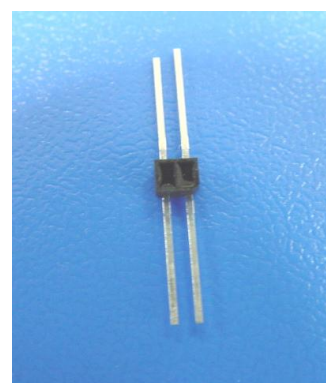


EAITRCA6

Features

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



Description

- EAITRCA6 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 _R	6	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 _C	100	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	B V _{CEO}	35	V
	Emitter-Collector Voltage	B V _{ECO}	6	V
Operating Temperature		T _{opr}	-25~+85	°C
Storage Temperature		T _{stg}	-30~+90	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		T _{sol}	260	°C

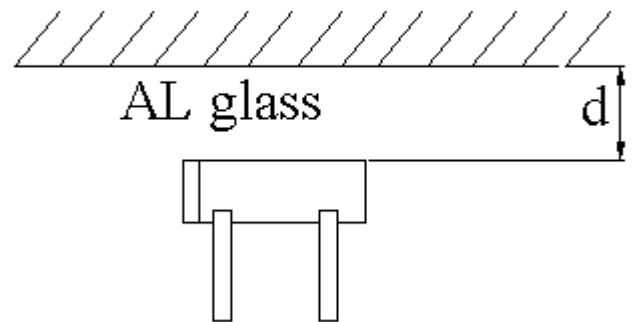
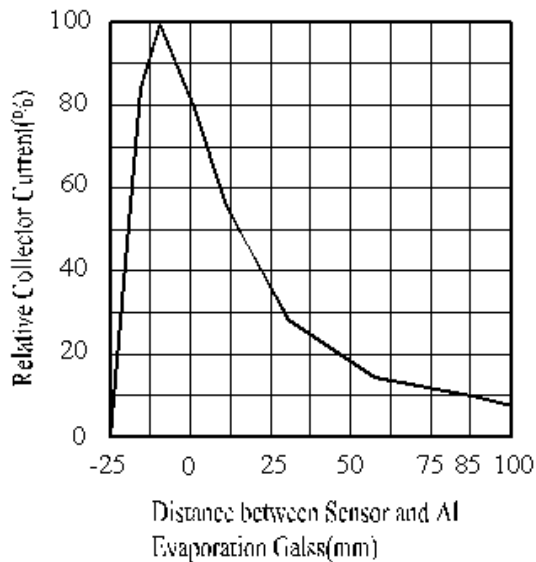
Notes: (*1) $t_w=100\ \mu\text{sec.}$, $T=10\ \text{msec.}$ (*2) $t=10\ \text{Sec}$

Electro-Optical Characteristics (Ta=25°C)

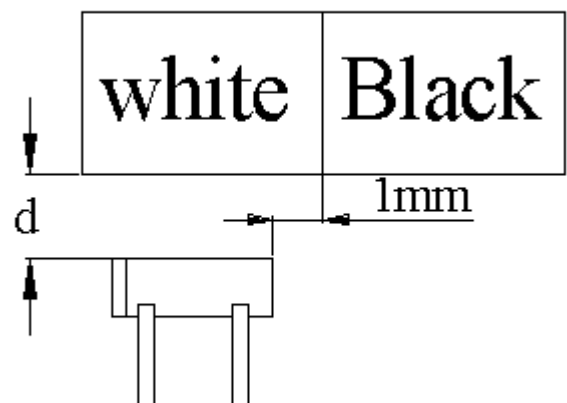
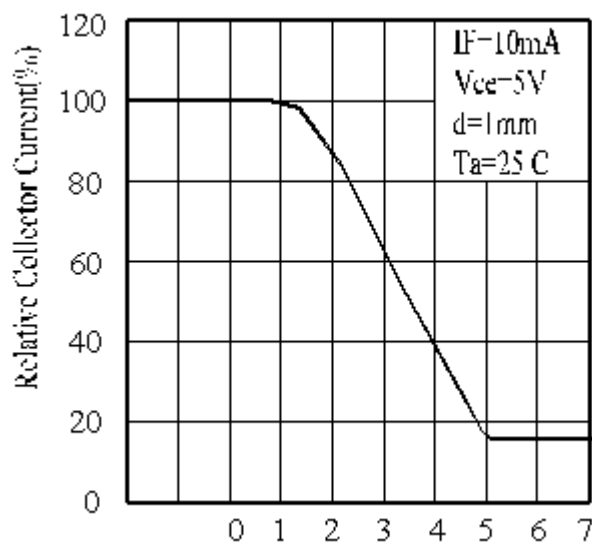
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V_F	---	1.2	1.4	V	$I_F=20\text{mA}$
	Reverse Current	I_R	---	---	10	μA	$V_R=6\text{V}$
	Peak Wavelength	λ_p	---	940	---	nm	$I_F=10\text{mA}$
Output	Dark C urrent	I_{CEO}	---	---	100	nA	$V_{CE}=10\text{V}$
Transfer Characteristics	Collect Current	$I_C(\text{ON})$	0.5	3.0	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	-	80	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	-	70	400	$\mu\text{ s}$	

Typical Electrical/Optical/Characteristics Curves for ITR

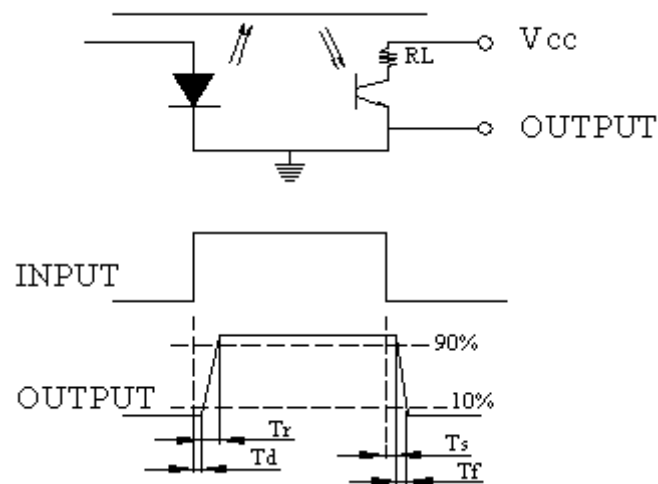
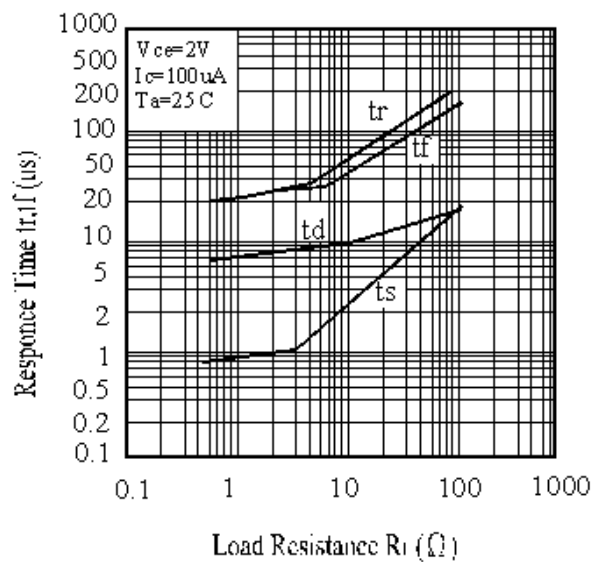
Relative Collector Current vs. Distance Between Sensor and Al Evaporation



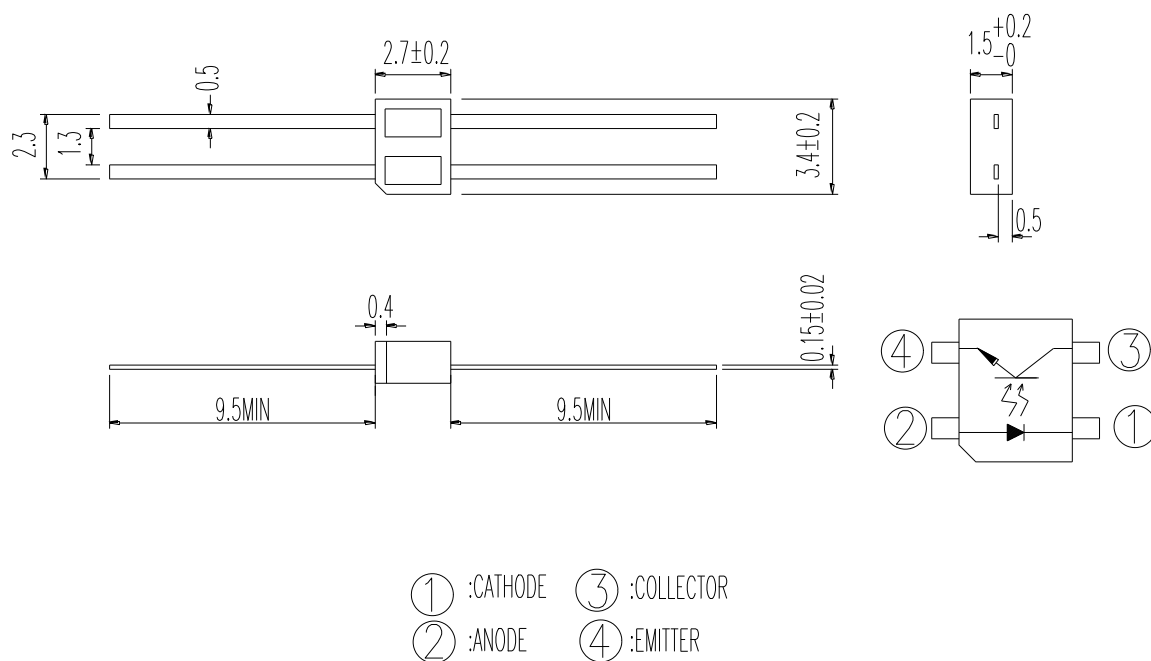
Relative Collector Current vs. Card moving Distance d(mm)



Response Time vs. Load Resistance



Package Dimension



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

Packing Quantity Specification

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

Label Form Specification

The diagram shows a rectangular label with the following elements:

- Top Left:** A circular logo containing the letters "Pb".
- Top Center:** A rectangular box containing the text "EVERLIGHT AMERICA".
- Top Right:** An empty circular space.
- Below "Pb" logo:** The text "CPN: XXXXXXXXXX" and "P/N: XXXXXXXXXX" followed by a barcode.
- Below the first barcode:** A line of text "XXXXXXXXXXXXXXXXXXXXXXX".
- Below the second line of text:** The text "QTY: XXXX" and "CAT: XXX".
- Below the third line of text:** The text "HUE: XXX" and "REF: XXX".
- Below the fourth line of text:** The text "LOT NO: XXXXXXXXXXXXXXXXXXXXX" followed by a barcode.
- Below the fifth line of text:** The text "REFERENCE: XXXXXXXXXX" followed by a barcode.
- Bottom Center:** The text "MADE IN TAIWAN".
- Right Side:** 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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