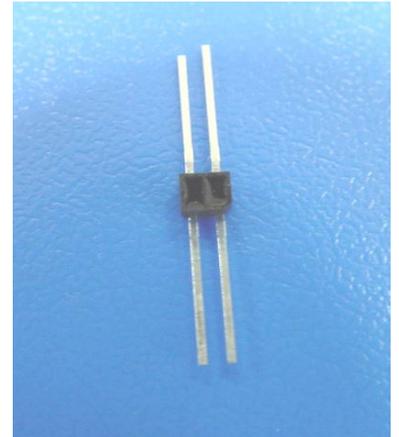


Technical Data Sheet Opto Interrupter EAITRCA4



Features

- Fast response time
- High sensitivity
- Cut-Off visible wavelength
- Thin
- Compact
- 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).

Descriptions

EAITRCA4 is a light reflection switch which includes a GaAs IR-LED transmitter and a NPN photo-transistor with a high sensitive receiver for short distance, operating in the infrared range. Both components are mounted side- by- side in a plastic package.

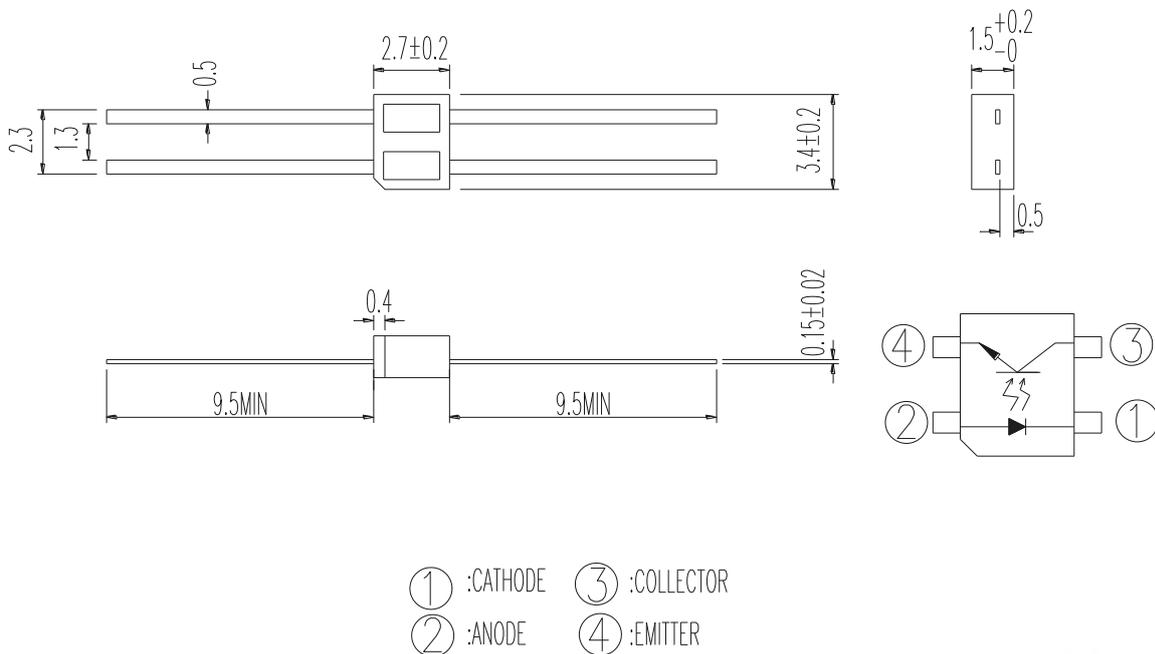
Applications

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

Device Selection Guide

Device No.	Chip Material
IR	GaAs
PT	Silicon

Package Dimensions



- Notes:** 1.All dimensions are in millimeters
2.Tolerances unless dimensions ± 0.25 mm

Absolute Maximum Ratings (Ta=25°C)

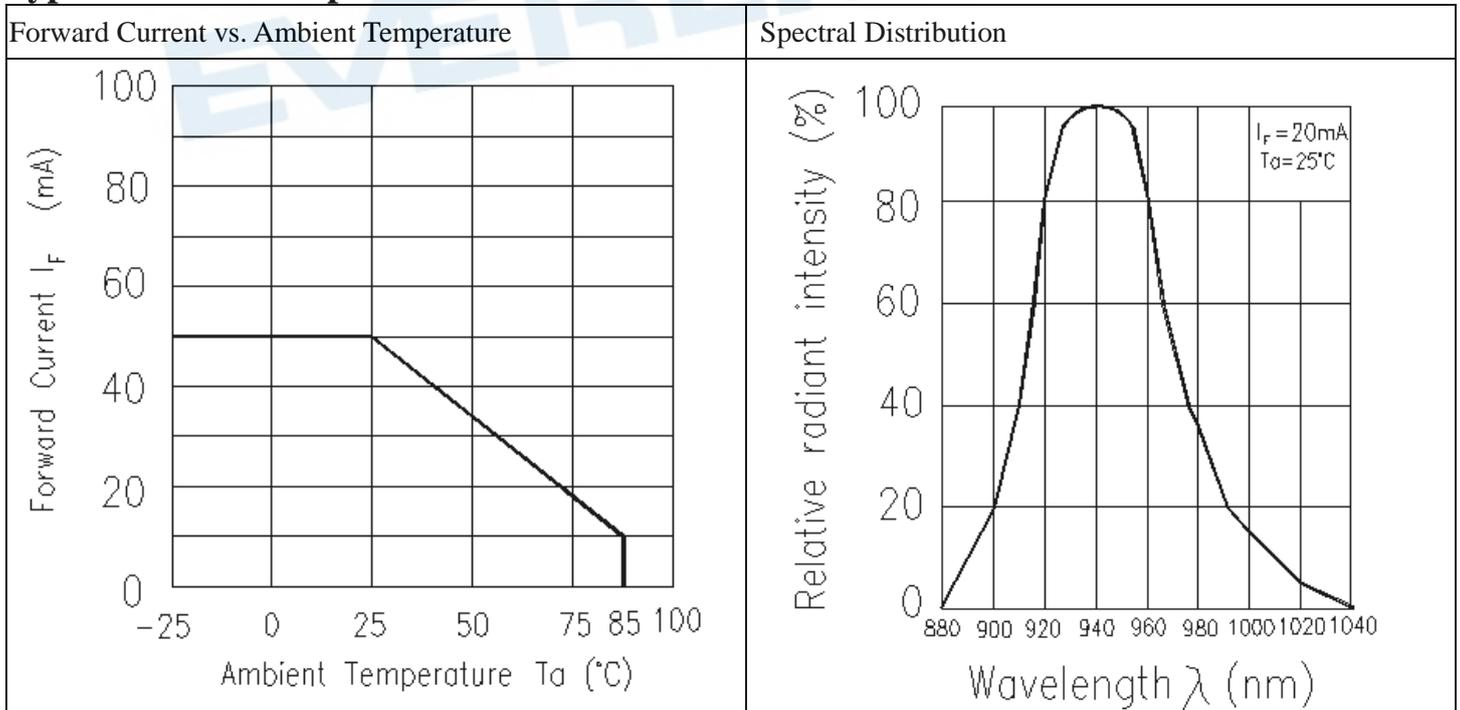
Parameter		Symbol	Rating	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1)	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	75	mW
	Collector Current	I _C	50	mA
	Collector-Emitter Voltage	B V _{CEO}	30	V
	Emitter-Collector Voltage	B V _{ECO}	5	V
Operating Temperature		Topr	-25~+85	°C
Storage Temperature		Tstg	-30~+90	°C
Lead Soldering Temperature (*2)		Tsol	260	°C

Notes: (*1) tw=100 μsec. , T=10 msec. (*2) t=5 Sec

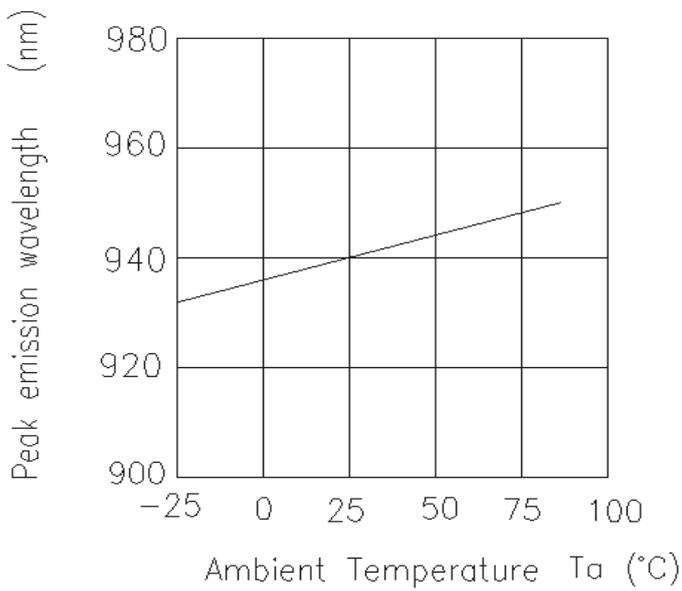
Electro-Optical Characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V_F	--	1.2	1.6	V	$I_F = 20\text{mA}$
	Reverse Current	I_R	--	--	10	μA	$V_R = 6\text{V}$
	Peak Wavelength	λ_P	--	940	--	nm	$I_F = 20\text{mA}$
Output	Dark Current	I_{CEO}	--	--	100	nA	$V_{CE} = 10\text{V}, I_F = 0\text{mA}$
	C-E Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C = 2\text{mA}$ $E_e = 1\text{mW/cm}^2$
Transfer Characteristics	Collector Current	$I_C(\text{ON})$	0.1	-	---	mA	$V_{CE} = 5\text{V}, I_F = 20\text{mA}$
	Leakage Current	I_{CEOD}	---	---	1	μA	$V_{CE} = 5\text{V}$ $I_F = 20\text{mA}$
	Rise time	t_r	--	20	--	μs	$V_{CE} = 2\text{V}$ $I_C = 100\mu\text{A}$
	Fall time	t_f	--	20	--	μs	$R_L = 1\text{K}\Omega$ $d = 1\text{mm}$

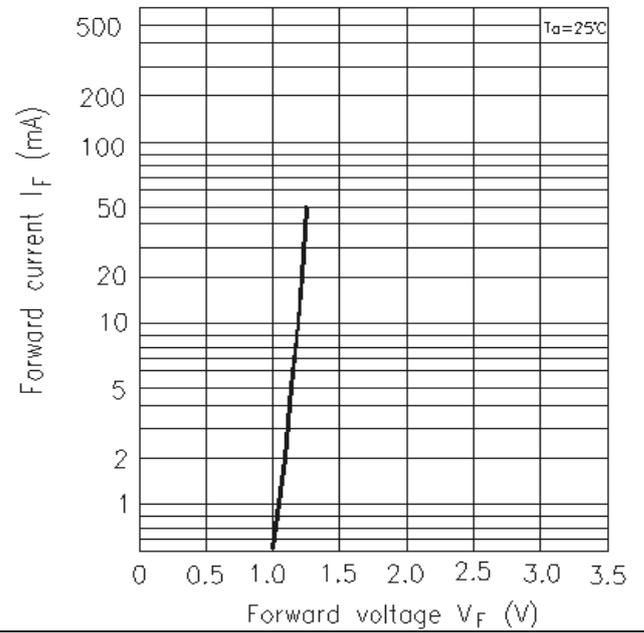
Typical Electrical/Optical/Characteristics Curves for IR



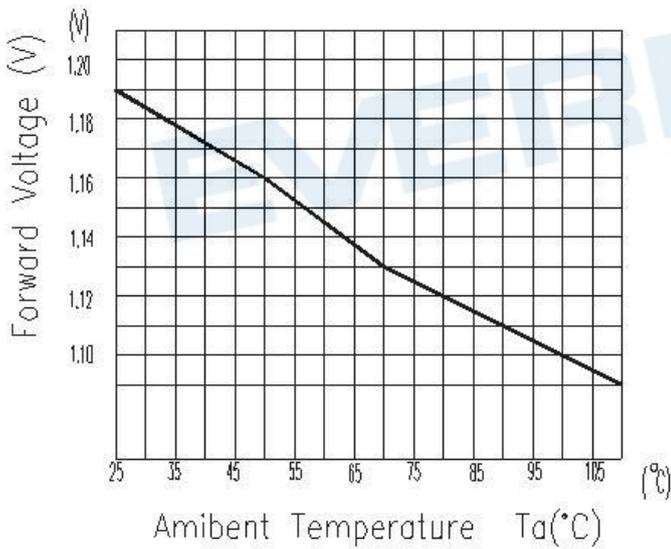
Peak Emission Wavelength vs. Ambient Temperature



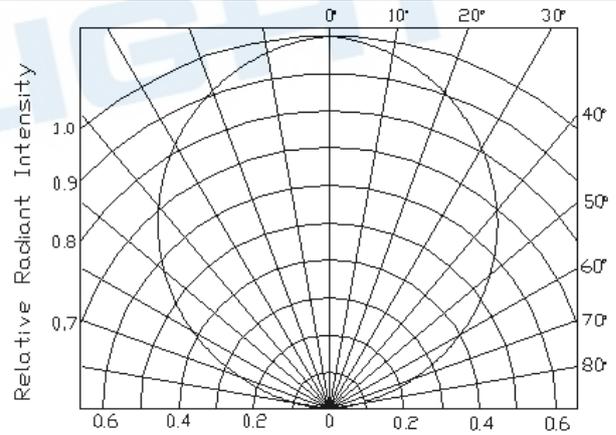
Forward Current vs. Forward Voltage



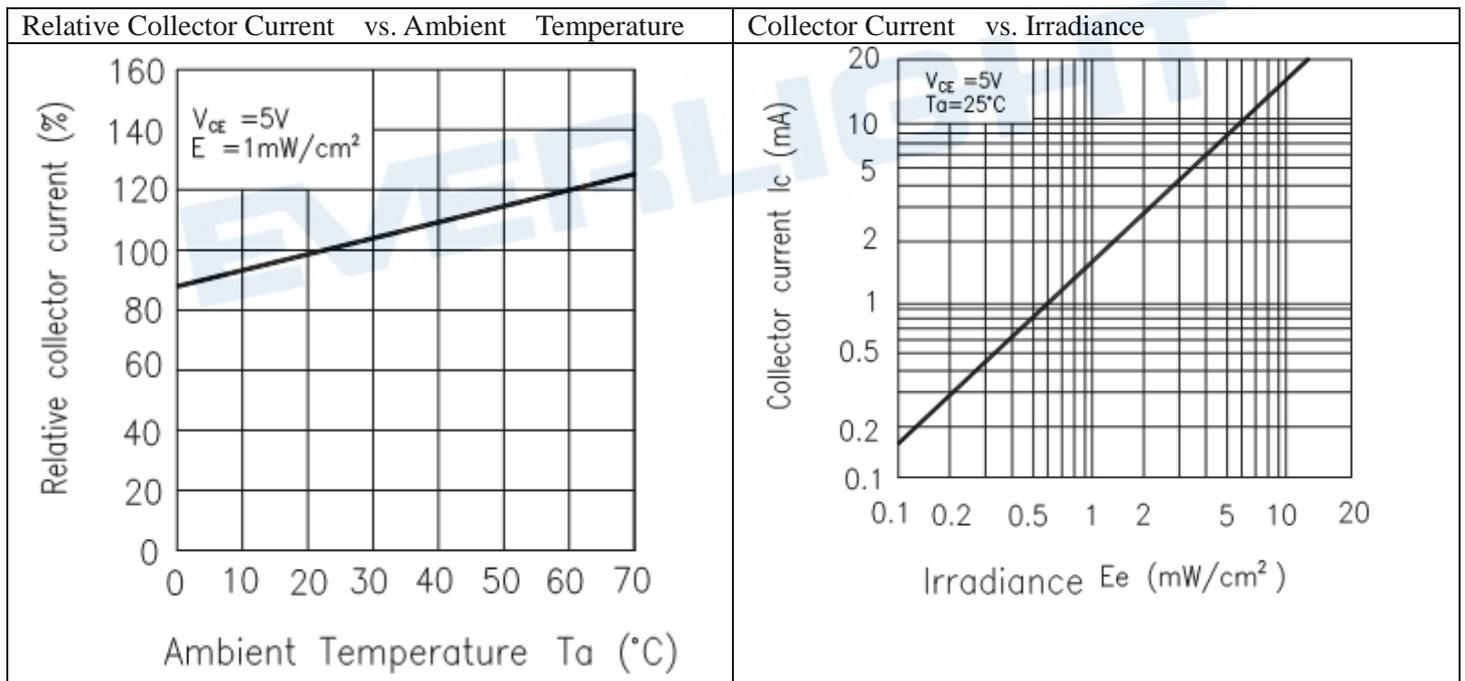
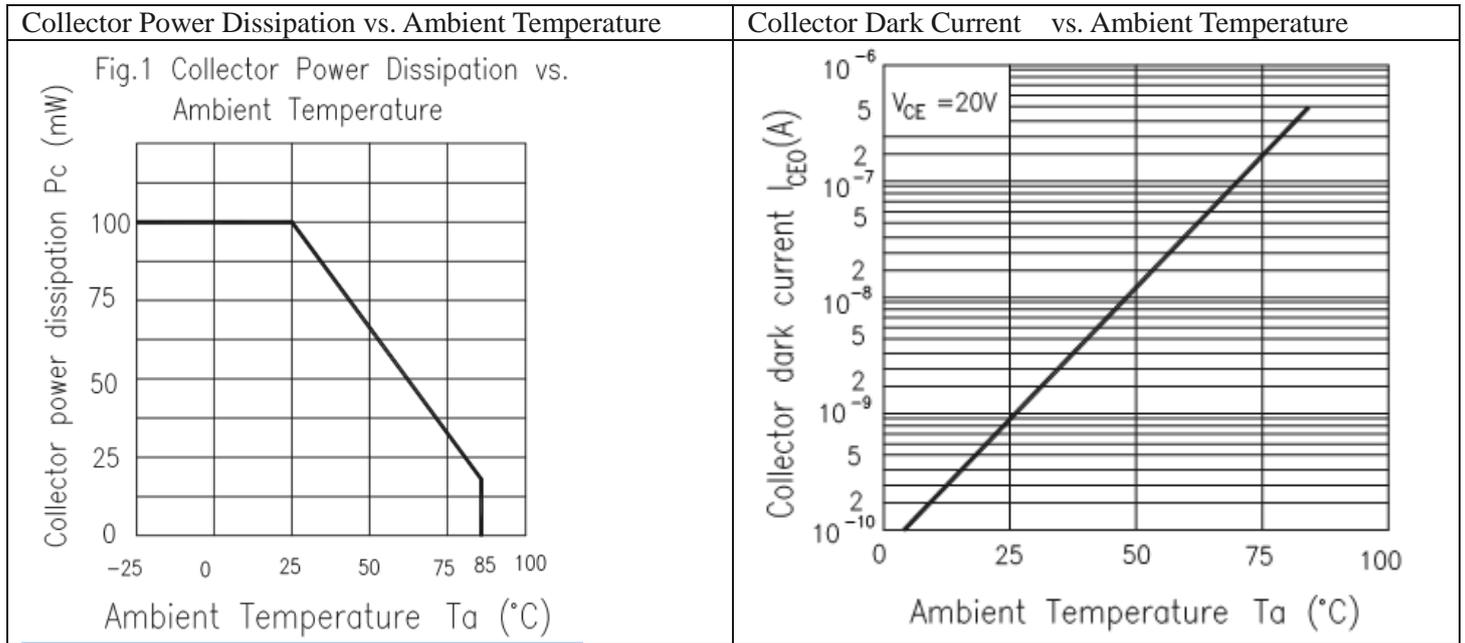
Forward Voltage vs. Ambient Temperature

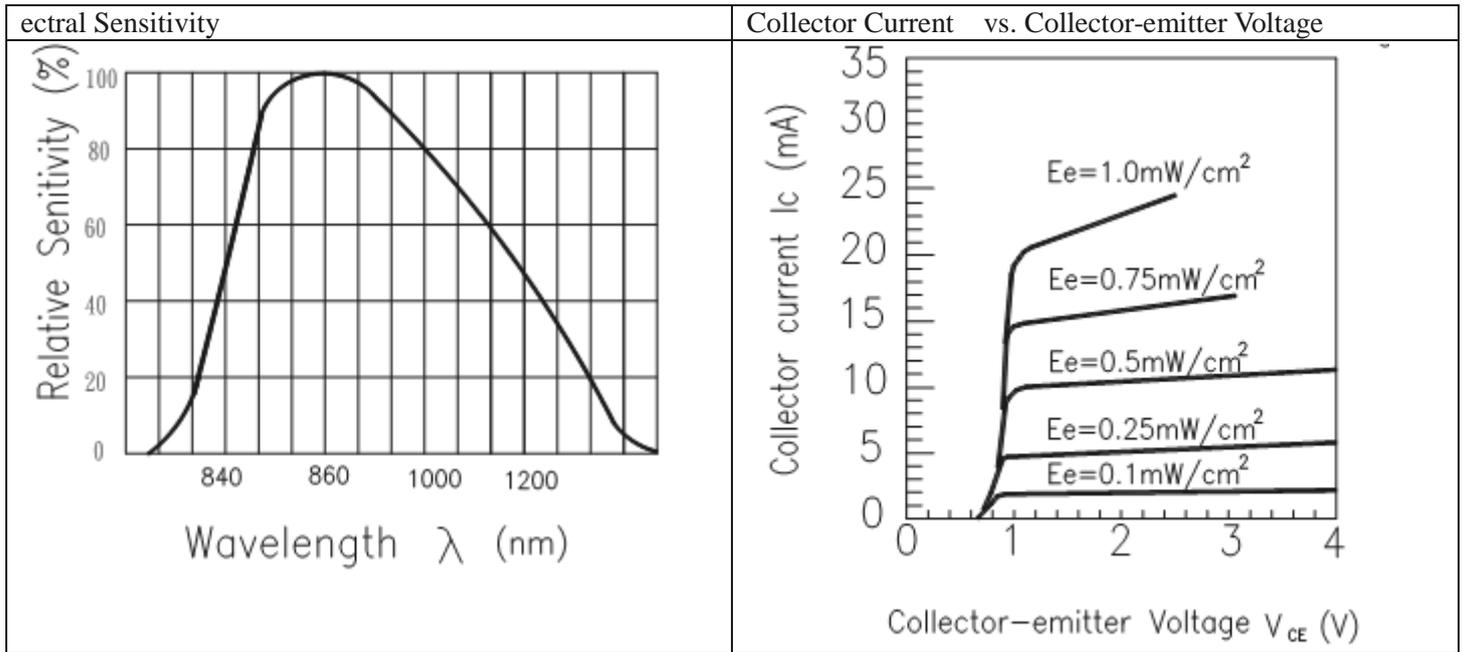


Relative Radiant Intensity vs. Angular Displacement



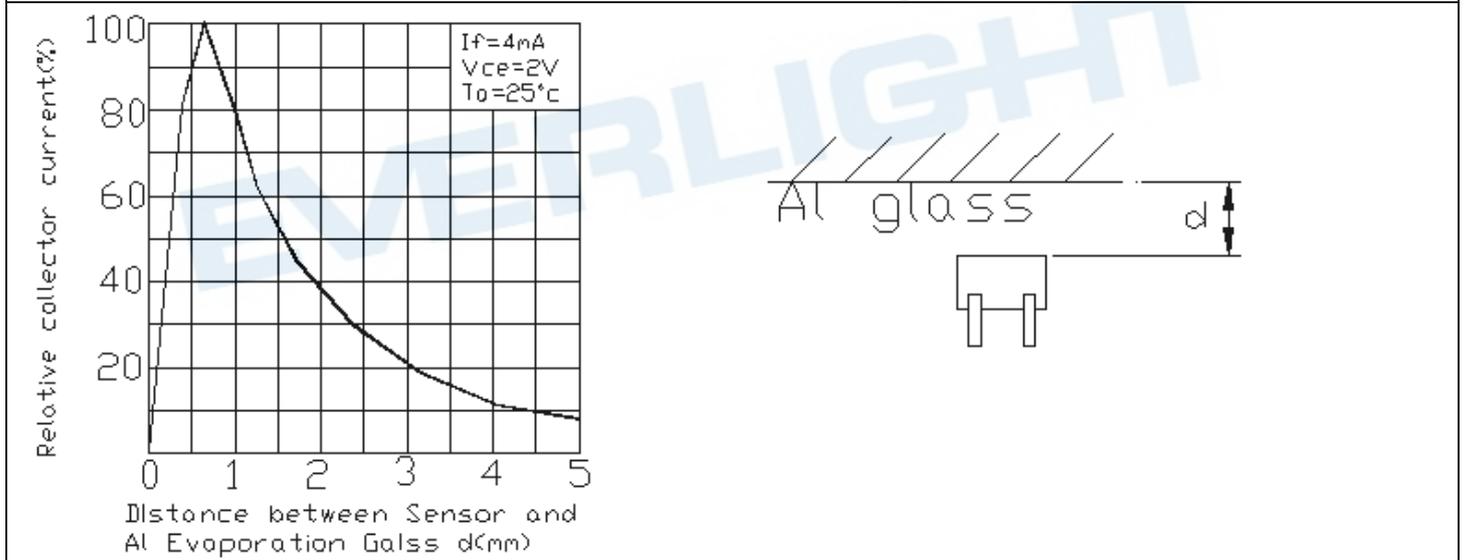
Typical Electro/Optical/Characteristics Curves for PT



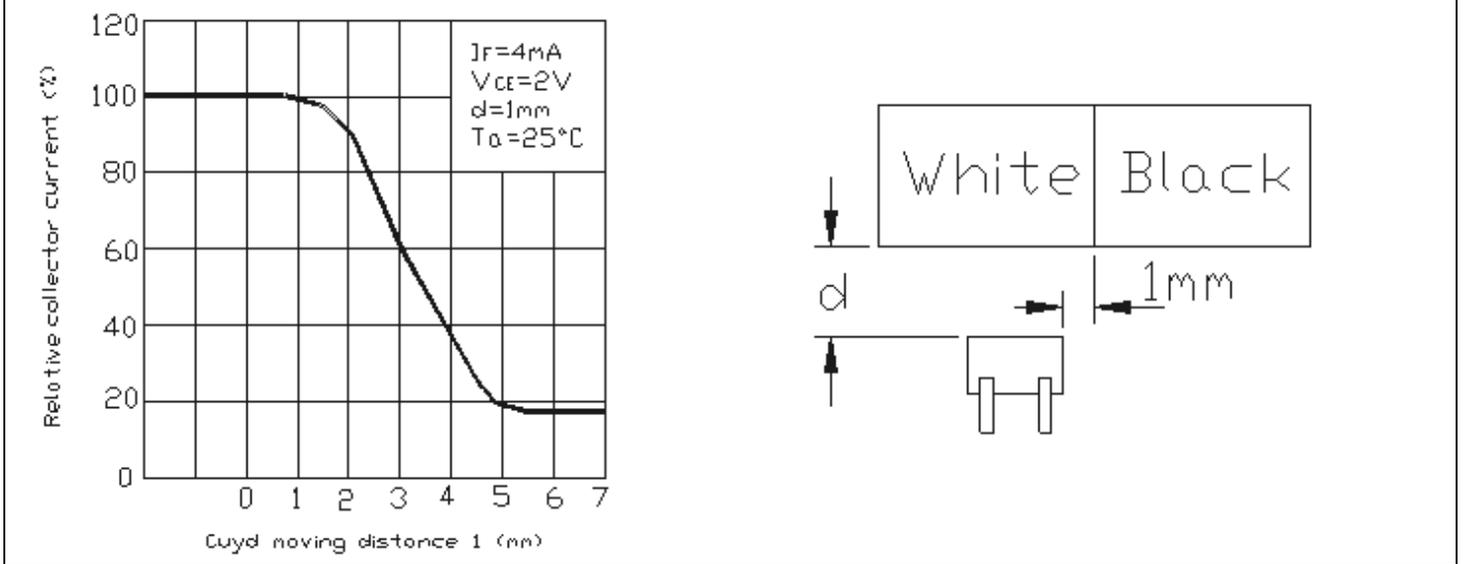


Typical Electrical/Optical/Characteristics Curves For ITR

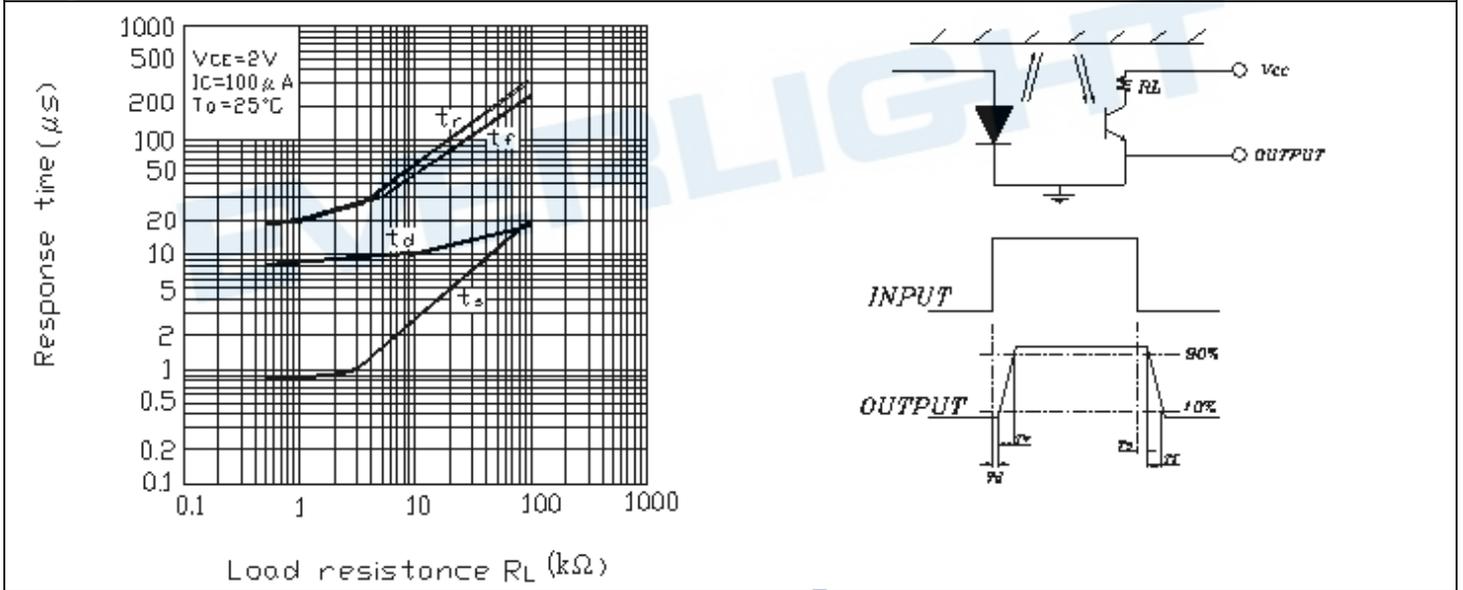
Relative Collector Current vs. Distance between Sensor and AL Evaporation Galss.



Relative Collector Current vs. Card Moving Distance



Response Time vs. Load Resistance



Packing Quantity Specification

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

Label Form Specification

CPN :
P/N : XXXXXXXXXXXXX
XXXXXXXXXXXXXX

QTY : XXX
XXXXXXXXXXXXXX

LOT NO : XXXXXXXXXXXX
XXXXXXXXXXXXXX

Reference : XXXXXXXX
XXXXXXXXXXXXXX

CAT : XXX
HUE : XXX
REF : XXX

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

MADE IN TAIWAN: Production Place

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 °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 °C/60%RH, or
 - b) Stored at <20% RH
- Devices require bake, before mounting, if :
Humidity Indicator Card is > 20% when read at 23 ± 5 °C
- If baking is required, devices may be baked :
 - a) 192 hours at 40°C ,and <5% RH(dry air/nitrogen) or
 - b) 96 hours at 60°C ,and <5% RH for all device containers
 - c) 24 hours at 125 °C

Disclaimer

1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized Everlight sales agent for special application request.

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