

ITR8307/L24/F43

Features

- Thin
- Fast response time
- High sensitivity
- Pb free
- High analytic
- Compact

Description

The **ITR8307/L24/F43** 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 receive the radiation.

Applications

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

Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR	GaAs	Water Clear
PT	Silicon	Water Clear

Absolute Maximum Ratings (Ta=25 °C)

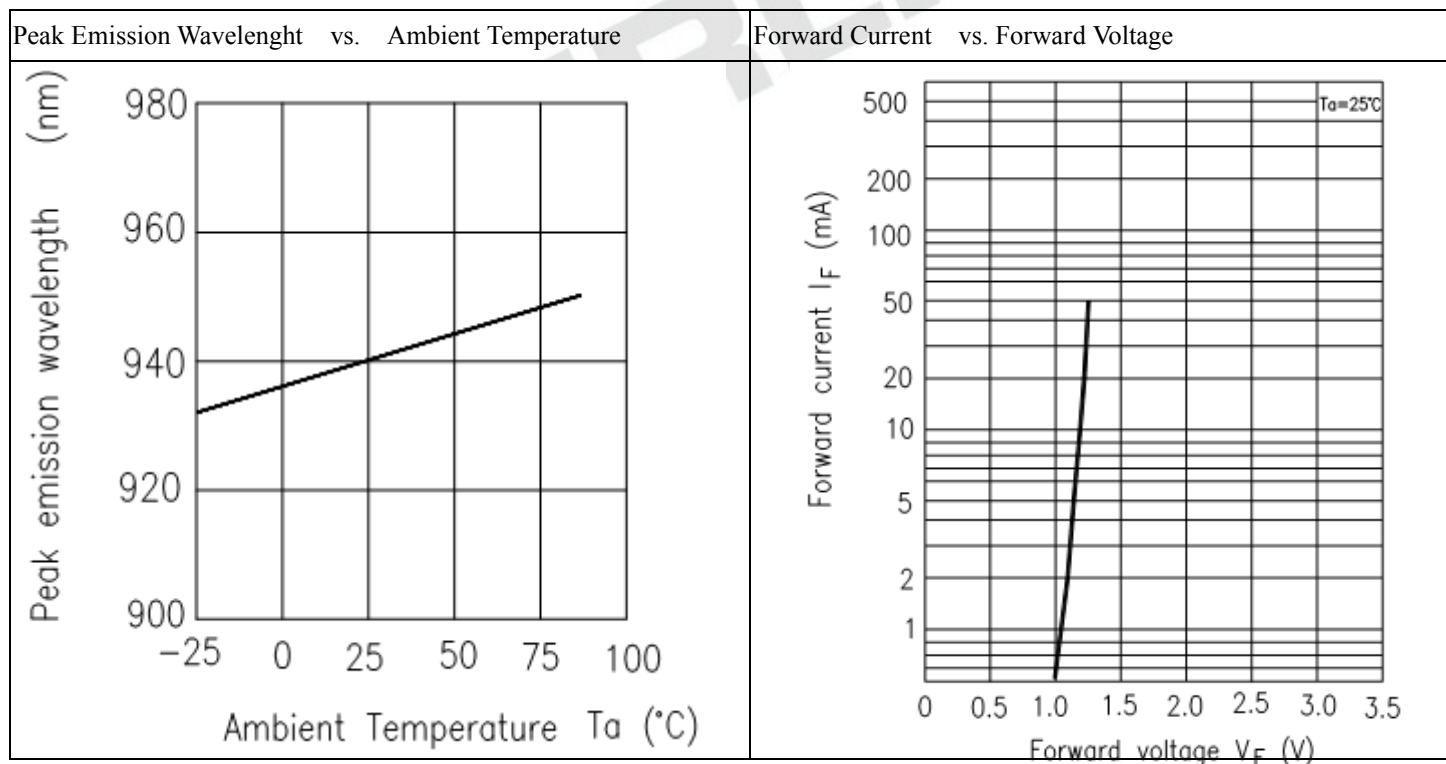
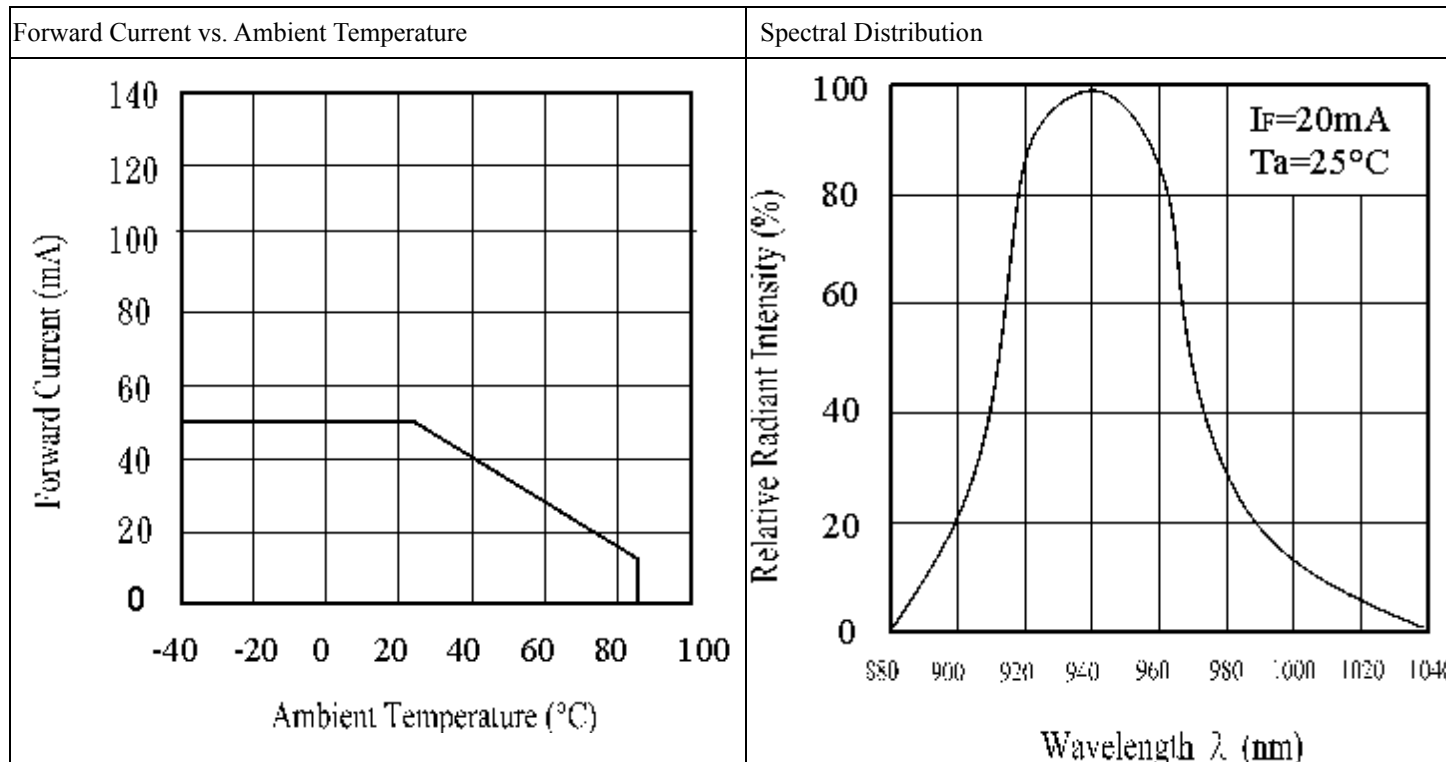
Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25 °C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	6	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1) Pulse width 100 μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	100	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	B V _{CEO}	35	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	

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

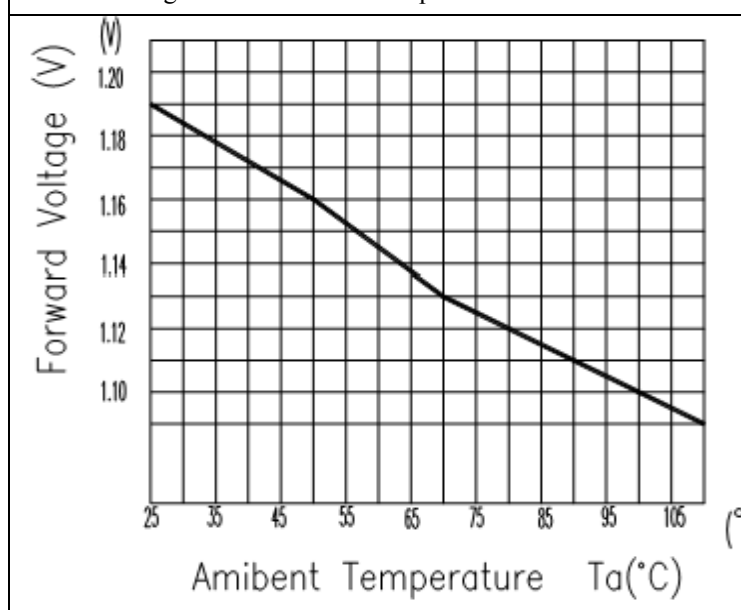
Electro-Optical Characteristics (Ta=25)

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	$V_R=5\text{V}$
	Peak Wavelength	λ_p	---	940	---	nm	$I_F=20\text{mA}$
Output	Dark Current	I_{CEO}	---	---	1	μA	$V_{CE}=10\text{V}$, $E_e=1\text{mW/cm}^2$
Transfer Characteristics	Collect Current	$I_C(\text{ON})$	0.5	---	---	mA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
	Leakage Current	I_{LEAK}	---	---	5	μA	$V_{CE}=2\text{V}$ $I_F=4\text{mA}$
	Rise time	t_r	---	80	400	μs	$V_{CE}=2\text{V}$ $I_C=10\text{mA}$ $R_L=100\Omega$ $d = 1\text{mm}$
	Fall time	t_f	---	70	400	μs	

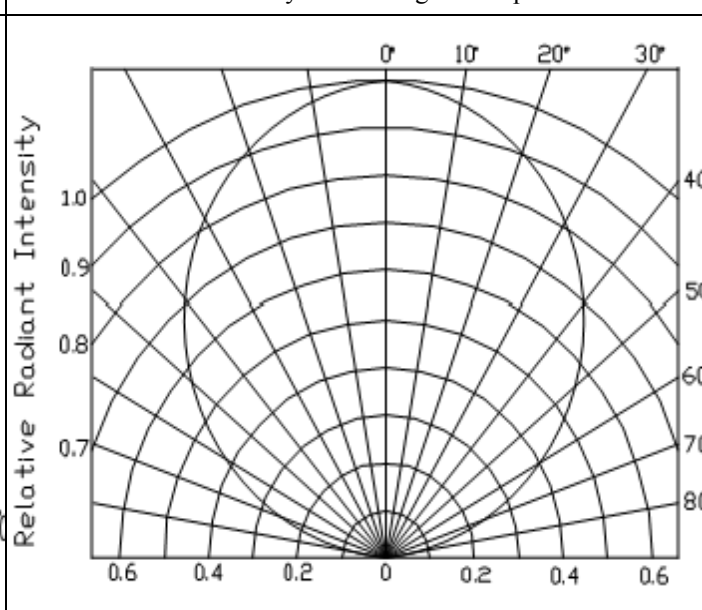
Typical Electrical/Optical/Characteristics Curves for IR



Forward Voltage vs. Ambient Temperature

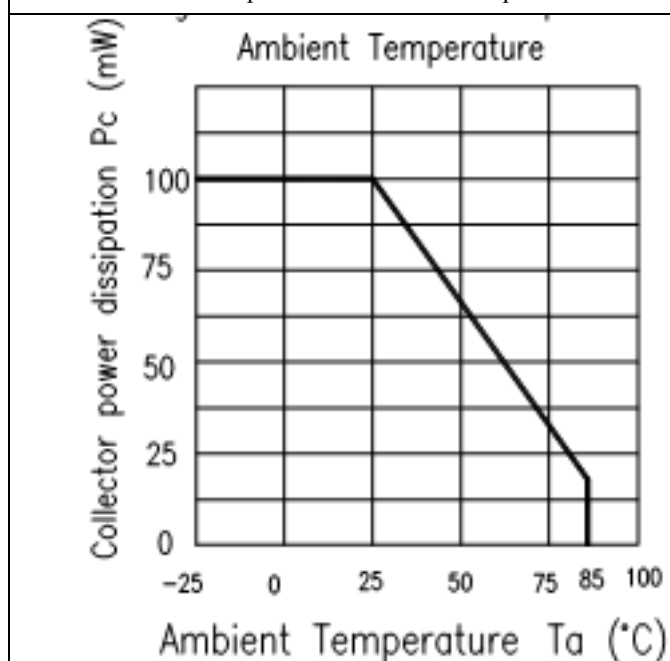


Relative Radiant Intensity vs. Angular Displacement

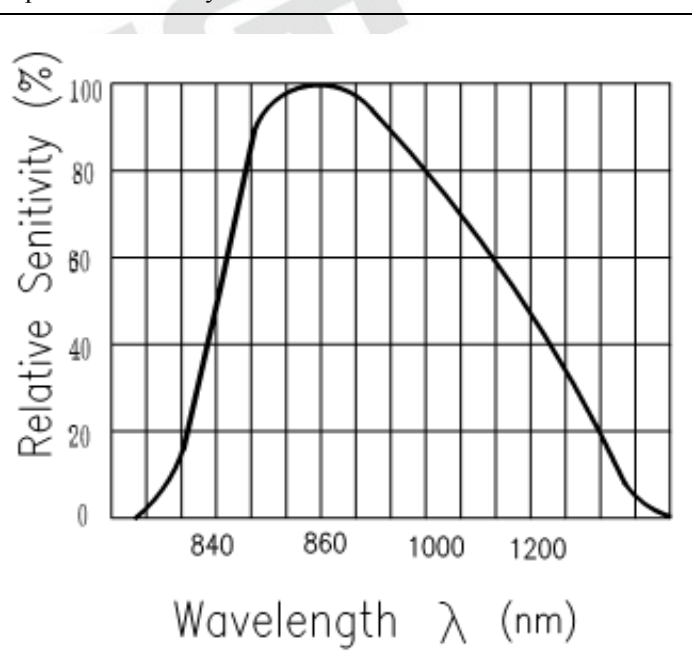


Typical Electro/Optical/Characteristics Curves for PT

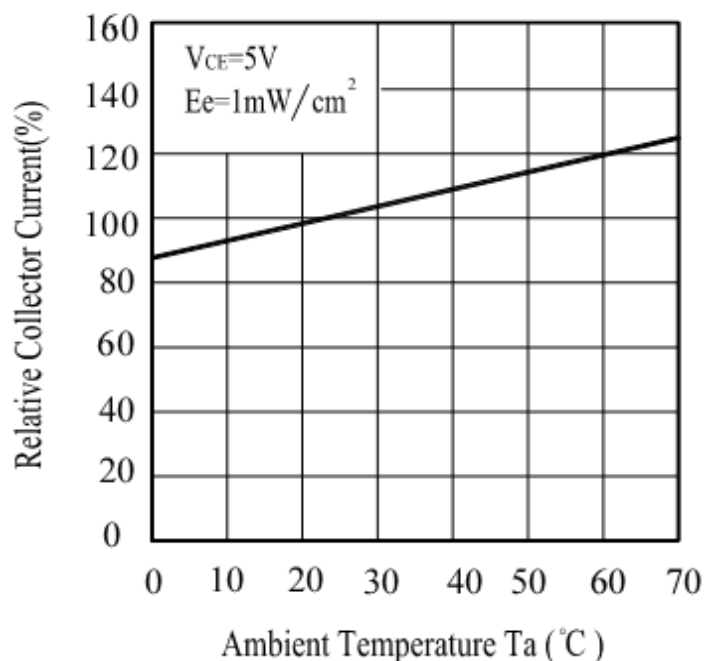
Collector Power Dissipation vs. Ambient Temperature



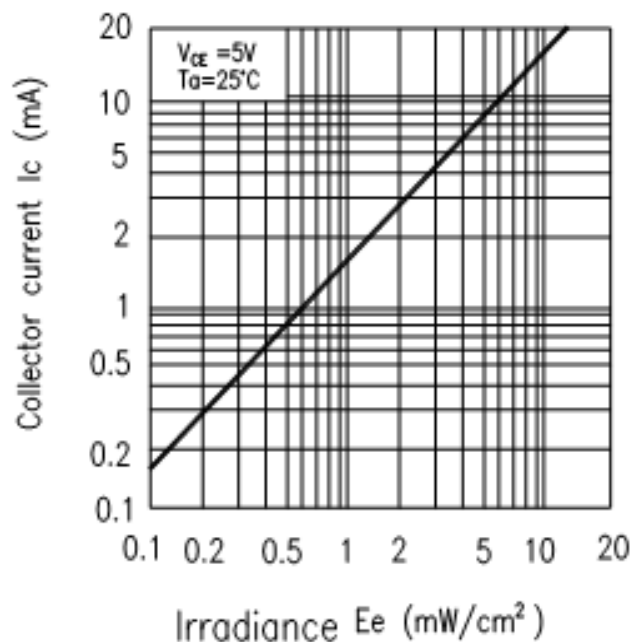
Spectral Sensitivity



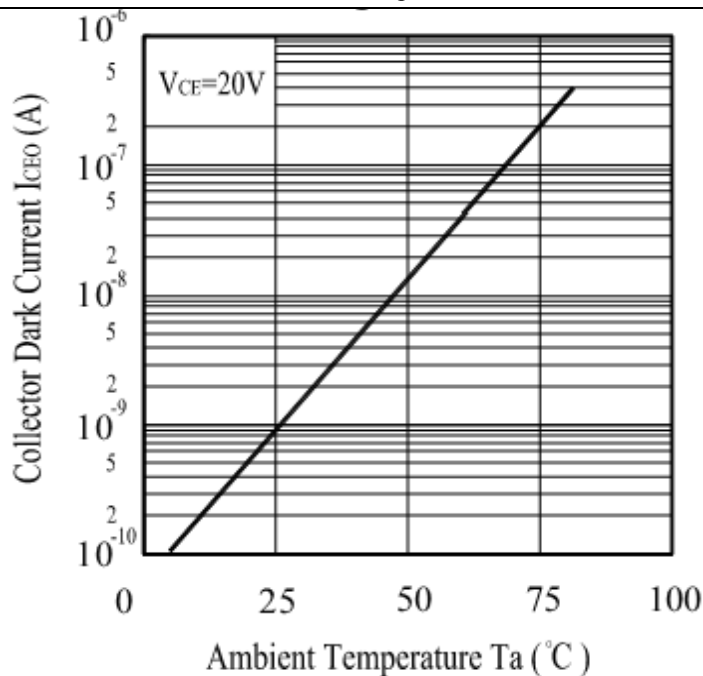
Relative Collector Current vs Ambient Temperature



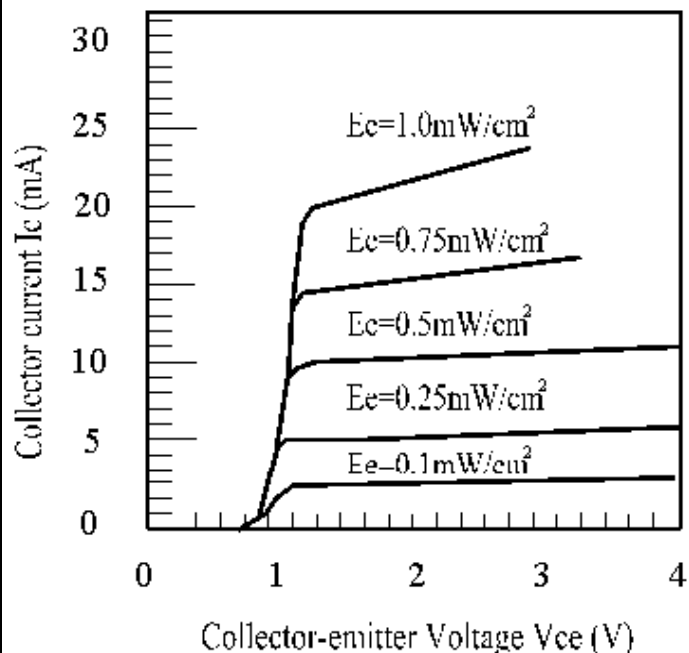
Collector Current vs. Irradiance



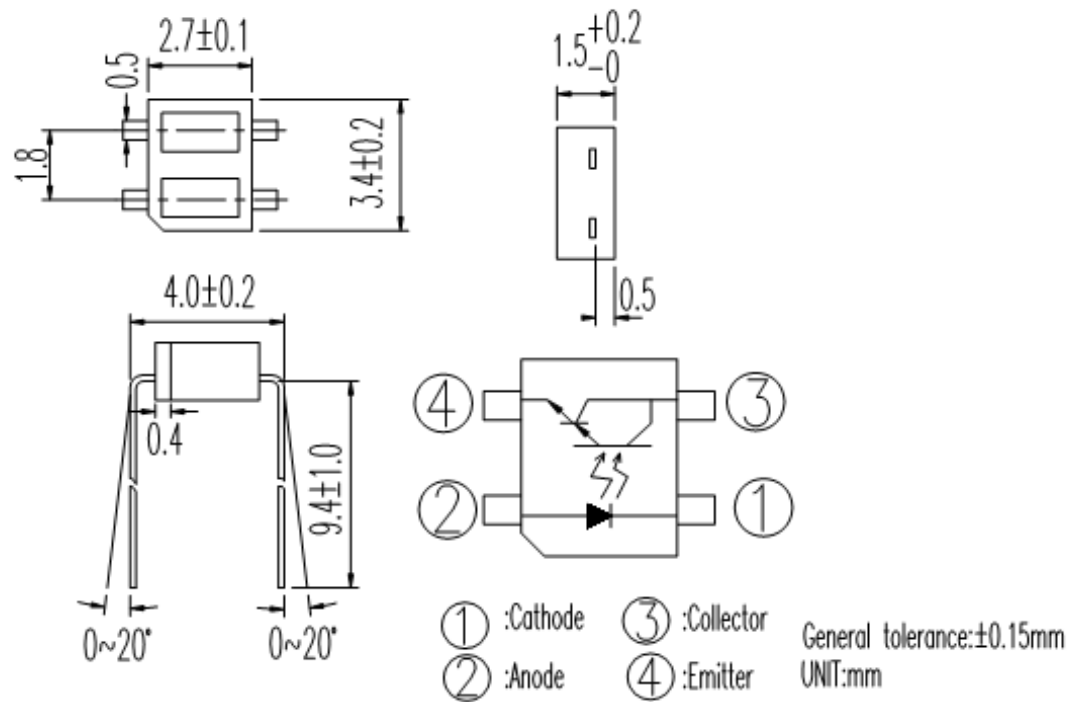
Collector Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Package Dimension



- Notes:** 1.All dimensions are in millimeters
2.Tolerances unless dimensions $\pm 0.25\text{mm}$

Packing Quantity Specification

1. 1000pcs/1Bag
2. 1Bag/1Carton

Label Form Specification

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

- EVERLIGHT** logo at the top center.
- RoHS** compliance mark on the right.
- CPN:** Customer's Product Number field.
- P/N:** Product Number field.
- QTY:** Packing Quantity field.
- CAT:** Luminous Intensity Rank field.
- HUE:** Dom. Wavelength Rank field.
- REF:** Forward Voltage Rank field.
- LOT NO:** Lot Number field.
- Reference:** Identify Label Number field.
- ITR8307/L24/F43** product code.
- Four barcode areas corresponding to the fields above.
- A circular mark with the letter **X** on the right side.

- 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 instructions 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.
3. 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.