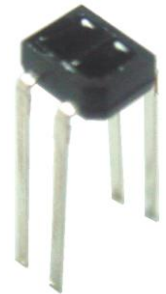


### EAITRCA7

#### Features

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



#### Description

• EAITRCA7 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	$I_F=20mA$
	Reverse Current	$I_R$	---	---	10	$\mu A$	$V_R=6V$
	Peak Wavelength	$\lambda_p$	---	940	---	nm	$I_F=10mA$
Output	Dark C urrent	$I_{CEO}$	---	---	100	nA	$V_{CE}=10V$
Transfer Characteristics	Collect Current	$I_C(ON)$	0.5	3.0	15.0	mA	$V_{CE}=2V, I_F=4mA$
	Leakage Current	$I_{CEOD}$	---	---	5	$\mu A$	$V_{CE}=2V, I_F=4mA$
	Rise time	$t_r$	-	80	400	$\mu s$	$V_{CE}=2V$ $I_C=10mA$ $R_L=100\Omega, d=1mm$
	Fall time	$t_f$	-	70	400	$\mu s$	

**Rank**

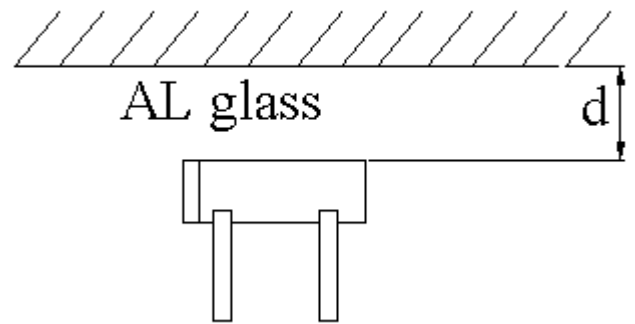
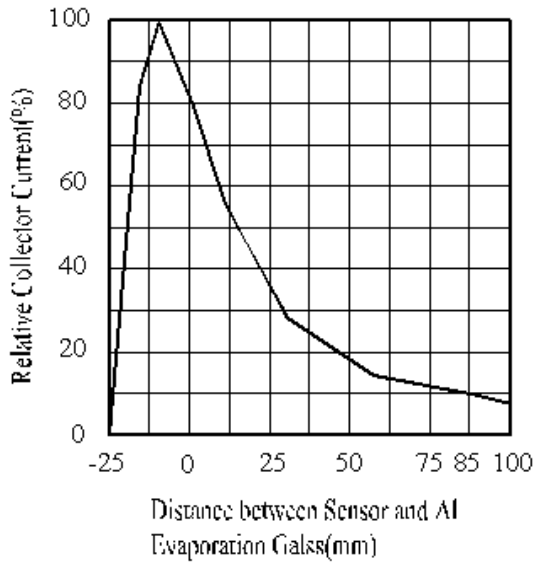
Conditions :  $I_F=4mA$   $V_{CE}=2V$

Unit: mA

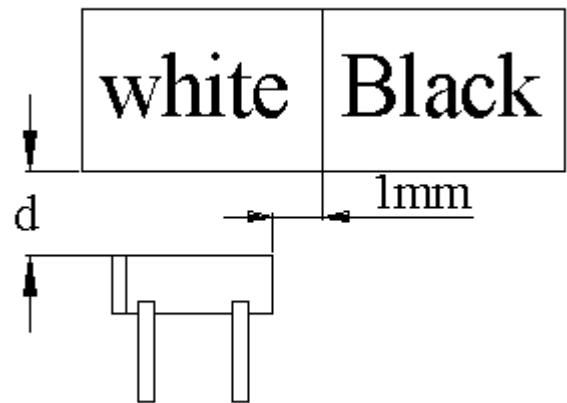
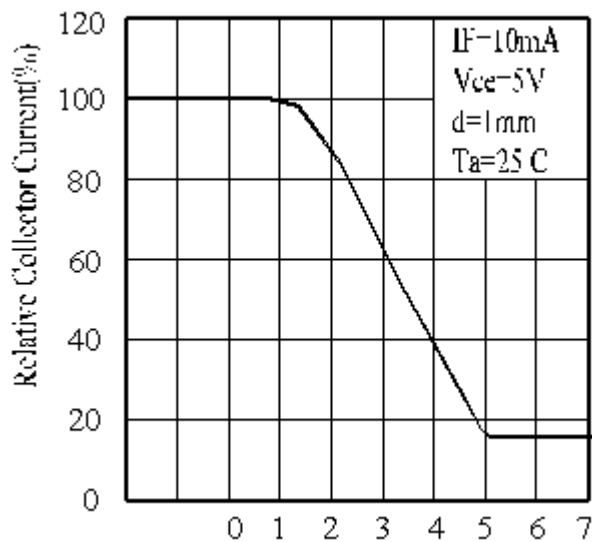
Bin number	Min	Max
B	0.50	1.10
C	0.90	1.90
D	1.45	3.20
E	2.45	5.40
F	4.05	8.90
G	6.30	15.0

**Typical Electrical/Optical/Characteristics Curves for ITR**

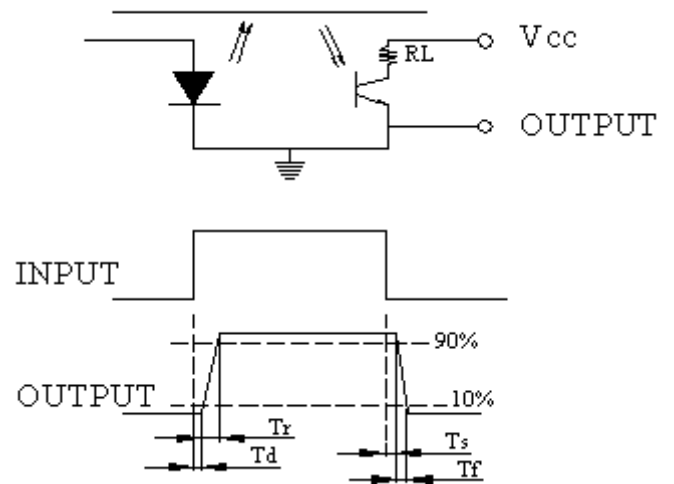
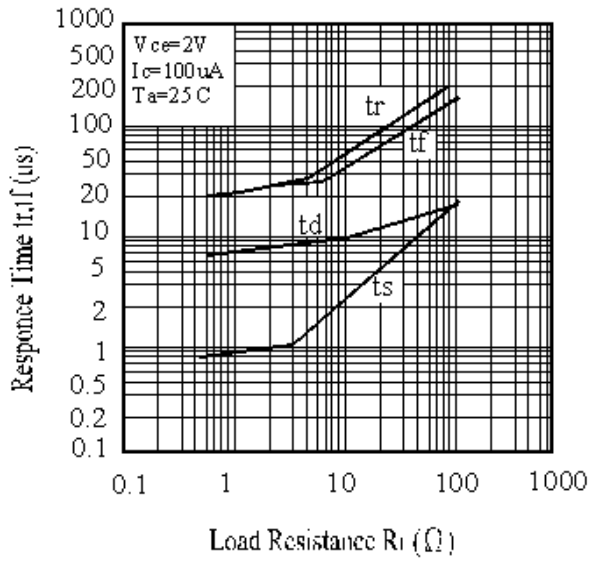
Relative Collector Current vs. Distance Between Sensor and Al Evaporation



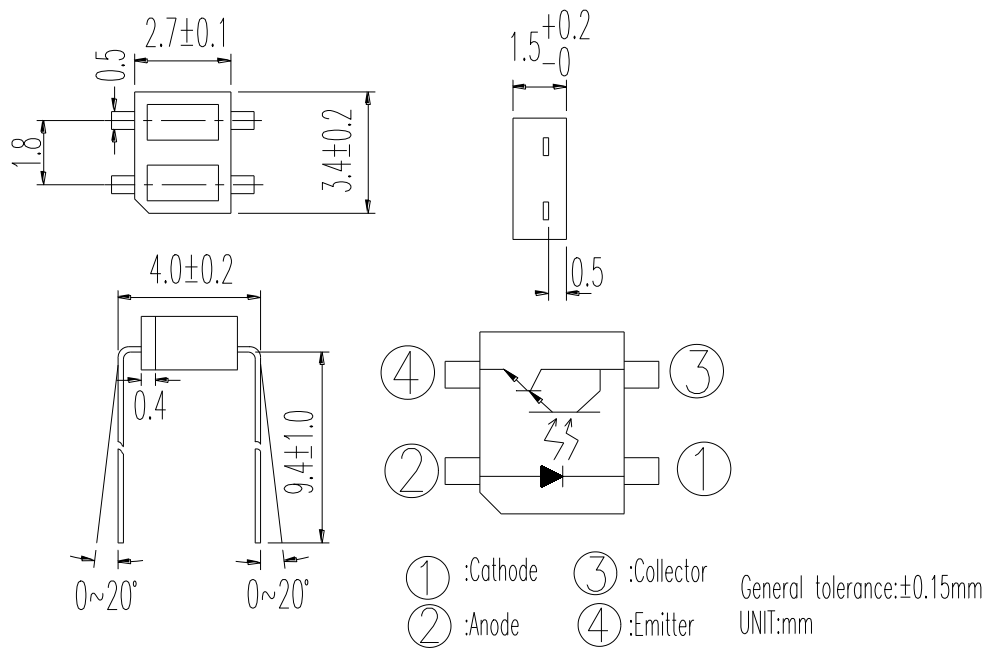
Relative Collector Current vs. Card moving Distance d(mm)



Response Time vs. Load Resistance

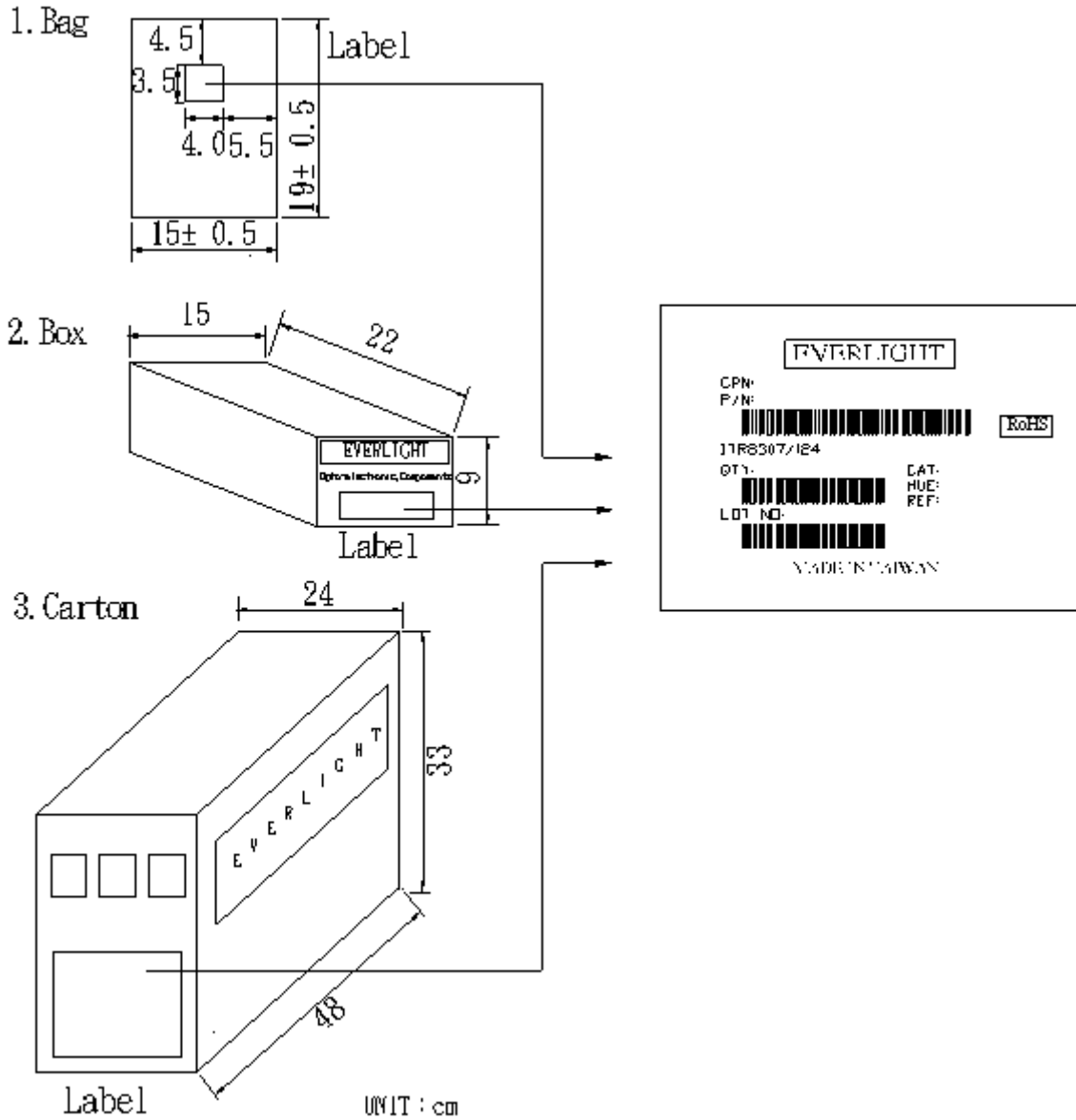


**Package Dimension**



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

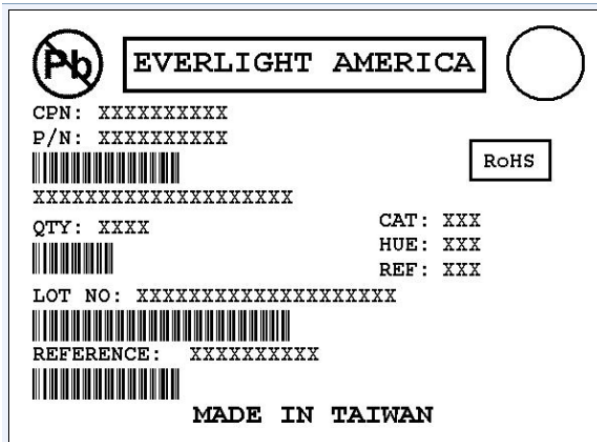
**Packing Specifications**



**Packing Quantity Specification**

1. 1000Pcs/1Bag
2. 1Bag/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

### 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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