EVERLIGHT AMERICAS

DATASHEET

Technical Data Sheet
Opto Interrupter
EAITRDA6

Features

- Fast response time
- High analytic
- High sensitivity
- Cut-off visible wavelength λP=940nm
- Pb Free
- This product itself will remain within RoHS compliant version.

Description

The **EAITRDA6** consists of an infrared emitting diode and an NPN silicon phototransistor, encased oblique angle (45°) on converging optical axis in a black Thermo-plastic housing. The phototransistor receives radiation from the IRED only, and avoids the noise from ambient light.

Applications

- Copier
- Scanner
- Non-contact Switching
- For Direct PC Board

Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR	GaAlAs	Blue
PT	Silicon	Black

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25℃ Free Air Temperature	Pd	75	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_C	75	mW
	Collector Current	I_C	20	mA
	Collector-Emitter Voltage	B V_{CEO}	30	V
	Emitter-Collector Voltage	B V_{ECO}	5	V
Operating Temperature		Topr	-25~+85	℃
Storage Temperature		Tstg	-40~+85	℃
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	℃

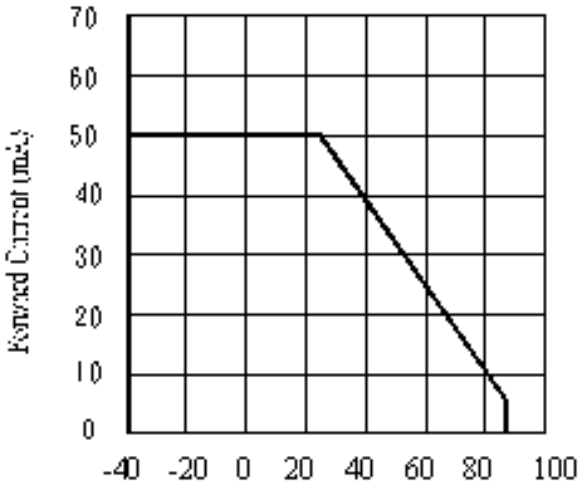
Notes: (＊1) tw=100 μsec. , T=10 msec. (＊2) t=5 Sec

Electro-Optical Characteristics (Ta=25℃)

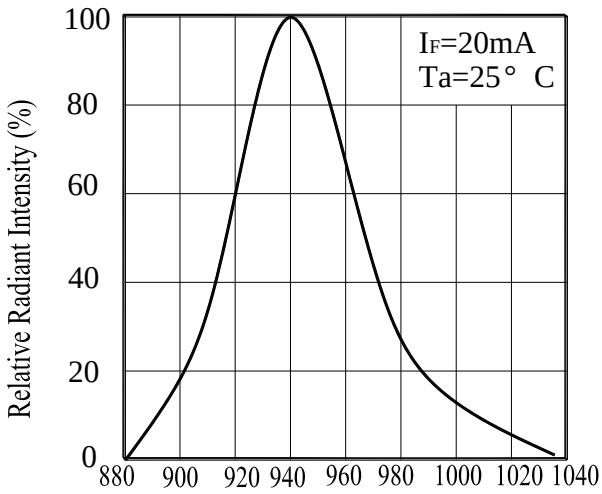
Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V_{F1}	-	1.2	1.5	V	I_F=20mA
		V_{F2}	-	1.4	1.85		I_F=100mA
		V_{F3}	-	2.6	4.0		I_F=1A
	Reverse Current	I_R	-	-	10	μA	V_R=5V
	Peak Wavelength	λ_P	-	940	-	nm	I_F=20mA
Output	Dark Current	I_{CEO}	-	-	100	nA	V_{CE}=20V,Ee=0mW/cm^2
	C-E Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	I_C=2mA,Ee=1mW/cm
Collector Current(＊3)		$I_{C(ON)A}$	100	-	300	μ A	V_{CE}=5V,I_F=20mA
		$I_{C(ON)B}$	200	-	600	μ A	
		$I_{C(ON)C}$	400	-	1200	μ A	
Response Time	Rise Time	t_R	-	15	-	μs	V_{CE}=5V, I_C=1mA, R_L=1KΩ
	Fall Time	t_F	-	15	-	μs	

Typical Electrical/Optical/Characteristics Curves for IR

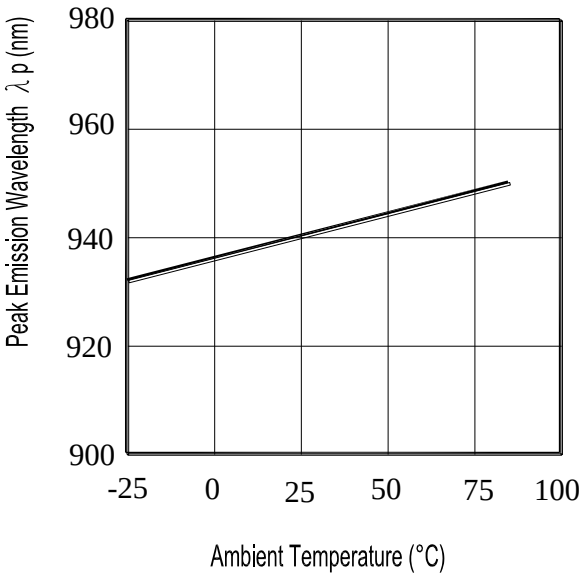
Forward Current vs. Ambient Temperature



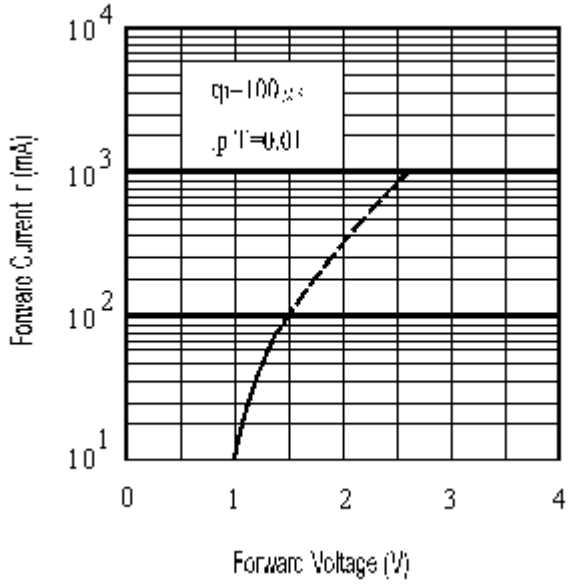
Spectral Distribution

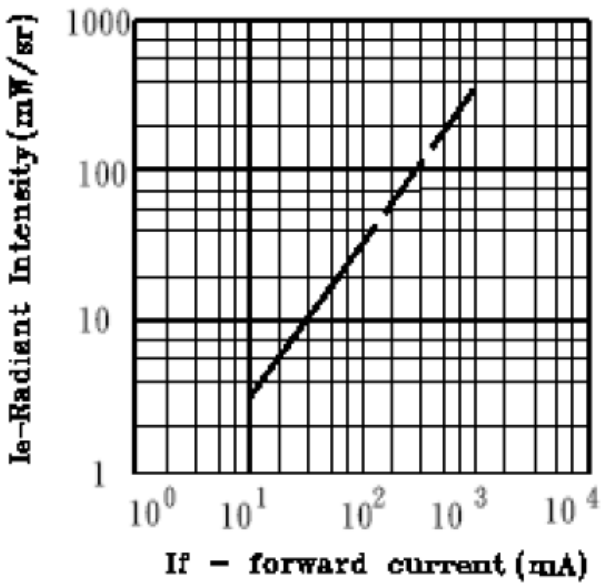
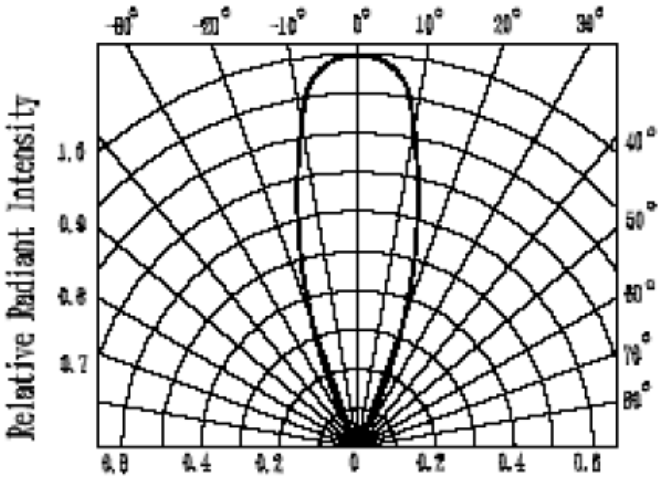


Peak Emission Wavelength vs. Ambient Temperature

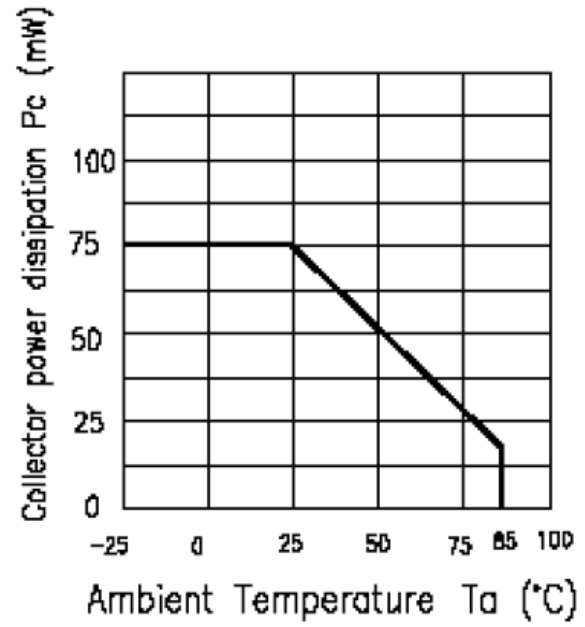
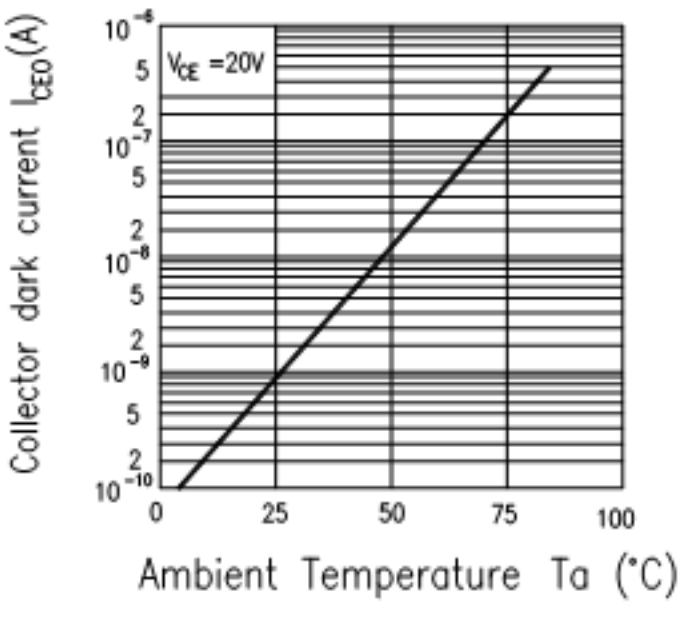


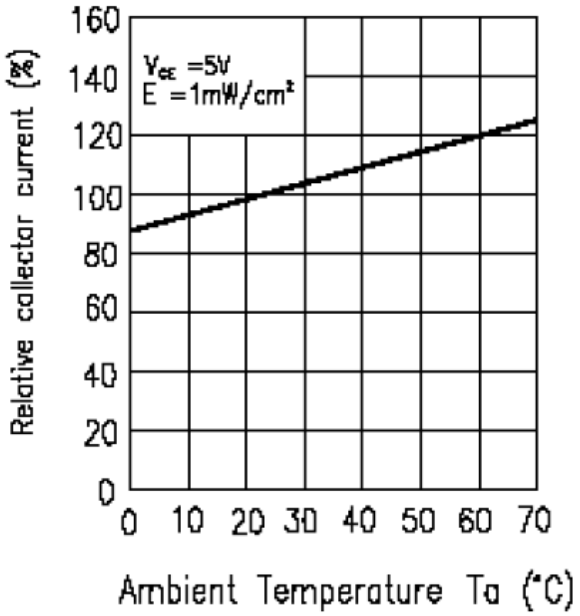
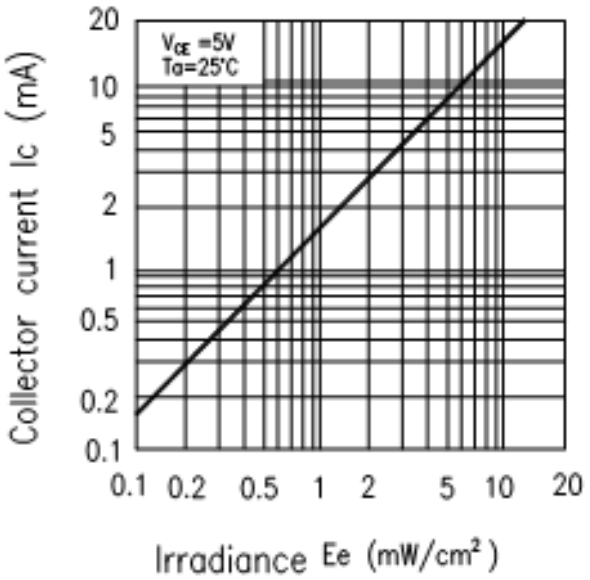
Forward Current vs. Forward Voltage

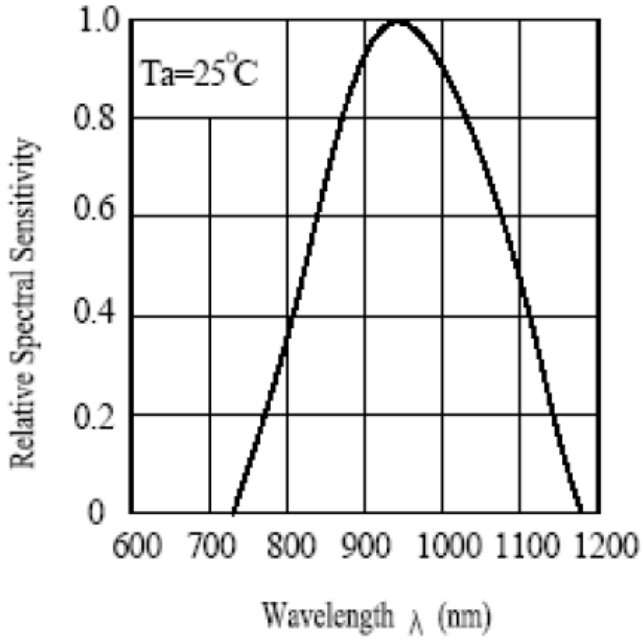
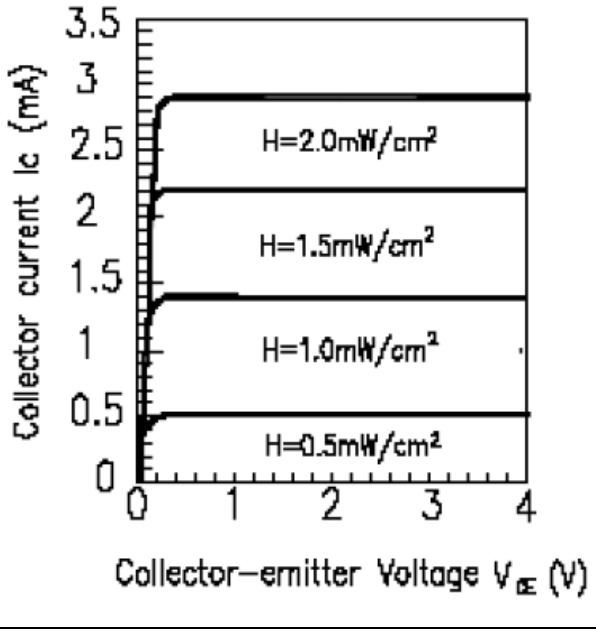


Radiant Intensity vs. Forward Current	Relative Radiant Intensity vs. Angular Displacement
	

Typical Electro/Optical/Characteristics Curves for PT

Collector Power Dissipation vs. Ambient Temperature	Relative Collector Current vs. Ambient Temperature
	

Relative collector current vs. Ambient Temperature	Collector Current vs. Irradiance
	

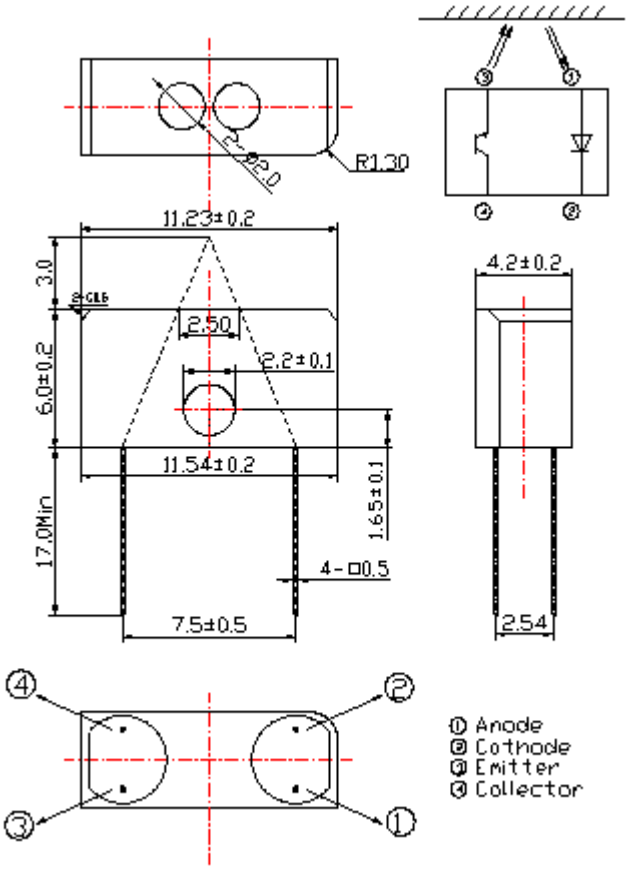
Relative Senitivity vs. Wavelenghth	Collector curent vs. Collector-Emitter Voltage
	

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℃ ± 5 ℃	10 sec	22 PCs		0/1
2	**Temperature Cycle**	H : +100℃ 15 mins 5 min L : -40℃ 15 min	300 cycle	22 PCs	Ic(on)≦L×0.8	0/1
3	**Thermal Shock**	H : +100℃ 5 min 10 sec L : -10℃ 5 min	300 cycle	22 PCs	L :Lower specification limit	0/1
4	**High Temperature Storage**	TEMP. : +100℃	1000 hrs	22 PCs		0/1
5	**Low Temperature Storage**	TEMP. : -40℃	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℃ / 85% R.H.	1000 hrs	22 PCs		0/1

Package Dimension



Notes:

1.All dimensions are in millimeters

2.Tolerances unless dimensions ±0.2mm

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

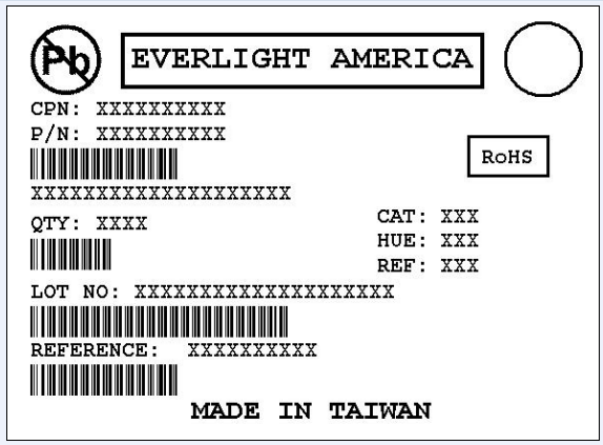
5.These specification sheets include materials protected under copyright of EVERLIGHT Americas corporation . Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's Americas consent

6.When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERIGHT 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.

Packing Quantity Specification

1. 150 pcs/1bag，5 bags/1box
2. 10 boxes/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.
3. These specification sheets include materials protected under copyright of EVERLIGHT Americas corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT Americas consent.

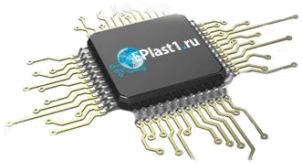
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.