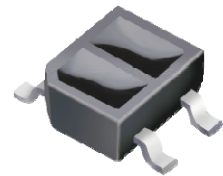


ITR8307/S17/TR8(B)

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 <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).



Description

ITR8307/S17/TR8(B) 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	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	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) (1/16 inch form body for 5 seconds)		Tsol	260	°C

Notes: (*1) $t_w=100 \mu\text{sec.}$, $T=10 \text{ msec.}$ (*2) $t=5 \text{ Sec}$

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	---
Output	Dark Current	I_{CEO}	---	---	100	nA	$V_{CE}=10\text{V}$
	C-E Saturation Voltage	$V_{CE(sat)}$	---	---	0.4	V	$I_C=2\text{mA}$ $E_e=1\text{mW/cm}^2$
Transfer Characteristics	Light Current	$I_{C(ON)}$	0.18	---	0.30	mA	$V_{CE}=5\text{V}$, $I_F=10\text{mA}$
	Leakage Current	I_{CEOD}	---	---	1	μA	
	Rise time	t_r	---	20	---	μsec	$V_{CE}=2\text{V}, I_C=100\mu\text{A}$ $R_L=1\text{K}\Omega$
	Fall time	t_f	---	20	---	μsec	

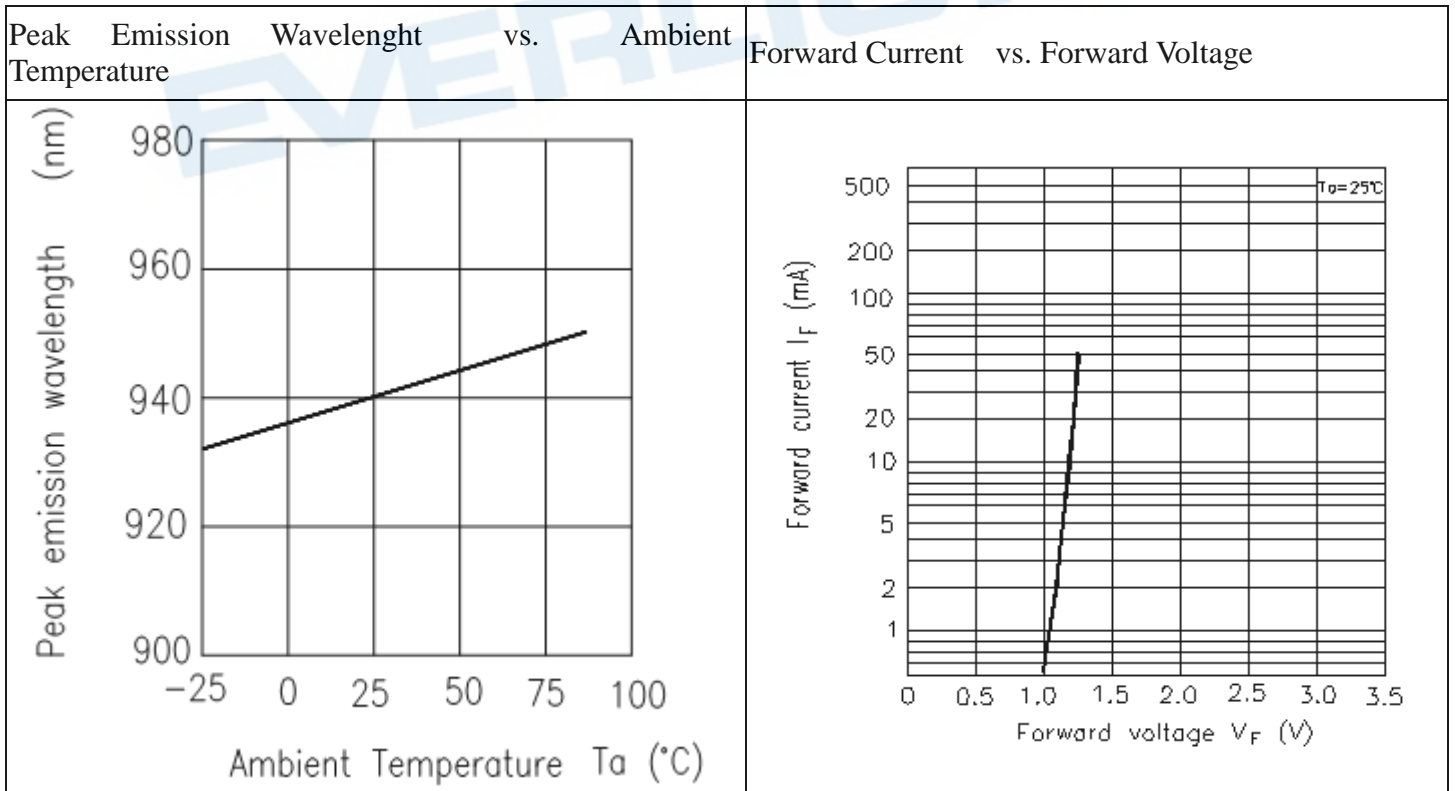
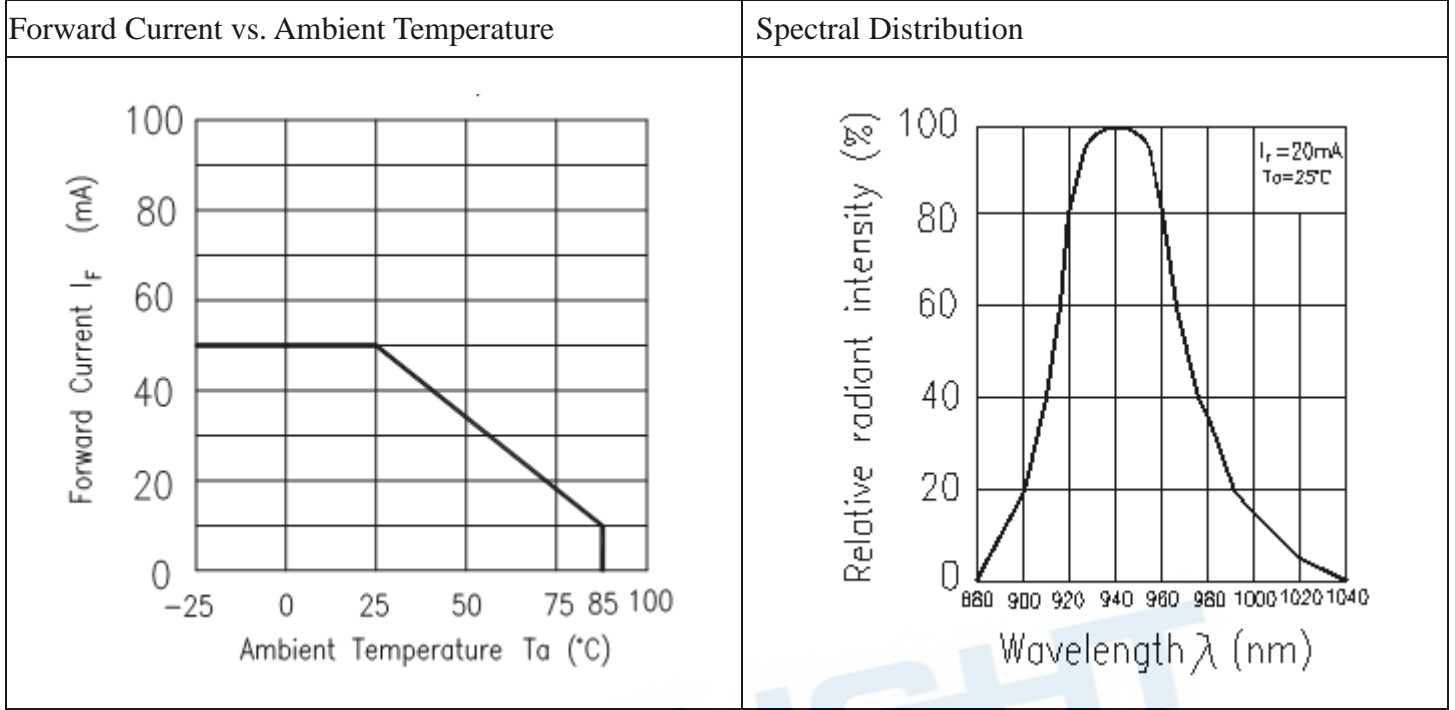
Rank

Conditions : $I_F=10\text{mA}$ $V_{CE}=5\text{V}$

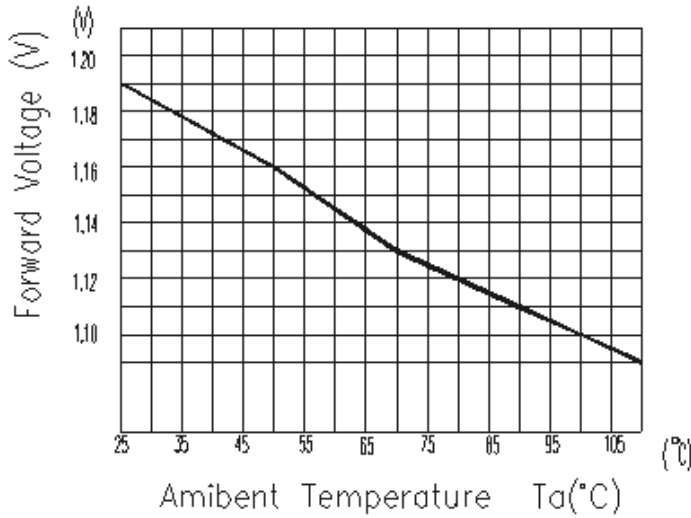
Unit: μA

Bin number	Min	Max
B1	180	250
B2	230	300

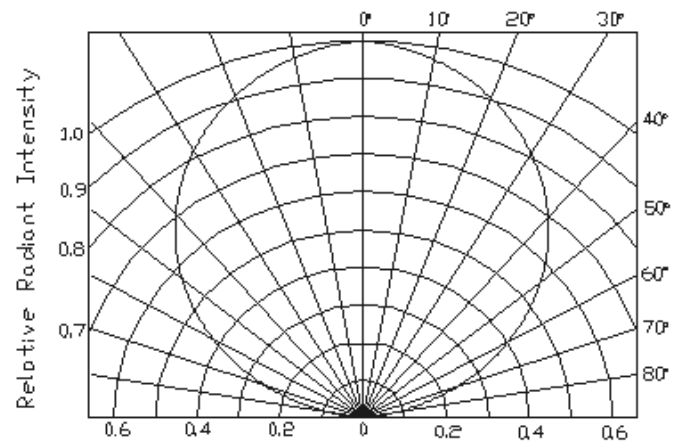
Typical Electrical/Optical/Characteristics Curves for IR



Forward Current vs. Ambient Temperature

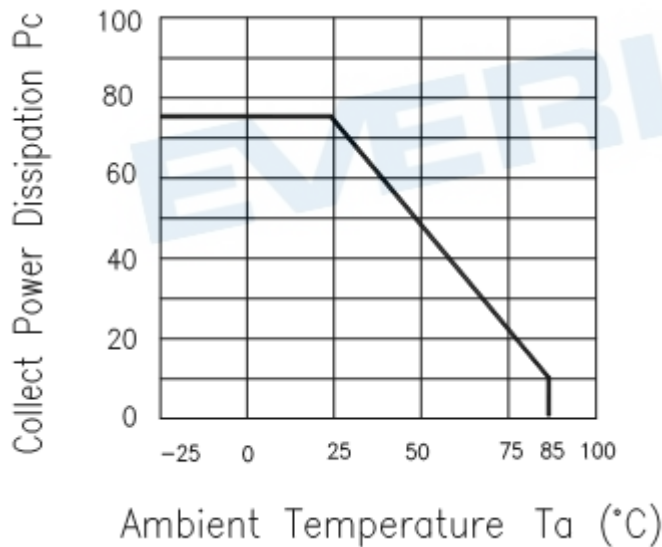


Relative Radiant Intensity vs. Angular Displacement

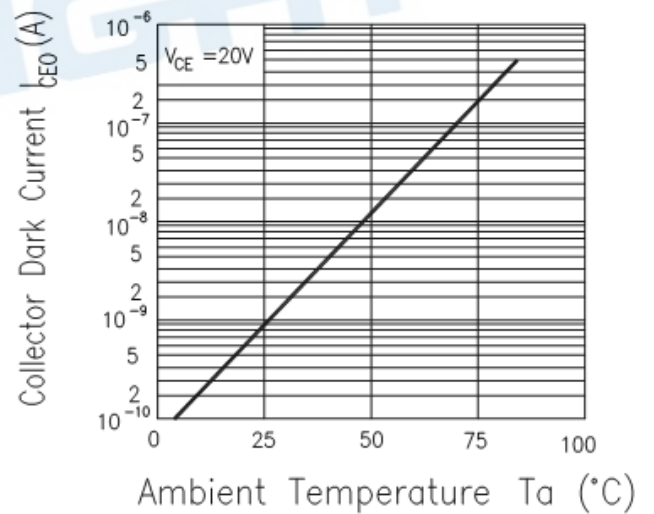


Typical Electro/Optical/Characteristics Curves for PT

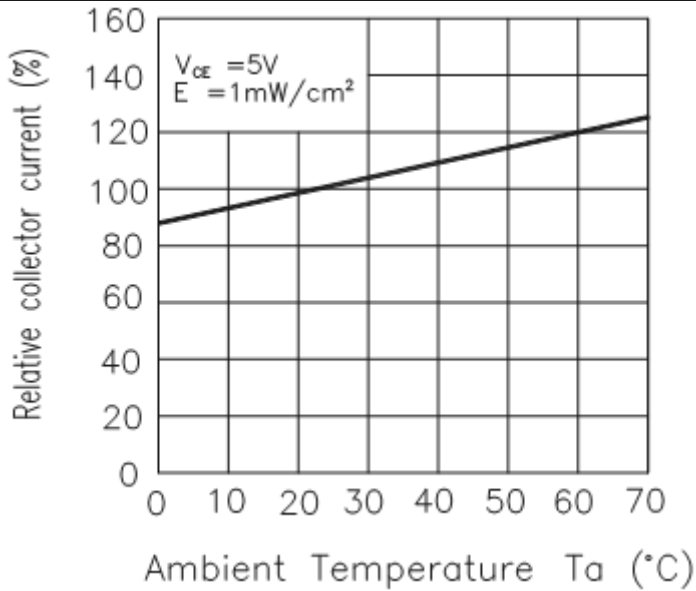
Collector Power Dissipation vs. Ambient Temperature



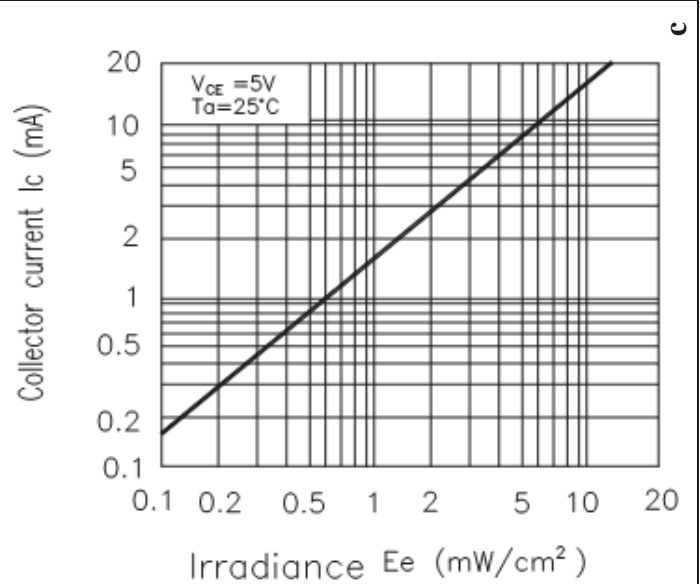
Collector Dark Current vs. Ambient Temperature



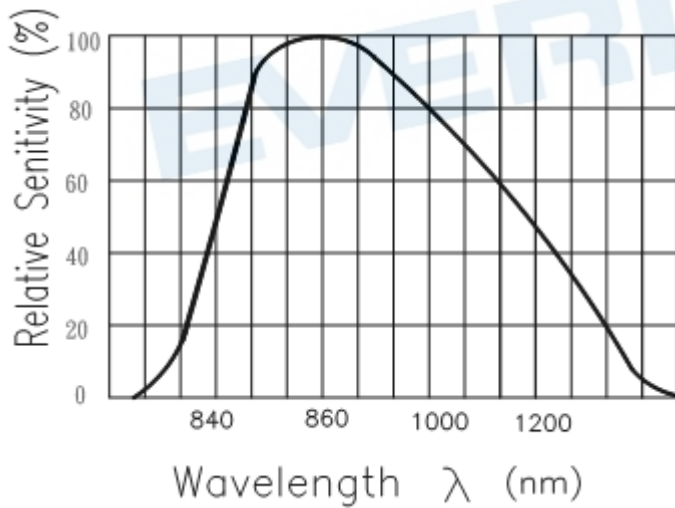
Relative Collector Current vs Ambient Temperature



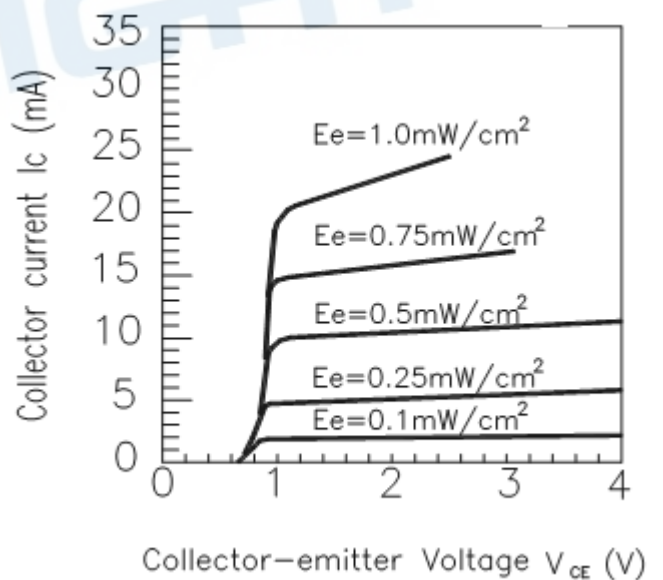
Collector Current vs. Irradiance



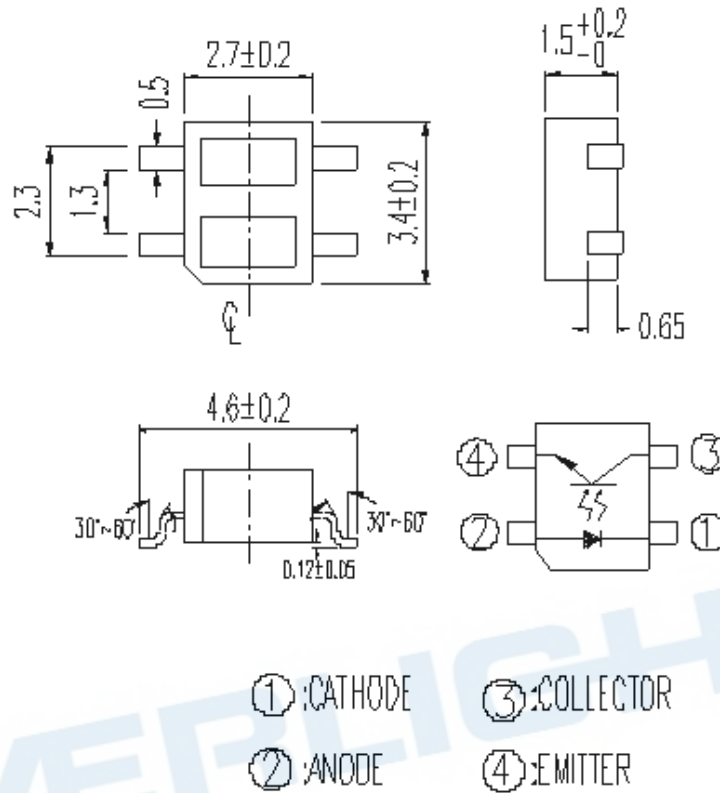
Spectral Sensitivity



Collector Current vs. Collector-emitter Voltage



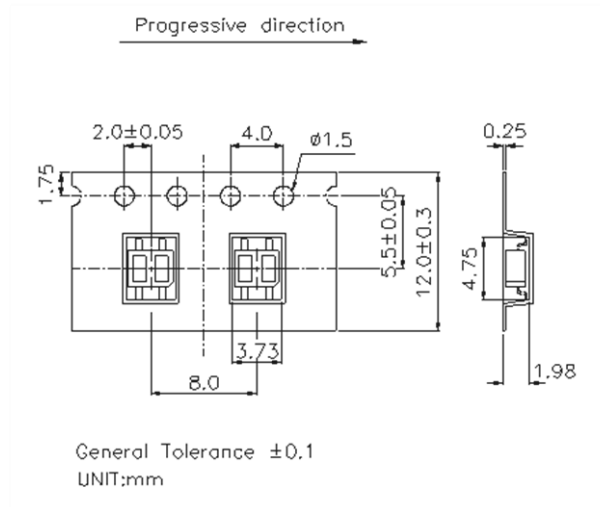
Package Dimension



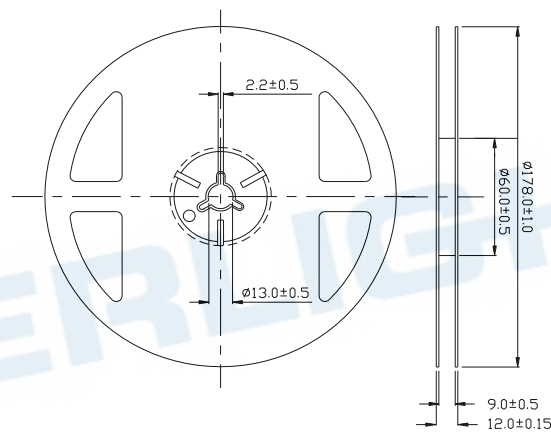
Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions ± 0.15 mm
3. Lead spacing is measured where the lead emerge from the package
4. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification
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Taping Dimension:

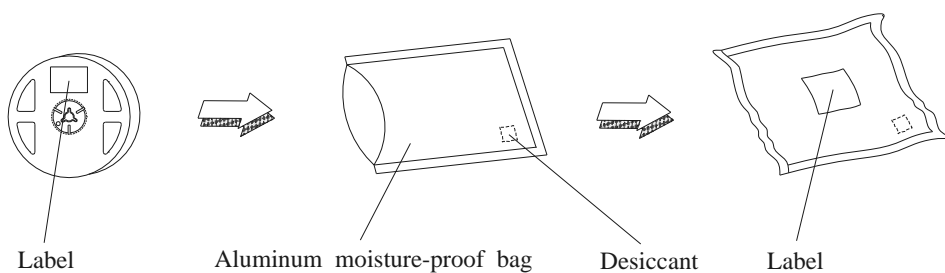


Reel Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm ,Unit = mm

Moisture Resistant Packaging



Packing Quantity Specification

1. 1000 Pcs/ 1Reel
2. 15 Reel /1 Box
3. 2 Box/ 1 Carton

Label Form Specification

The diagram shows a rectangular label form with the following fields and elements:

- Top left: A circle containing the chemical symbol **Pb**.
- Top center: The **EVERLIGHT** logo in a rectangular box.
- Top right: An empty circle.
- Below Pb: CPN :
P/N : XXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
- Below P/N: A barcode.
- Below barcode: QTY : XXX
- Below QTY: A barcode.
- Below QTY barcode: LOT NO : XXXXXXXXXXXX
- Below LOT NO: A barcode.
- Below LOT NO barcode: Reference : XXXXXXXX
- Below Reference: A barcode.
- Below Reference barcode: CAT : XXX
HUE : XXX
REF : XXX
- Bottom right: A 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

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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.
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