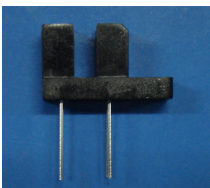


Opto Interrupter ITR8104



Features

- Fast response time
- High analytic
- Cut-off visible wavelength $\lambda_p=940\text{nm}$
- High sensitivity
- Pb free
- This product itself will remain within RoHS compliant version

Description

- The **ITR8104** consist of an infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing,
- The phototransistor receives radiation from the IR only .This is the normal situation.
- But when an object is in between , phototransistor could not receives the radiation.

Applications

- Mouse Copier
- Switch Scanner
- Floppy disk driver
- Non-contact Switching
- For Direct Board

Device Selection Guide

Chip Materials	Lens Color
GaAlAs	Water clear
Silicon	Water clear

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	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	Pd	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		T _{opr}	-40~+85	°C
Storage Temperature		T _{stg}	-40~+85	°C
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		T _{sol}	260	°C

(*1) tw=100 μsec. , T=10 msec.

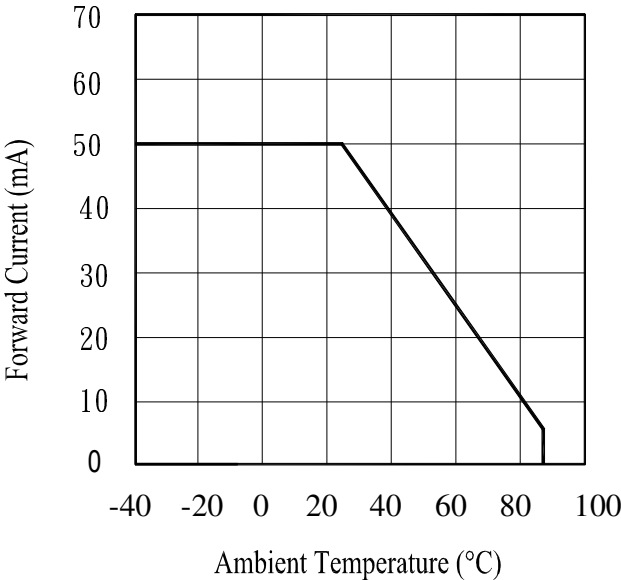
(*2) t=5 Sec

Electro-Optical Characteristics (Ta=25°C)

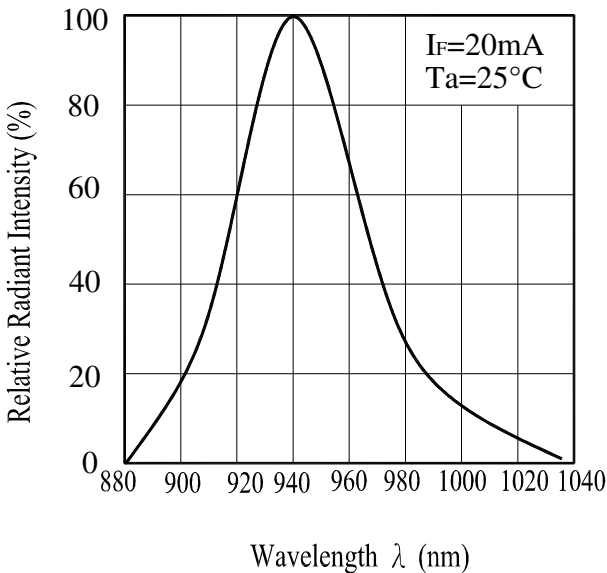
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V_F	---	1.2	1.6	V	$I_F=20\text{mA}$
	Reverse Current	I_R	---	---	10	μA	$V_R=5\text{V}$
	Peak Wavelength	λ_P	---	940	---	nm	$I_F=20\text{mA}$
	View Angle	2 θ 1/2	---	60	---	Deg	$I_F=20\text{mA}$
Output	Dark C urrent	I_{CEO}	---	---	100	nA	$V_{CE}=20\text{V}, E_e=0\text{mW}/\text{cm}^2$
	C-E Saturation Voltage	$V_{CE}(\text{sat})$	---	---	0.4	V	$I_C=2\text{mA}$ $, E_e=1\text{mW}/\text{cm}^2$
Transfer Characteristics	Collect Current	$I_C(\text{ON})$	0.5	---	---	mA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
		$I_C(\text{OFF})$	---	---	20	μA	$V_{CE}=5\text{V}$ $I_F=0\text{mA}$
	Rise time	t_r	---	20	---	μsec	$V_{CE}=5\text{V}$ $I_C=1\text{mA}$ $R_L=1\text{K}\Omega$
	Fall time	t_f	---	20	---	μsec	

Typical Electrical/Optical/Characteristics Curves for IR

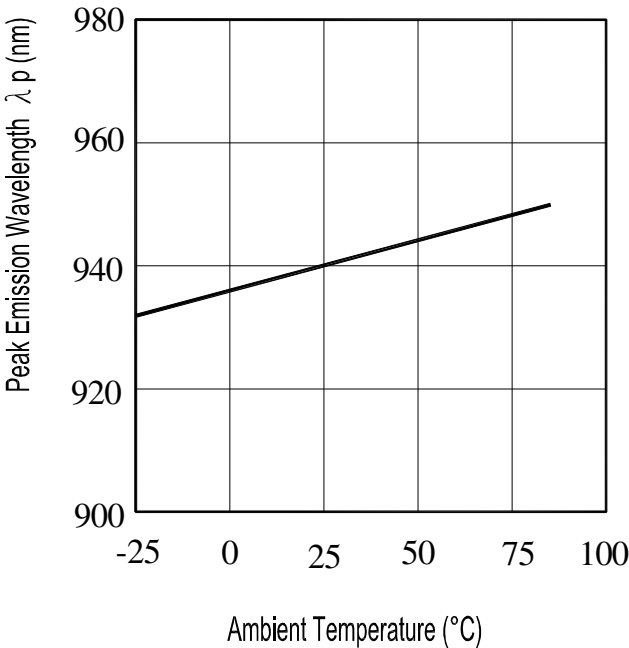
Forward Current vs. Ambient Temperature



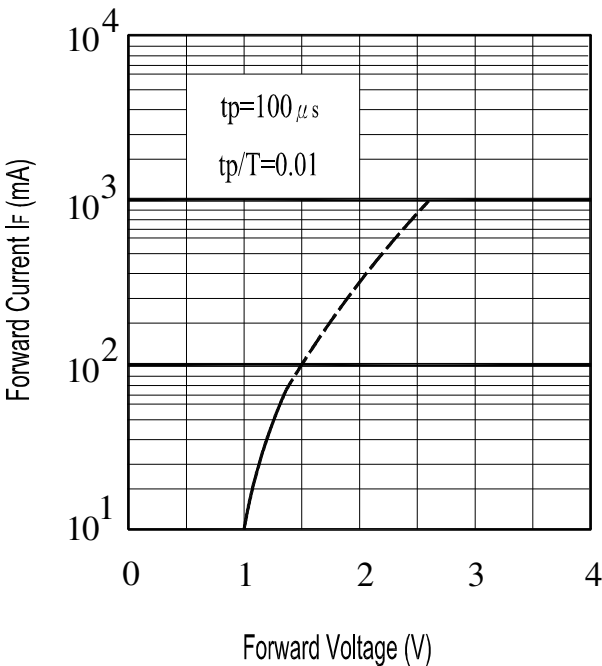
Spectral Sensitivity



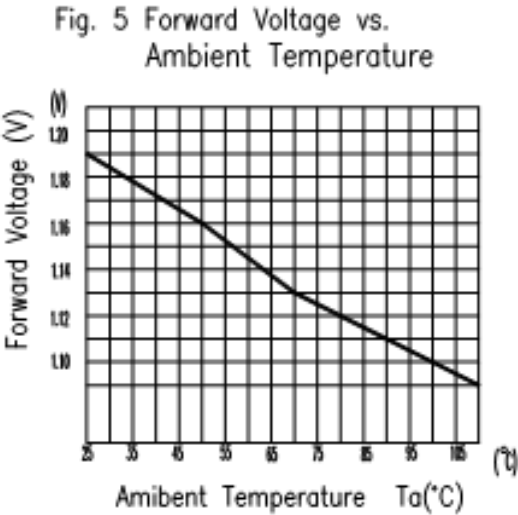
Peak Emission Wavelength vs. Ambient Temperature



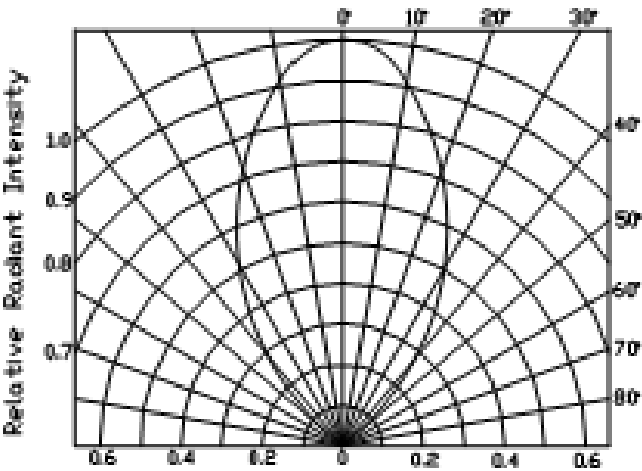
Forward Current vs. Forward Voltage



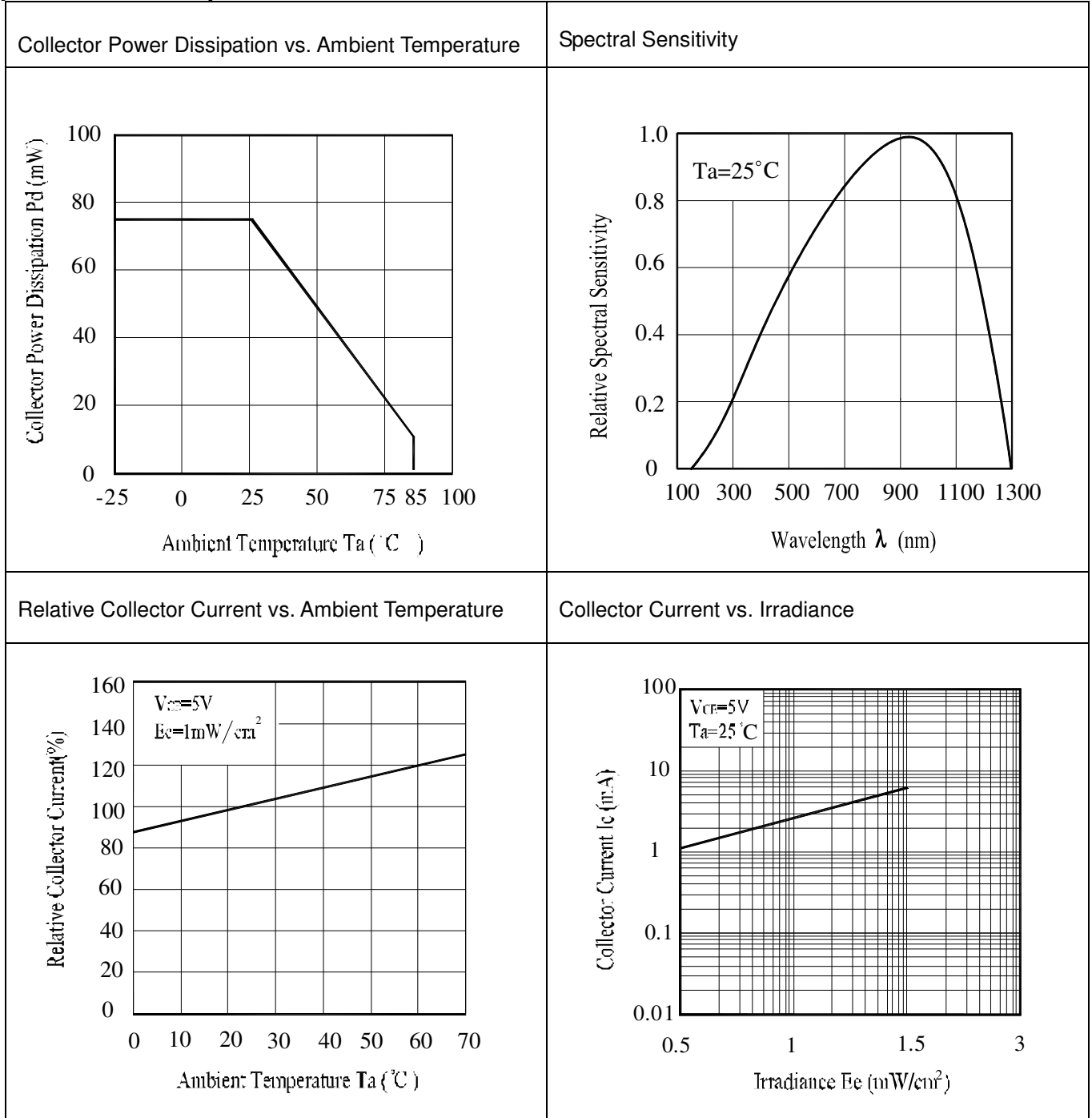
Forward Voltage vs. Ambient Temperature



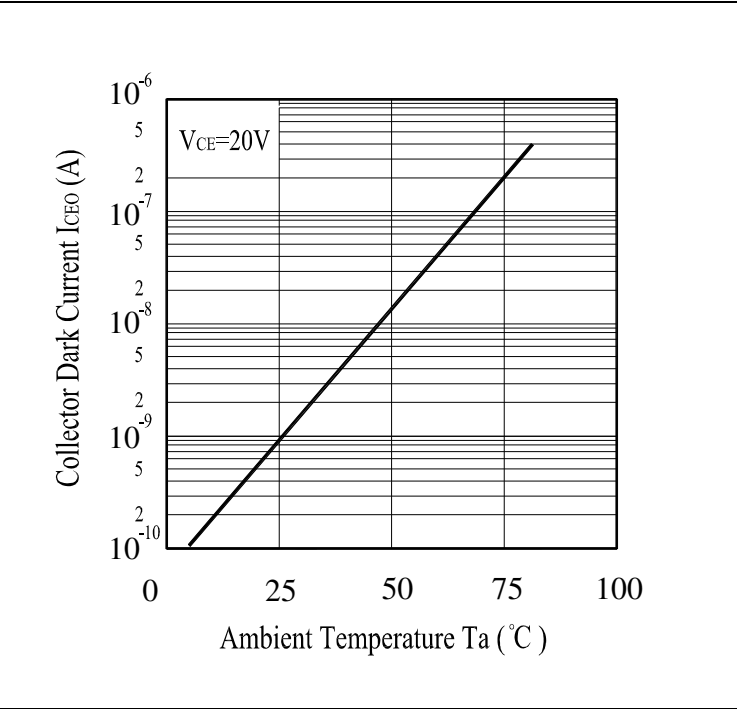
Relative Radiant Intensity vs. Angular Displacement



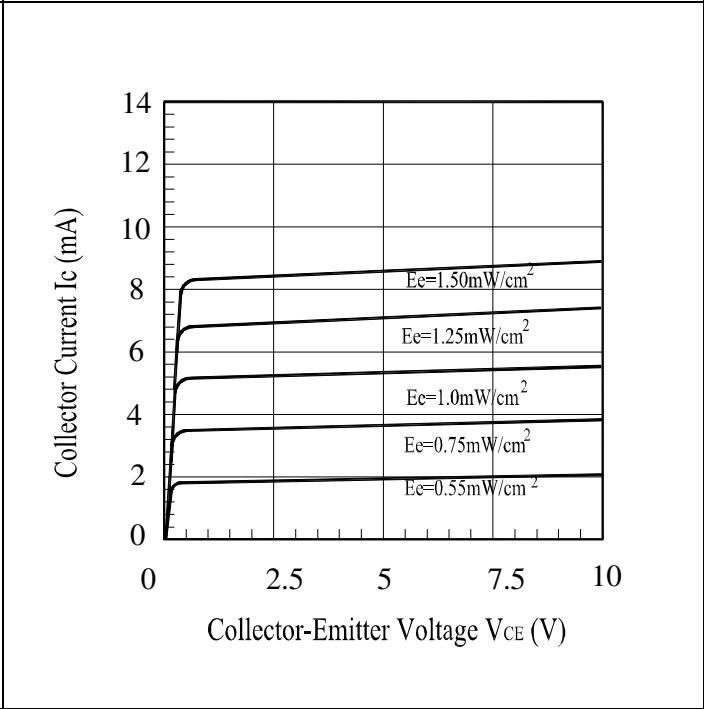
Typical Electrical/Optical/Characteristics Curves for PT



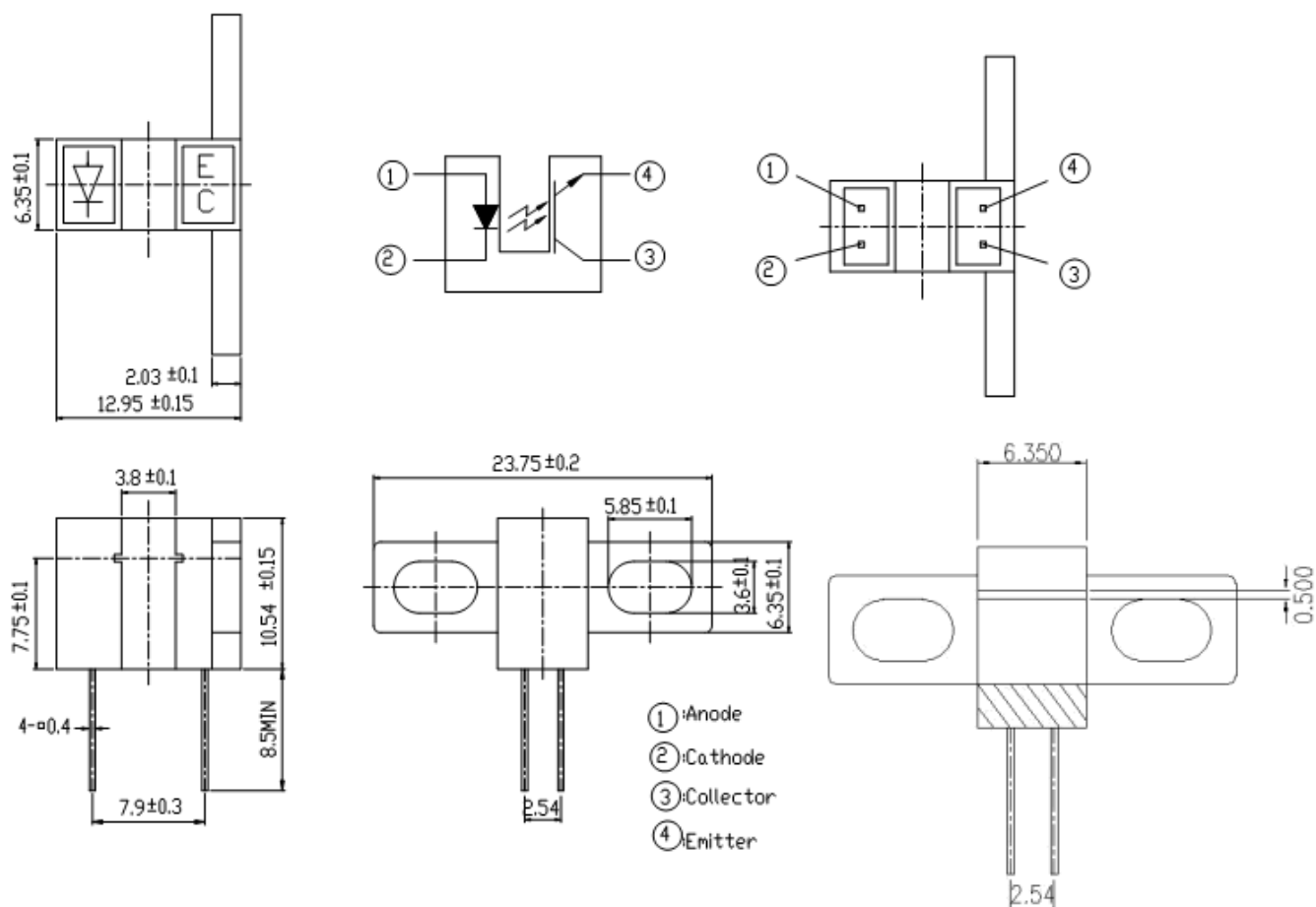
Collector Dark Current vs. Ambient Temperature



Collector Current vs. Collector-Emitter Voltage



Package Dimension



Note: Tolerances unless dimensions $\pm 0.25\text{mm}$

Packing Quantity Specification

1.27PCS/1Tube, 100 Tubes/1Box

2. 4Boxes/1Carton

Label Form Specification

The diagram illustrates the layout of a product label. It includes the following elements:

- CPN:** Customer's Product Number (represented by a barcode).
- P/N:** Product Number (represented by a barcode).
- ITR8104**: Product model number.
- QTY:** Packing Quantity (represented by a barcode).
- LOT NO:** Lot Number (represented by a barcode).
- Reference**: Identify Label Number (represented by a barcode).
- EVERLIGHT**: Brand name.
- RoHS**: Compliance mark.
- X**: Month (represented by a circle with an X).
- CAT:** Luminous Intensity Rank.
- HUE:** Dom. Wavelength Rank.
- REF:** Forward Voltage Rank.

- 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 will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. EVERLIGHT 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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