DATASHEET

Technical Data Sheet
Infrared MIDLED LED
IR89-01C/1R

Features

- Low forward voltage.
- View angle 30°(Typ.)
- Pb free
- The 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

- IR89-01C/1R is an infrared emitting diode with miniature MIDLED package. The device is spectrally matched with silicon photodiode and phototransistor

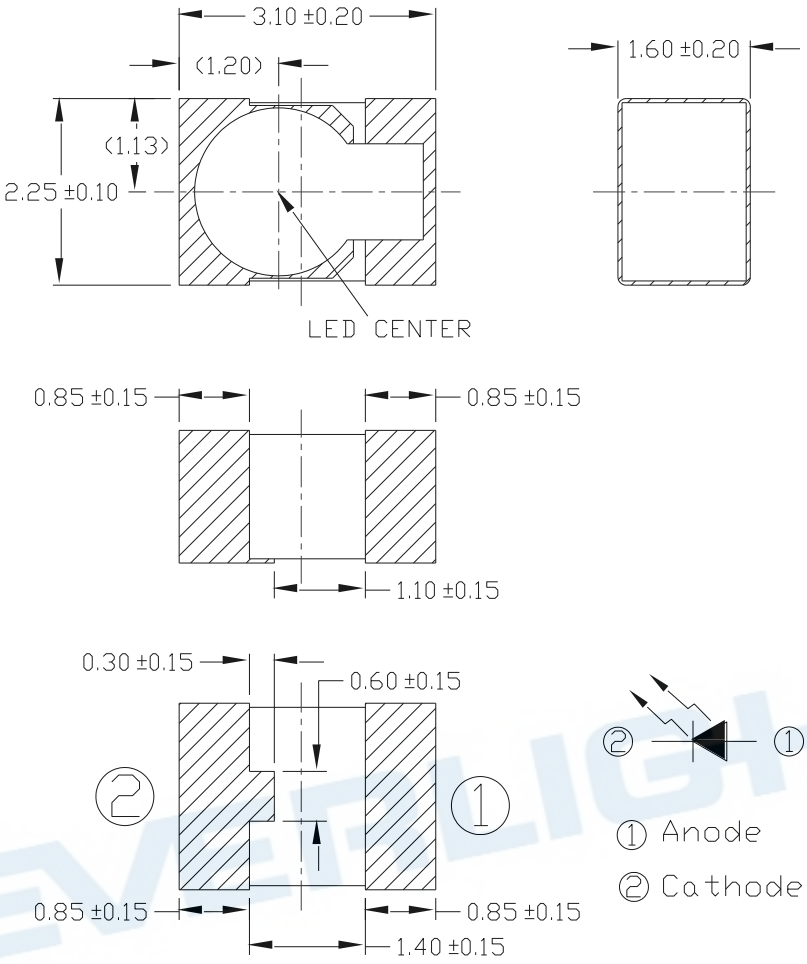
Applications

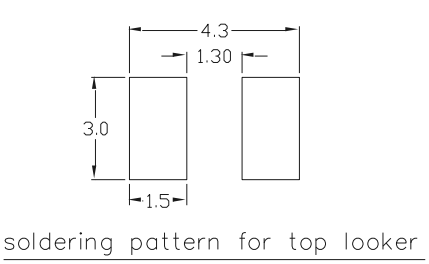
- Infrared applied system

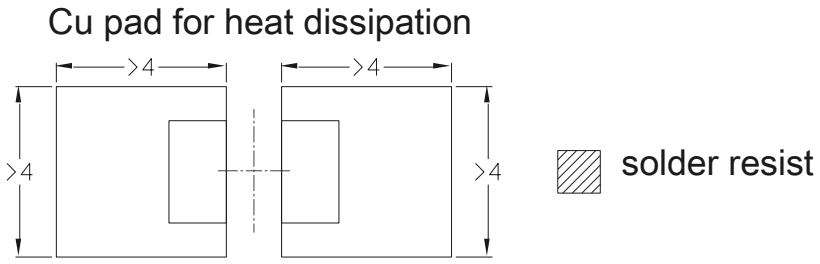
Device Selection Guide

Device No.	Chip Material	Lens Color
IR89-01C/1R	GaAlAs	Water clear

Package Dimensions







Notes: 1.All dimensions are in millimeters
2.Tolerances unless dimensions ±0.1mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	65	mA
Peak Forward Current *1	I_{FP}	650	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature *2	T_{sol}	260	℃
Power Dissipation at(or below) 25℃ Free Air Temperature	P_d	100	mW

Notes: *1: I_{FP} Conditions--Pulse Width≦500 μs and Duty≦5%.
*2: Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ie	---	12	---	mW /sr	I_F=20mA
		30	55	---		I_F=100mA Pulse Width≦100 μs ,Duty≦1%
Peak Wavelength	λp	920	940	960	nm	I_F=30mA
Spectral Bandwidth	Δλ	---	30	---	nm	I_F=30mA
Forward Voltage	V_F	---	1.3	1.6	V	I_F=20mA
		---	1.5	2.0		I_F=100mA Pulse Width≦100 μs ,Duty≦1%
Reverse Current	I_R	---	---	10	μA	V_R=5V
View Angle	2θ1/2	---	30	---	deg	I_F=20mA
Dimensions of the active chip area	L*W	0.18*0.18			mm*mm	---
Chip Size	L*W	0.2*0.2			mm*mm	---

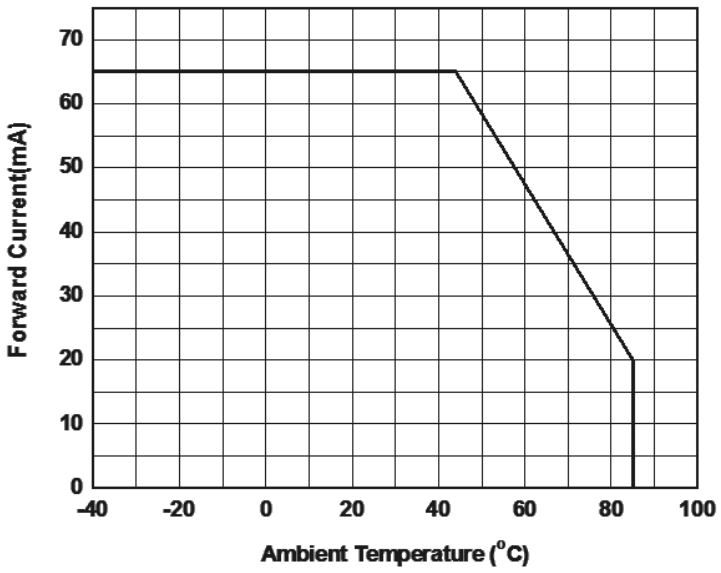
Rank

Condition：I_F=100mA
Unit：mW/sr

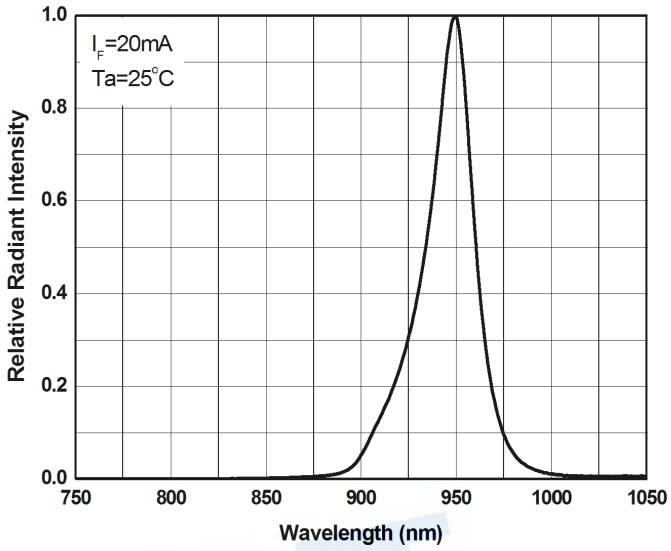
Bin Number	C	D
Min	40	63
Max	80	125

Typical Electrical/Optical/Characteristics Curves for IR

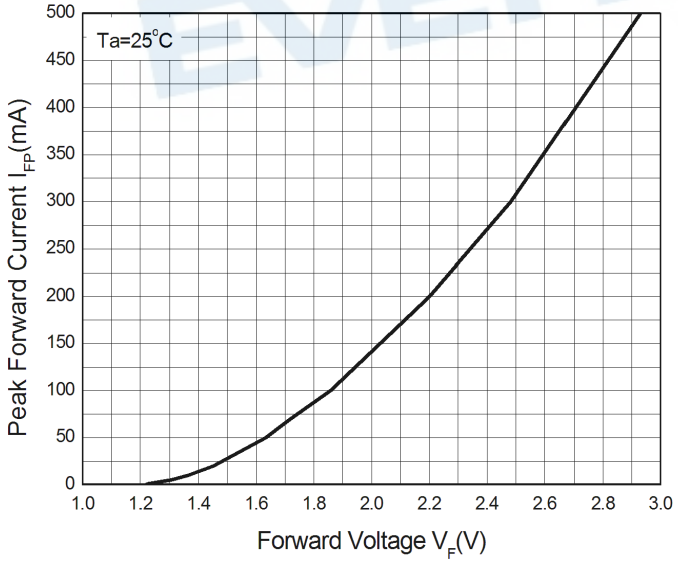
Forward Current vs. Ambient Temperature



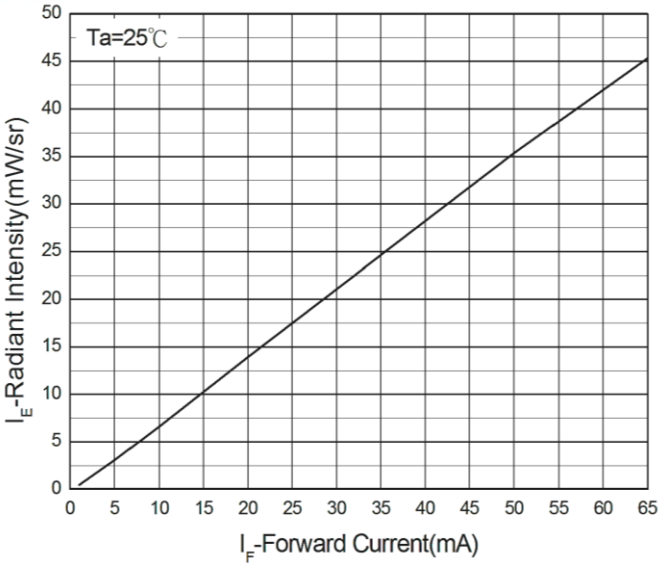
Spectral Distribution



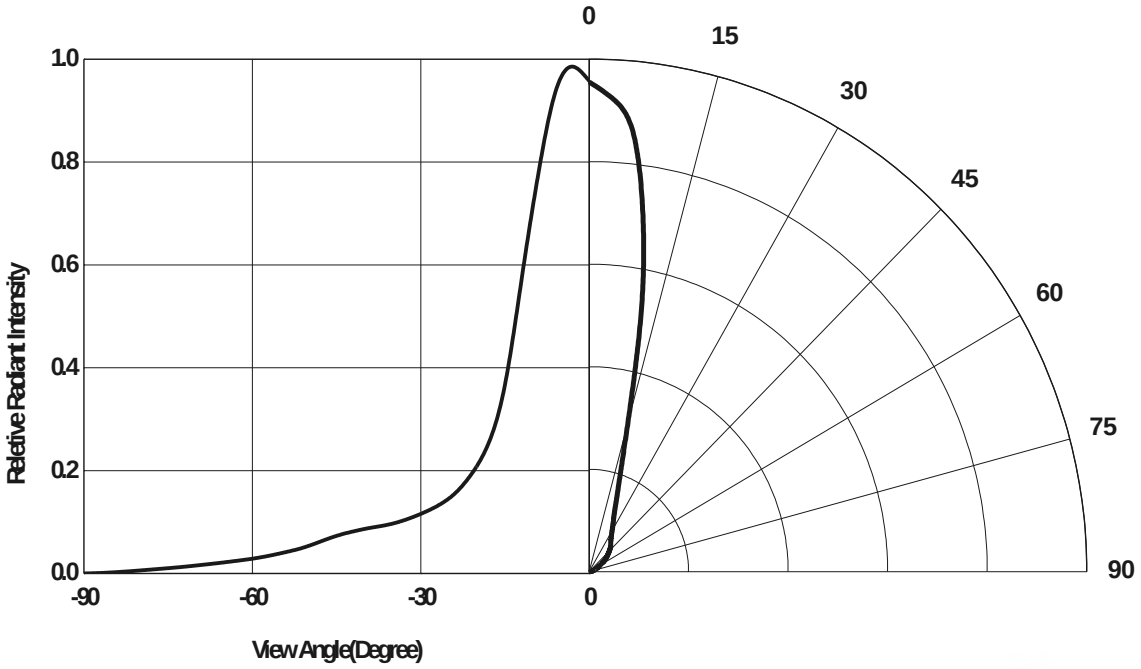
Peak Forward Current vs. Forward Voltage



Radiant Intensity vs. Forward Current



Relative Radiant Intensity vs. Angular Displacement



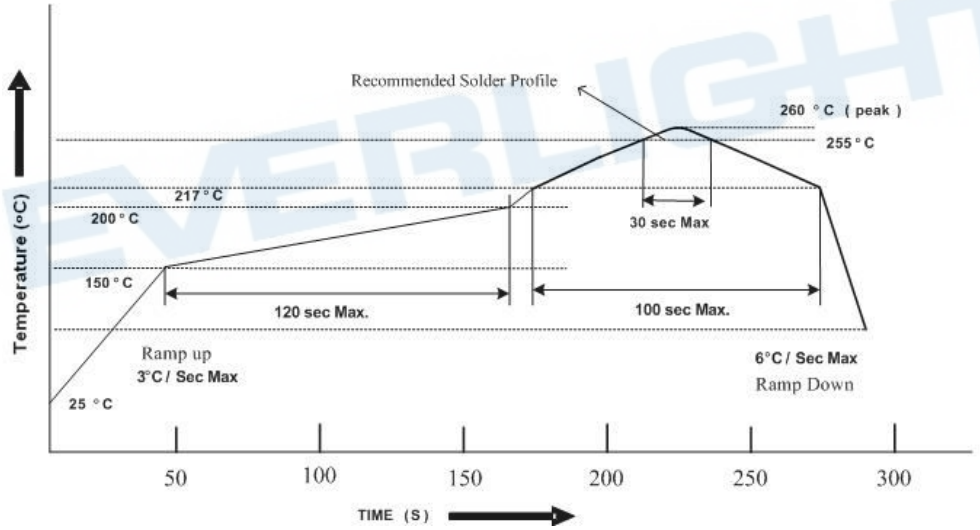
Precautions For Use

1. Over-current-proof

   Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage
   2.1 Do not open moisture proof bag before the products are ready to use.
   2.2 Before opening the package, the LEDs should be kept at 30℃ or less and 90%RH or less.
   2.3 The LEDs should be used within a year.
   2.4 After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.
   2.5 The LEDs should be used within 168 hours (7 days) after opening the package
   2.6 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment : 60±5℃ for Min. 24 hours.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



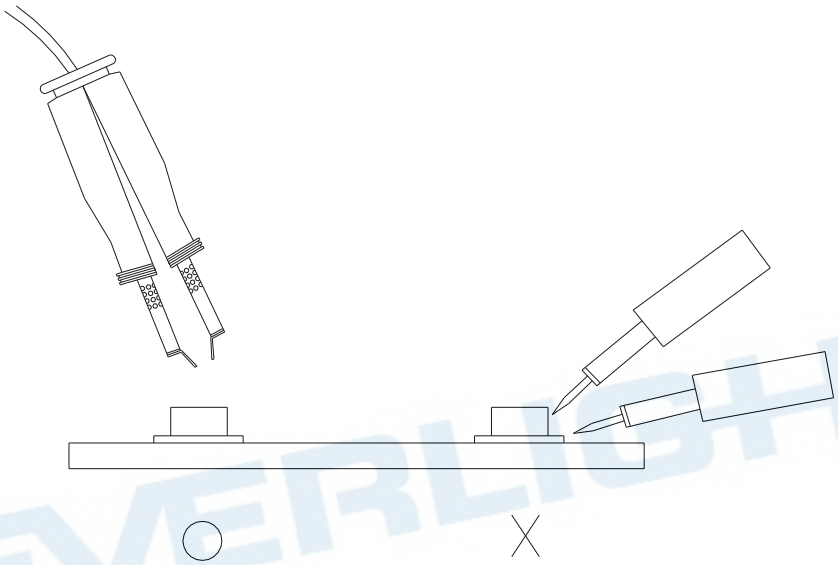
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

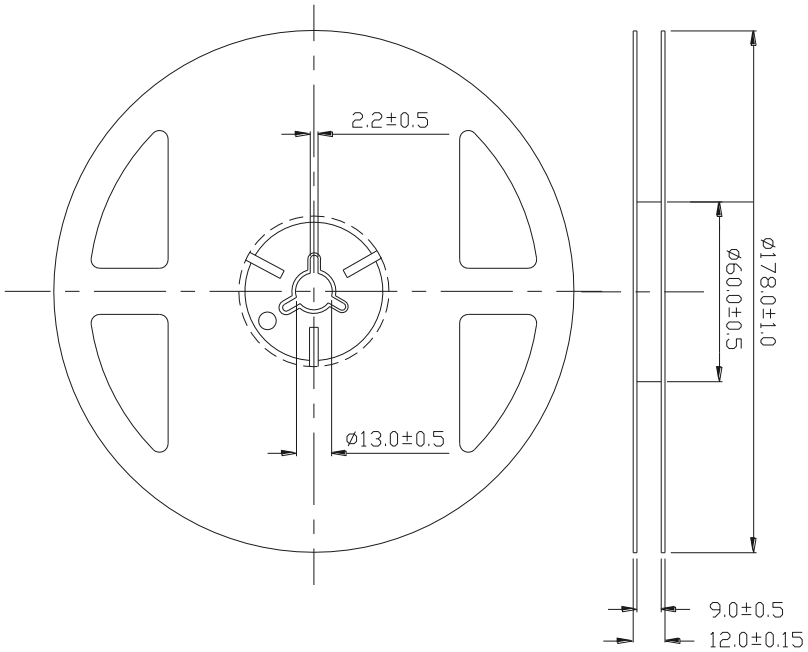
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

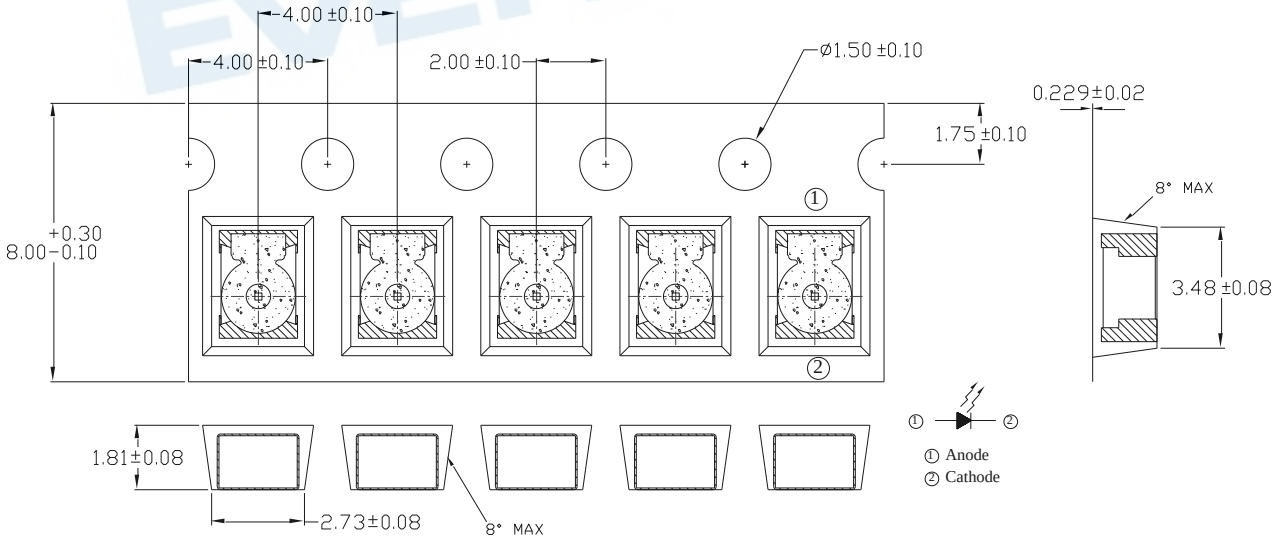


Package Dimensions



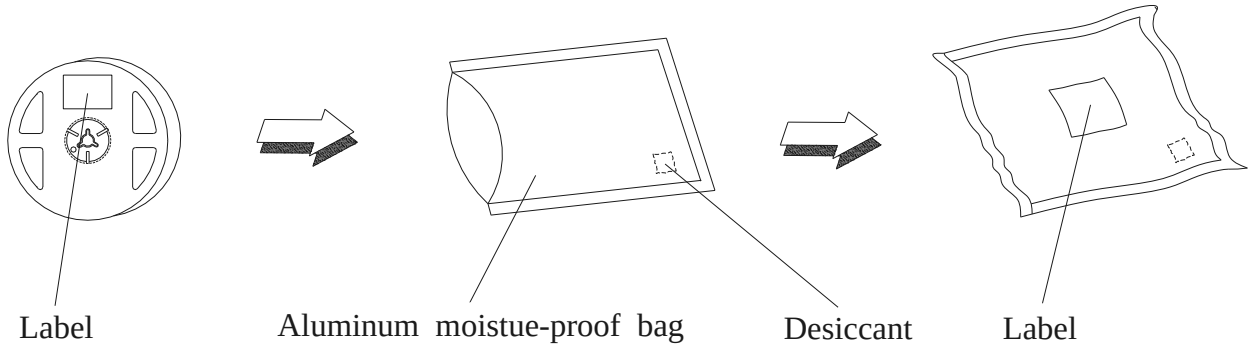
Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Carrier Tape Dimensions:(Quantity: 2000pcs/reel)

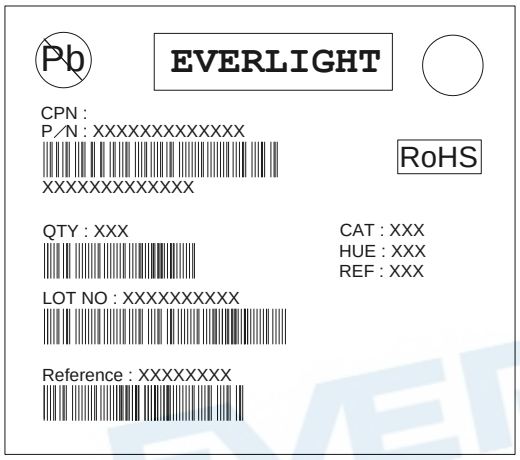


Note: The tolerances unless mentioned is ±0.1mm ,Unit = mm

Packing Procedure



Label Form Specification



CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number
MADE IN TAIWAN: Production Place

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.
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