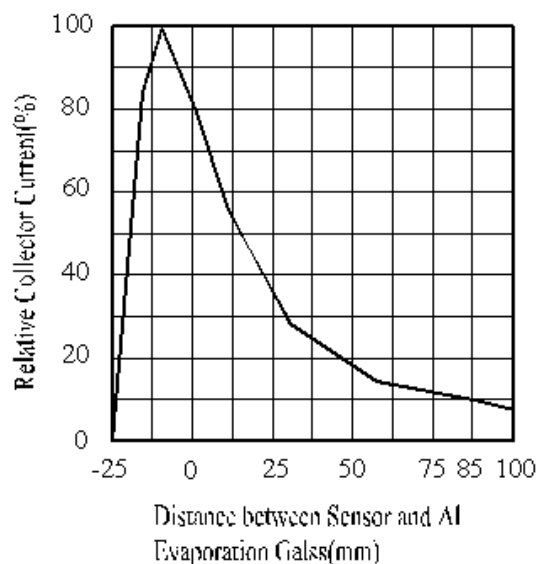
Notes: (\*1)  $t_w=100\ \mu\text{sec.}$ ,  $T=10\ \text{msec.}$  (\*2)  $t=10\ \text{Sec}$

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

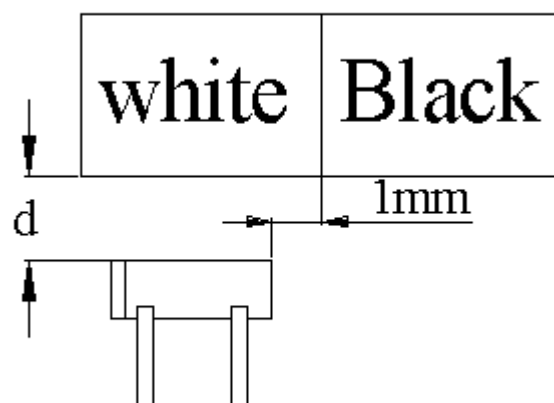
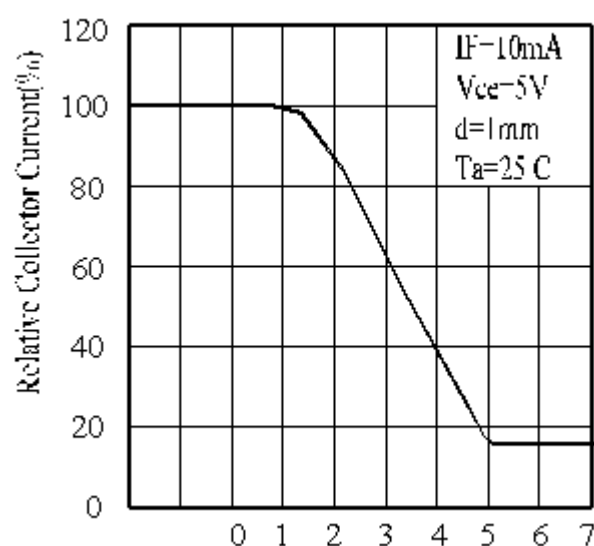
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	$V_F$	---	1.2	1.4	V	$I_F=20\text{mA}$
	Reverse Current	$I_R$	---	---	10	$\mu\text{A}$	$V_R=6\text{V}$
	Peak Wavelength	$\lambda_p$	---	940	---	nm	$I_F=10\text{mA}$
Output	Dark C urrent	$I_{CEO}$	---	---	100	nA	$V_{CE}=10\text{V}$
Transfer Characteristics	Collect Current	$I_C(\text{ON})$	0.5	---	15.0	mA	$V_{CE}=2\text{V}, I_F=4\text{mA}$
	Leakage Current	$I_{CEOD}$	---	---	5	$\mu\text{ A}$	$V_{CE}=2\text{V}, I_F=4\text{mA}$
	Rise time	$t_r$	-	-	400	$\mu\text{ s}$	$V_{CE}=2\text{V}$ $I_C=10\text{mA}$ $R_L=100\Omega, d=1\text{mm}$
	Fall time	$t_f$	-	-	400	$\mu\text{ s}$	

## Typical Electrical/Optical/Characteristics Curves for ITR

Relative Collector Current vs. Distance Between Sensor and Al Evaporation

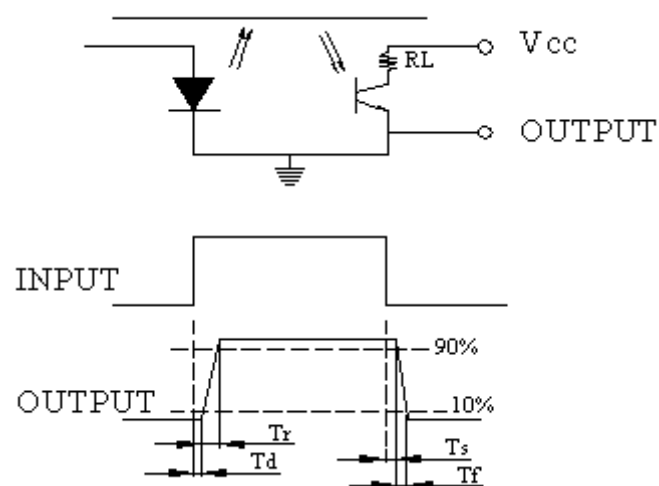
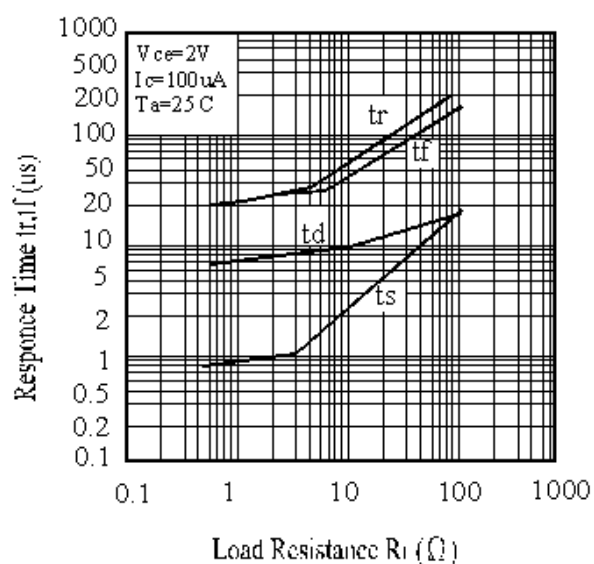


Relative Collector Current vs. Card moving Distance d(mm)





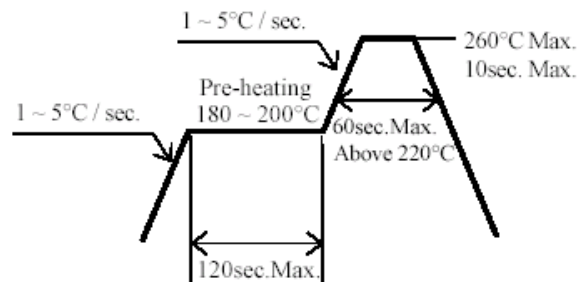
# Response Time vs. Load Resistance



## Recommended Method of Storage

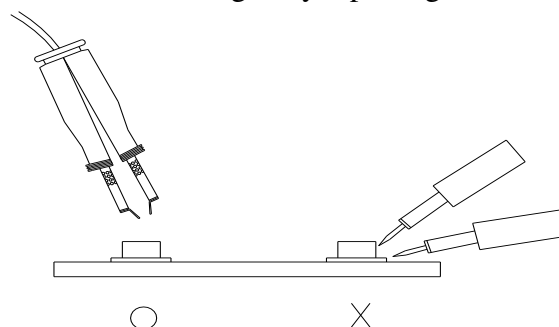
The following are general recommendations for moisture sensitive level (MSL) 4 storage and use:

- Shelf life in sealed bag: 12 months at  $< 40^{\circ}\text{C}$  and  $< 90\%$  relative humidity (RH)
- After bag is opened, devices that will be subjected to reflow solder or other high temperature process must
  - a) Mounted within 72 hours of factory conditions  $< 30^{\circ}\text{C}/60\%\text{RH}$ , or
  - b) Stored at  $< 20\%$  RH
- Devices require bake, before mounting, if:  
Humidity Indicator Card is  $> 20\%$  when read at  $23 \pm 5^{\circ}\text{C}$
- If baking is required, devices may be baked:
  - a) 192 hours at  $40^{\circ}\text{C}$ , and  $< 5\%$  RH (dry air/nitrogen) or
  - b) 96 hours at  $60^{\circ}\text{C}$ , and  $< 5\%$  RH for all device containers
  - c) 24 hours at  $125^{\circ}\text{C}$
- Soldering Condition
  - a) Pb-free solder temperature profile

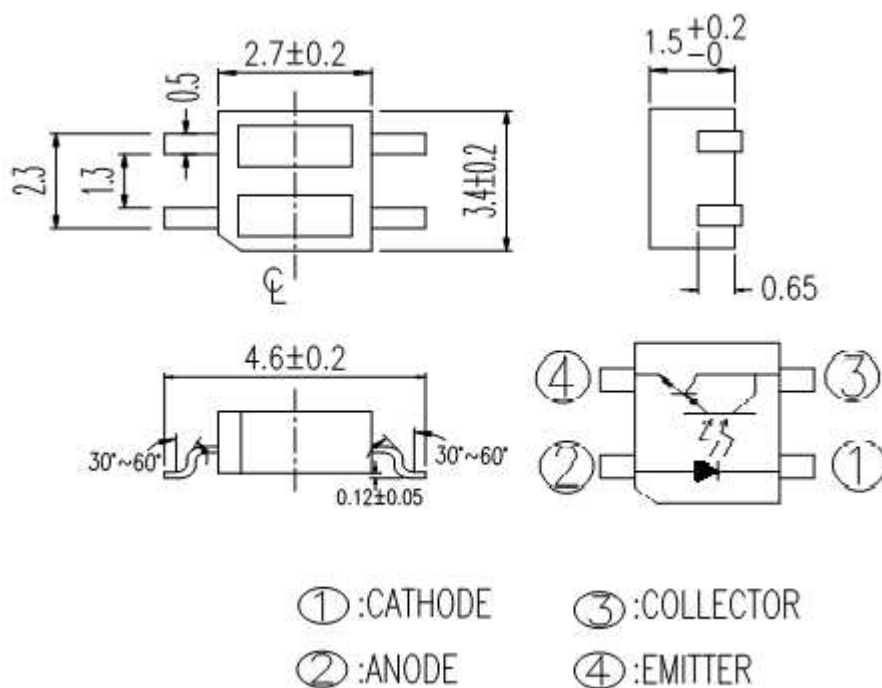


- b) Reflow soldering should not be done more than two times.
  - c) When soldering, do not put stress on the LEDs during heating.
  - d) After soldering, do not warp the circuit board.
- Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



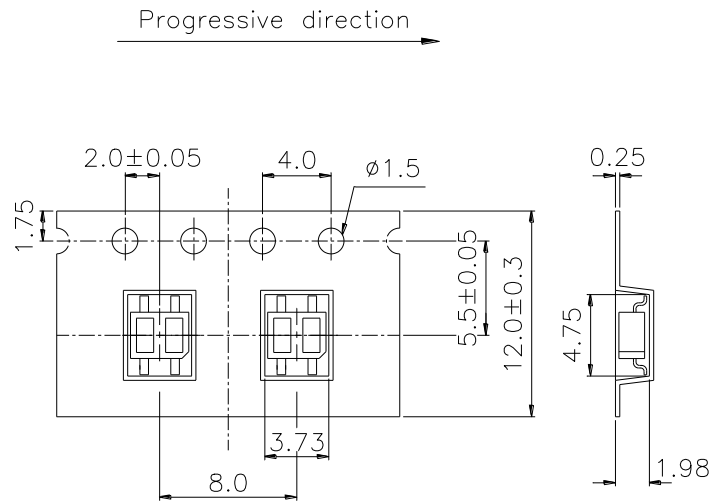
## Package Dimension



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

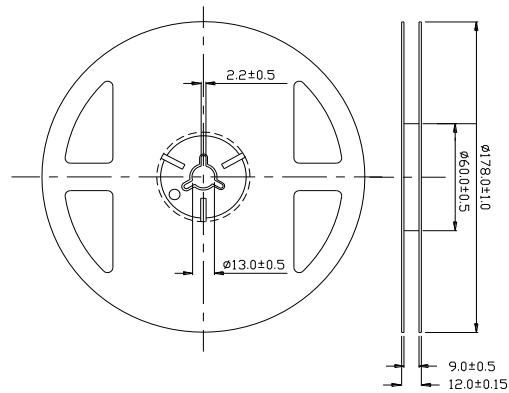


## Taping Dimension

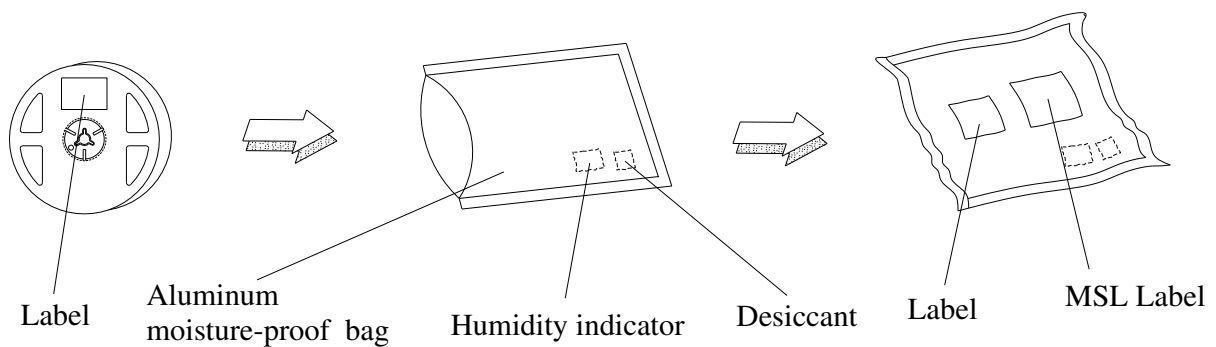


General Tolerance  $\pm 0.1$   
UNIT:mm

## Reel Dimensions



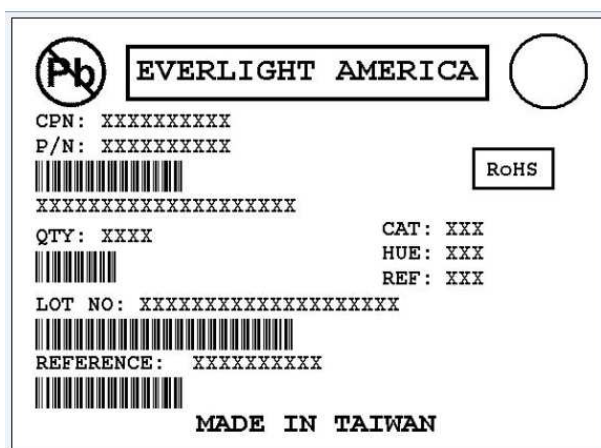
## Moisture Resistant Packaging



### Packing Quantity Specification

1. 1000 Pcs/ 1Reel
2. 15 Reel /1 Box
3. 2 Box/ 1 Carton

### Label Form Specification



The label form is rectangular and contains the following elements:

- Top Left:** A circular logo with the letters "Pb" inside.
- Top Center:** A rectangular box containing the text "EVERLIGHT AMERICA".
- Top Right:** A circular logo.
- Left Side (Vertical Text):**
  - CPN: XXXXXXXXXXXX
  - P/N: XXXXXXXXXXXX
  - XXXXXXXXXXXXXXXXXXXX
  - QTY: XXXX
  - XXXXXXXXXXXXXXXXXXXX
  - LOT NO: XXXXXXXXXXXXXXXXXXXX
  - XXXXXXXXXXXXXXXXXXXX
  - REFERENCE: XXXXXXXXXXXX
  - XXXXXXXXXXXXXXXXXXXX
- Right Side (Vertical Text):**
  - CAT: XXX
  - HUE: XXX
  - REF: XXX
- Bottom Center:** The text "MADE IN TAIWAN".
- Bottom Right:** A small rectangular box containing the text "RoHS".

- 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

### Notes

1. Above specification may be changed without notice. EVERLIGHT Americas will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT Americas 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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