

ITR8307/L24/TR8

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/L24/TR8 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)

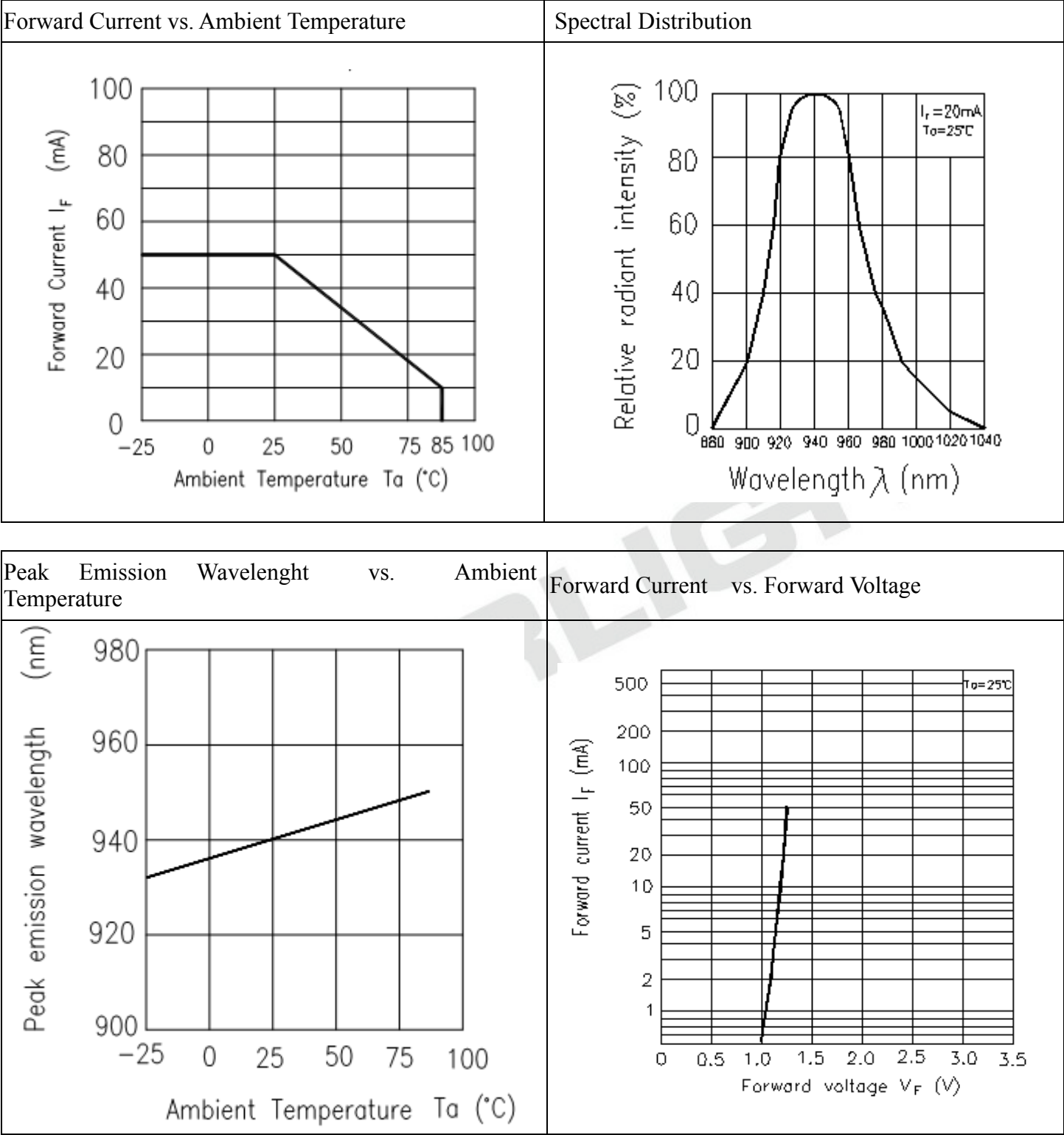
Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25 °C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	6	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1) Pulse width 100µs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	100	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	B V _{CEO}	15	V
	Emitter-Collector Voltage	B V _{ECO}	6	V
Operating Temperature		Topr	-25~+85	
Storage Temperature		Tstg	-30~+90	
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		Tsol	260	

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

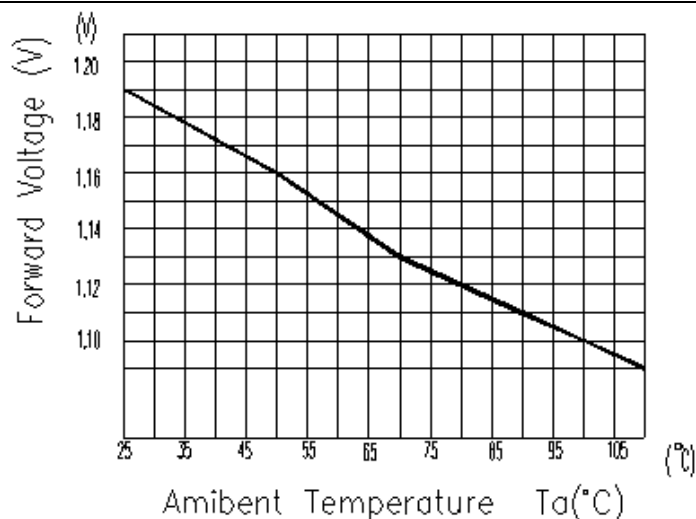
Electro-Optical Characteristics (Ta=25 °C)

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	---
Output	Dark Current	I_{CEO}	---	---	1	μA	$V_{CE}=10\text{V}$
	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	$I_{C(ON)}$	0.5	---	15.0	mA	$V_{CE}=2\text{V}$, $I_F=4\text{mA}$
	Leakage Current	I_{CEOD}	---	---	5	μA	
	Rise time	t_r	---	---	400	μsec	$V_{CE}=2\text{V}, I_C=100\mu\text{A}$ $R_L=100\Omega$
	Fall time	t_f	---	---	400	μsec	

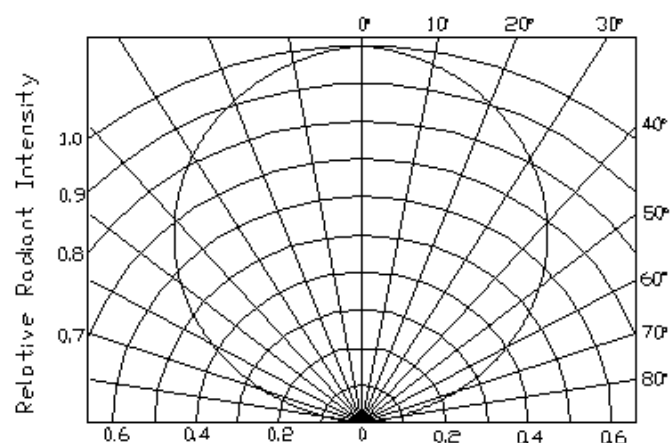
Typical Electrical/Optical/Characteristics Curves for IR



Forward Current vs. Ambient Temperature

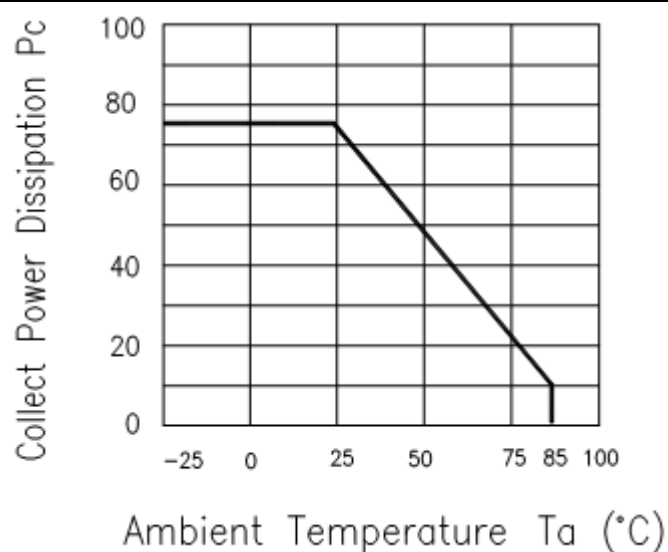


Relative Radiant Intensity vs. Angular Displacement

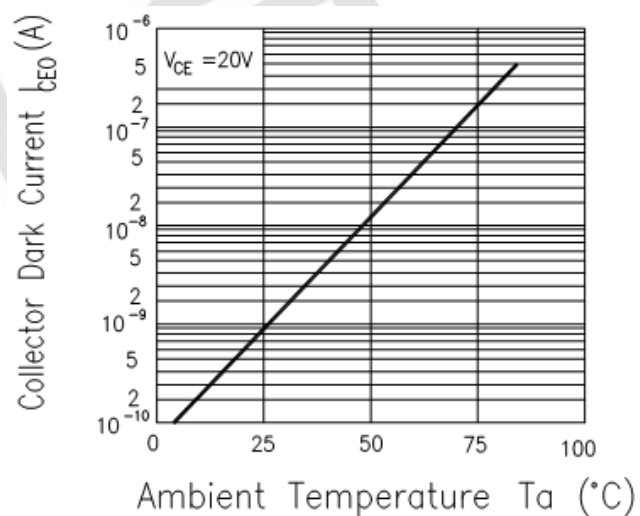


Typical Electro/Optical/Characteristics Curves for PT

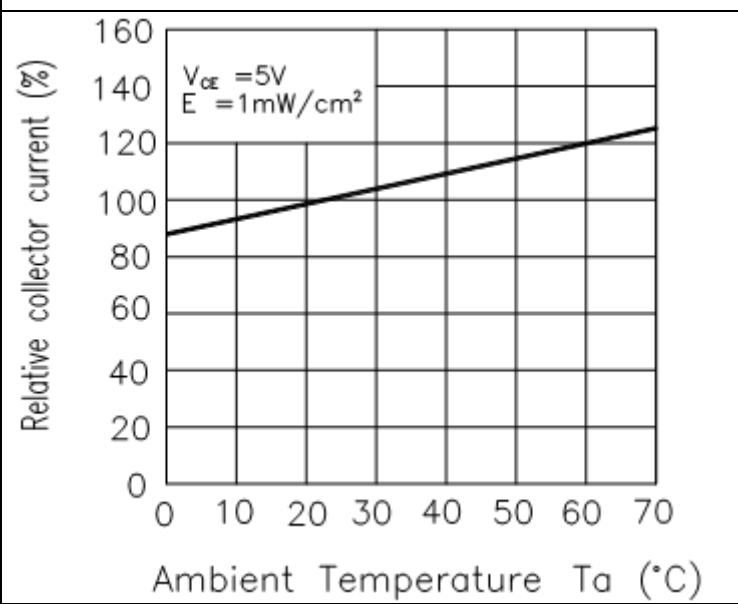
Collector Power Dissipation vs. Ambient Temperature



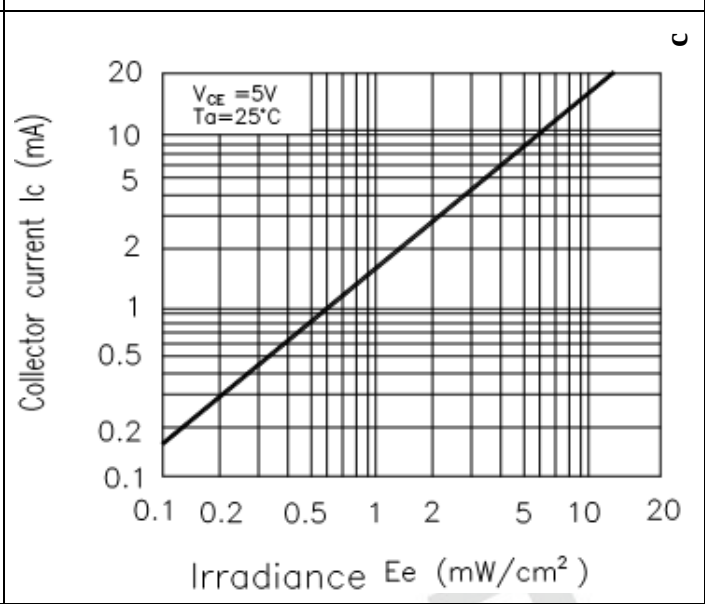
Collector Dark Current vs. Ambient Temperature



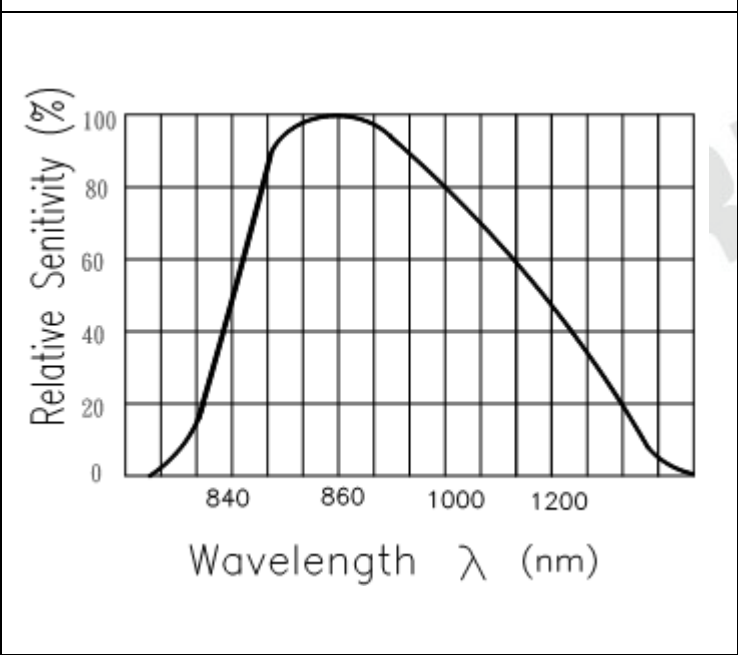
Relative Collector Current vs Ambient Temperature



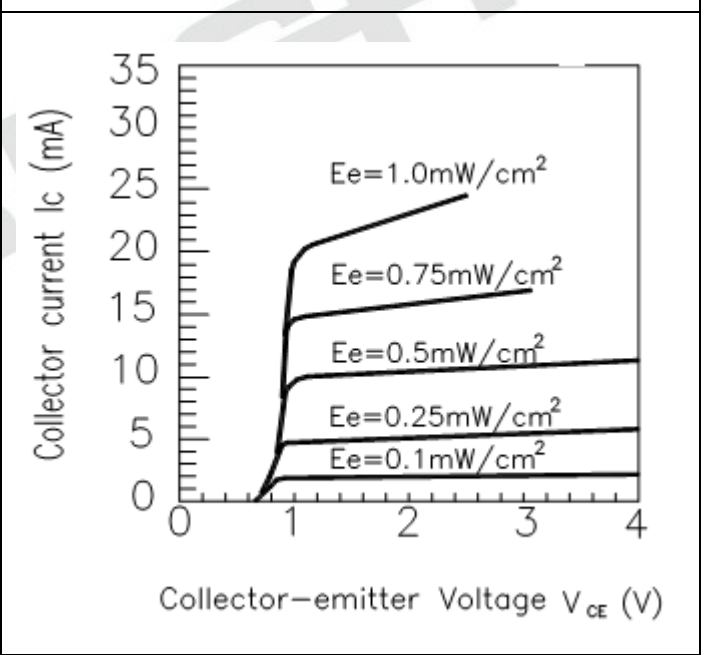
Collector Current vs. Irradiance



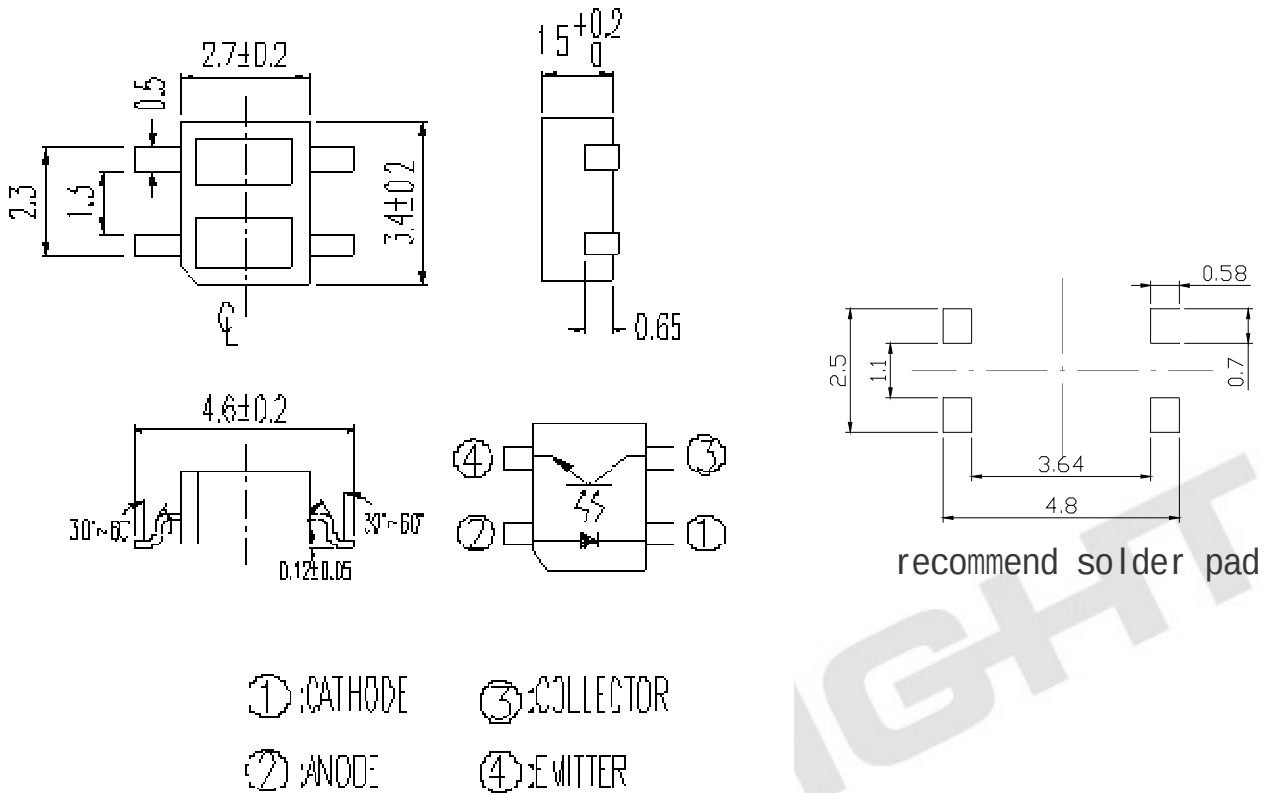
Spectral Sensitivity



Collector Current vs. Collector-emitter Voltage



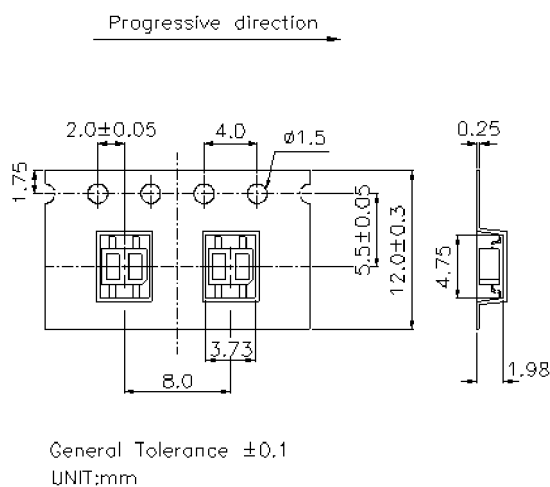
Package Dimension



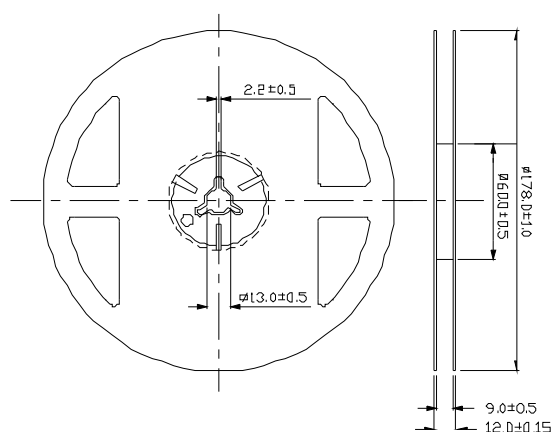
Notes:

- 1.All dimensions are in millimeters
- 2.Tolerances unless dimensions $\pm 0.25\text{mm}$
- 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
- 5.These specification sheets include materials protected under copyright of EVERLIGHT corporation . Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent
- 6.When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERIGHT 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.

Taping Dimension:

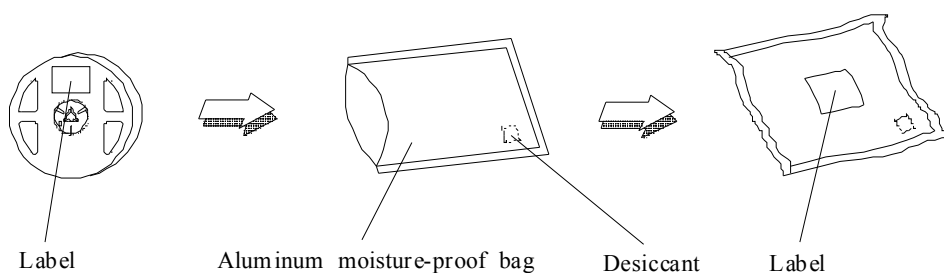


Reel Dimensions



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 elements:

- Top left: A circle with 'Pb' inside, indicating lead-free.
- Top center: The 'EVERLIGHT' logo in a rectangular box.
- Top right: An empty circle.
- Below 'Pb': 'CPN : XXXXXXXXXXXX' followed by a barcode and 'XXXXXXXXXXXX'.
- Below 'EVERLIGHT': 'RoHS' in a rectangular box.
- Below 'CPN': 'QTY : XXX' followed by a barcode.
- Below 'QTY': 'LOT NO : XXXXXXXXXX' followed by a barcode.
- Below 'LOT NO': 'Reference : XXXXXXXX' followed by a barcode.
- On the right side, below the 'RoHS' box: 'CAT : XXX', 'HUE : XXX', and 'REF : XXX'.

- 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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