DATASHEET

HIR89-01C/1R

Features

- Low forward voltage.
- View angle 30° (Typ.)
- Pb free
- The product itself will remain within RoHS compliant version.
- Compatible with infrared and vapor phase reflow solder process
- Taping as Top view.

Description

- HIR89-01C/1R is an infrared emitting diode with miniature MIDLED package.
- The device is spectrally matched with silicon photodiode and phototransistor.

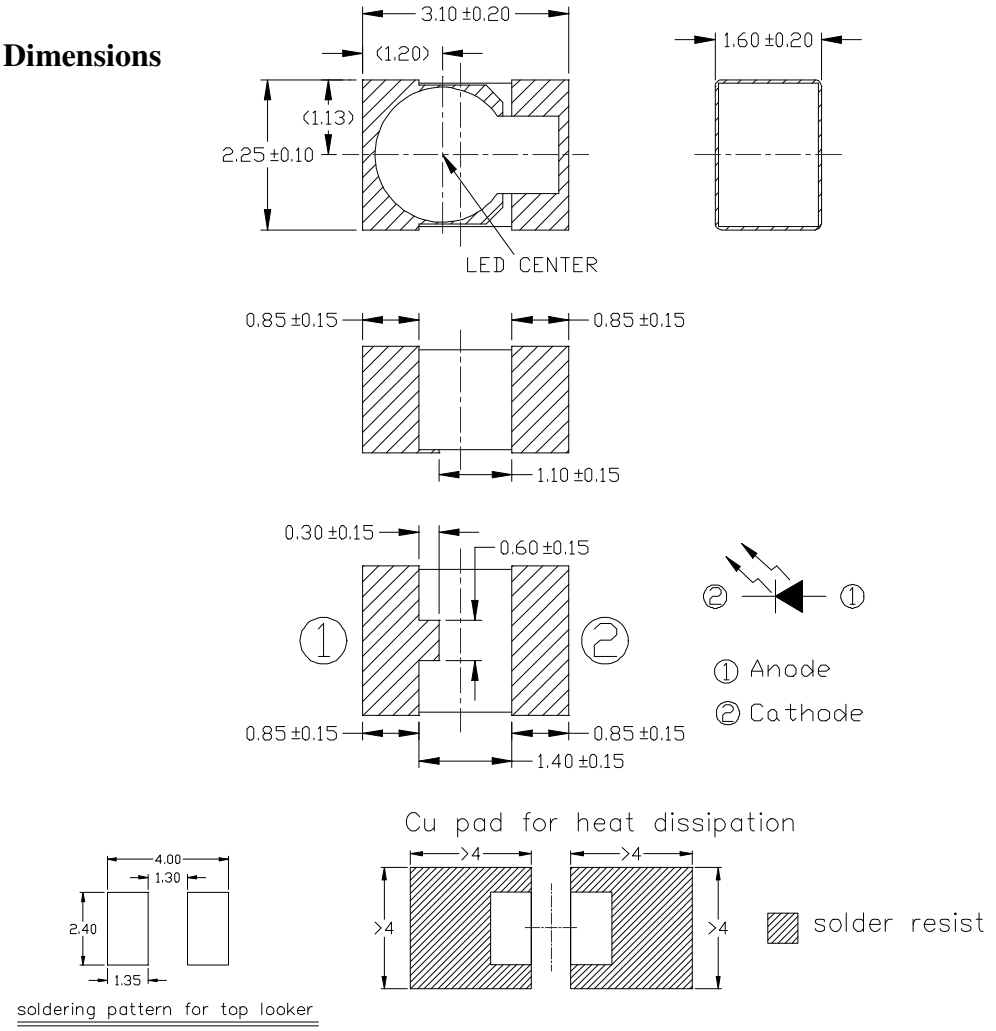
Applications

- Infrared applied system

Device Selection Guide

Device No.	Chip Material	Lens Color
HIR89-01C/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}	200	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
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 μ s and Duty≦5%.
*2: Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Intensity	Ie	40	--	125	mW /sr	I_F=70mA ,tp=20ms
Peak Wavelength	λ p	--	850	--	nm	I_F=100mA
Spectral Bandwidth	Δ λ	--	30	--	nm	I_F=100mA
Forward Voltage	V_F	--	1.40	1.70	V	I_F=20mA
		--	1.55	1.90		I_F=70mA,tp=20ms
Reverse Current	I_R	--	--	10	μA	V_R=5V
View Angle	2θ1/2	--	30	--	deg	I_F=20mA

Rank

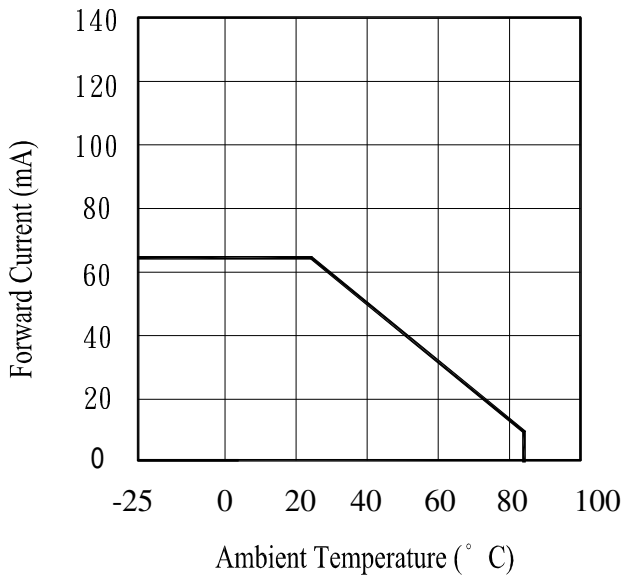
Condition：I_F=70mA

Unit：mW/sr

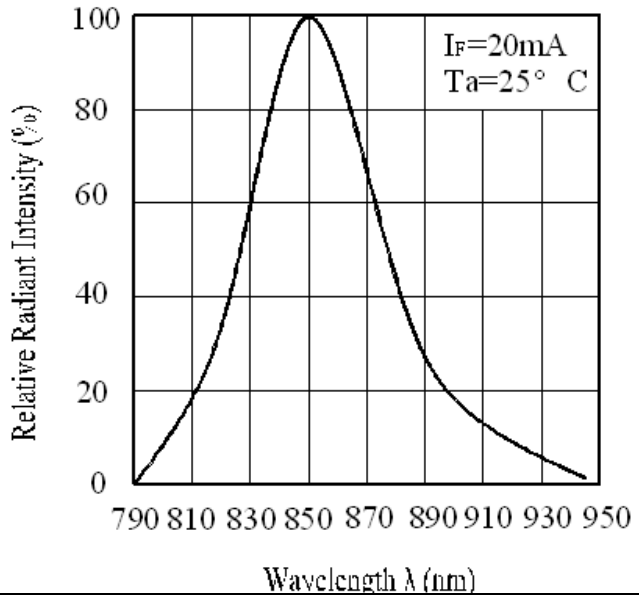
Bin Number	C	D
Min	40	63
Max	80	125

Typical Electrical/Optical/Characteristics Curves for IR

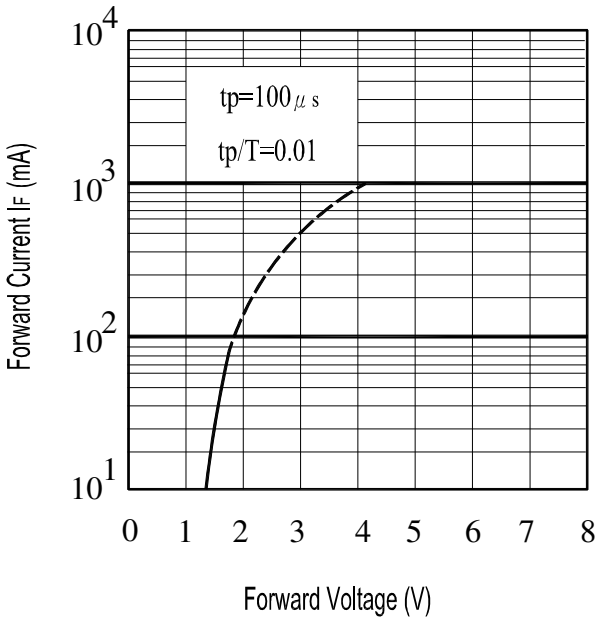
Power Dissipation vs. Ambient Temperature



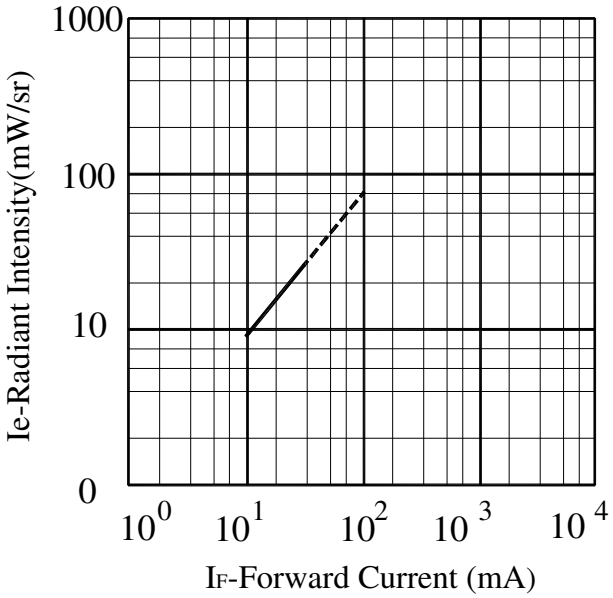
Spectral Distribution



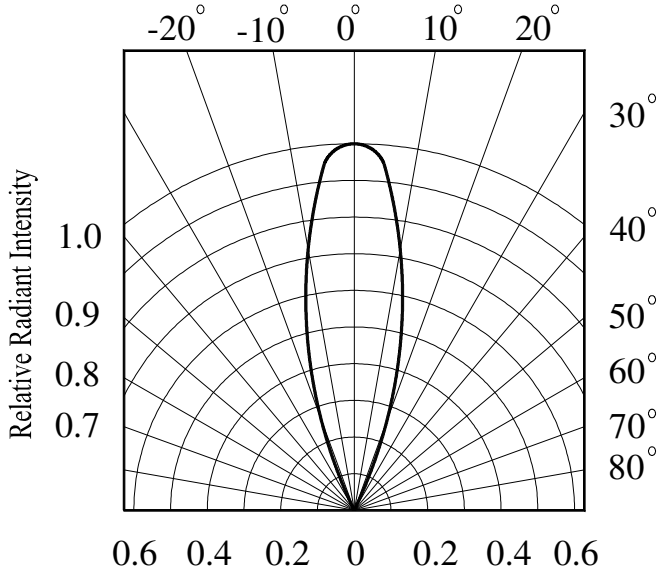
Forward Current vs. Forward Voltage



Relative Intensity vs. Forward Current



Relative Radiant Intensity vs. Angular Displacement



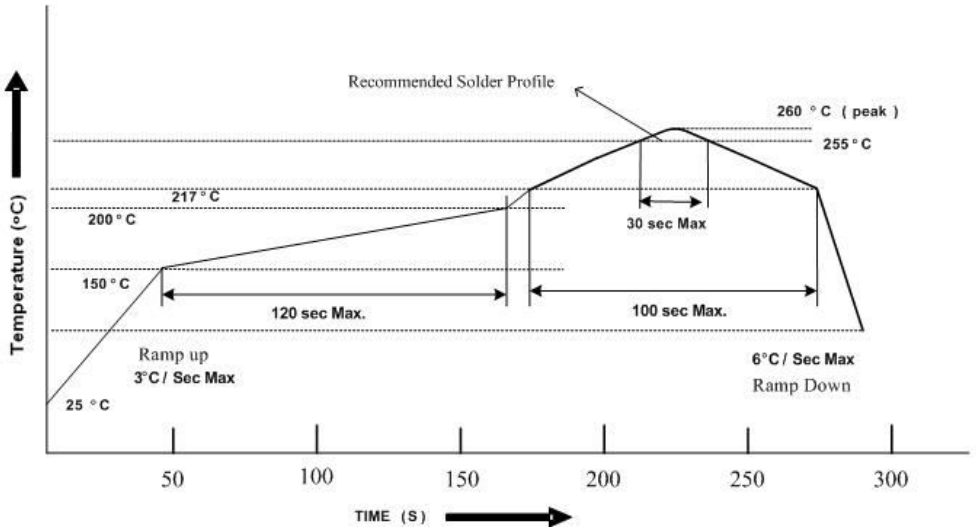
● Precautions For Use

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 24 hours.

3. Soldering Condition
   3.1 Pb-free solder temperature profile



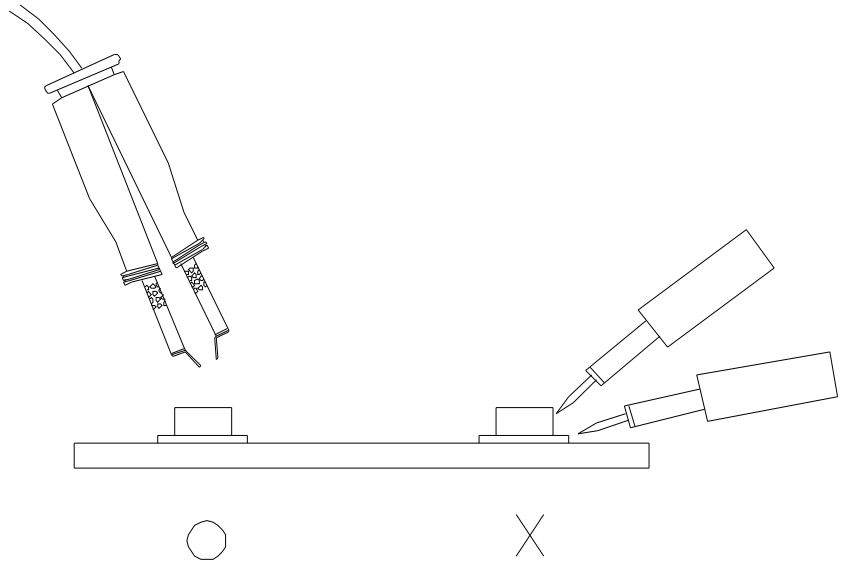
   3.2 Reflow soldering should not be done more than two times.
   3.3 When soldering, do not put stress on the LEDs during heating.
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

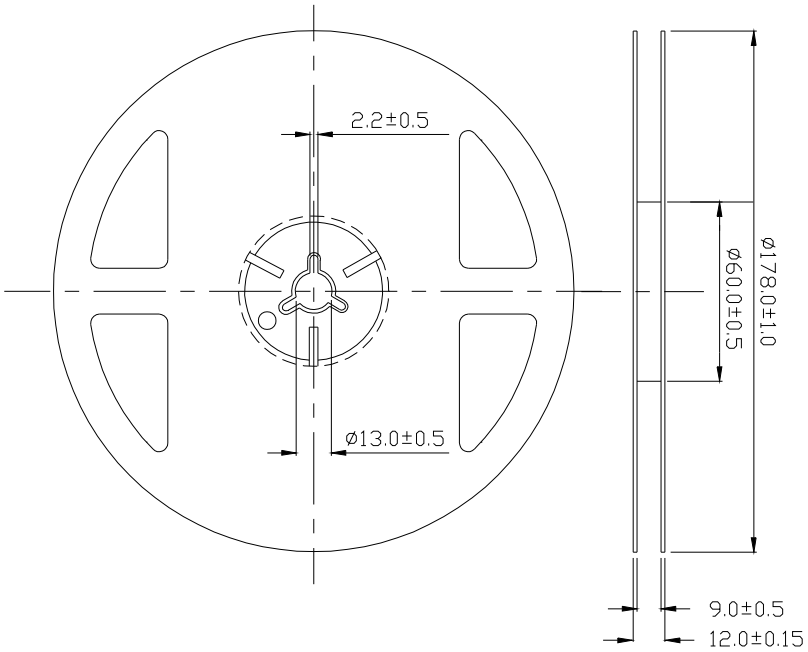
Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of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

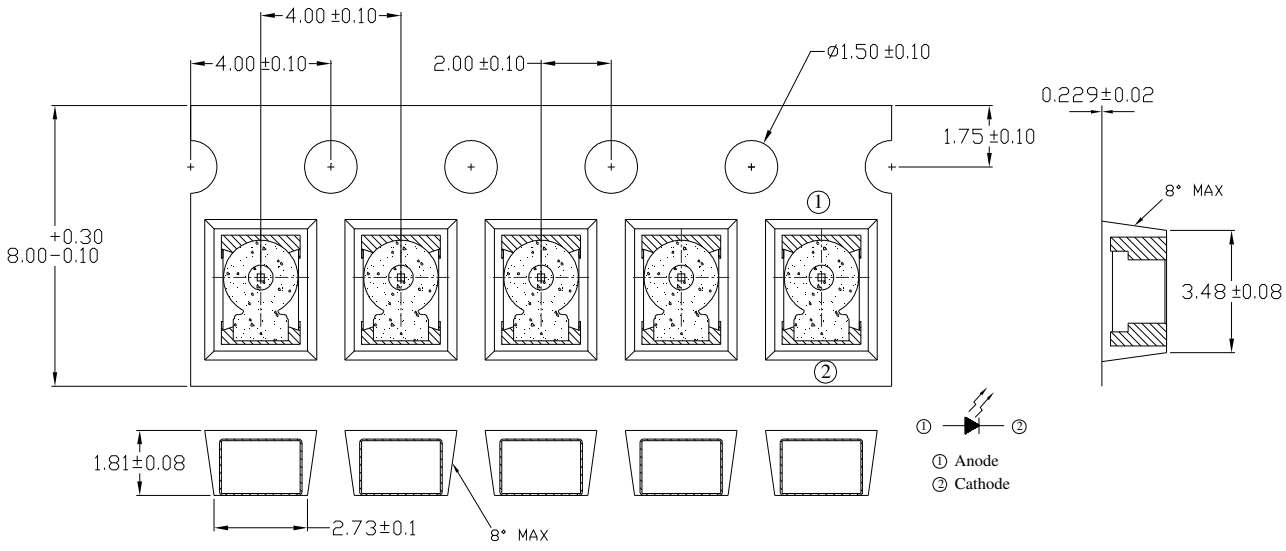


Package Dimensions



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

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



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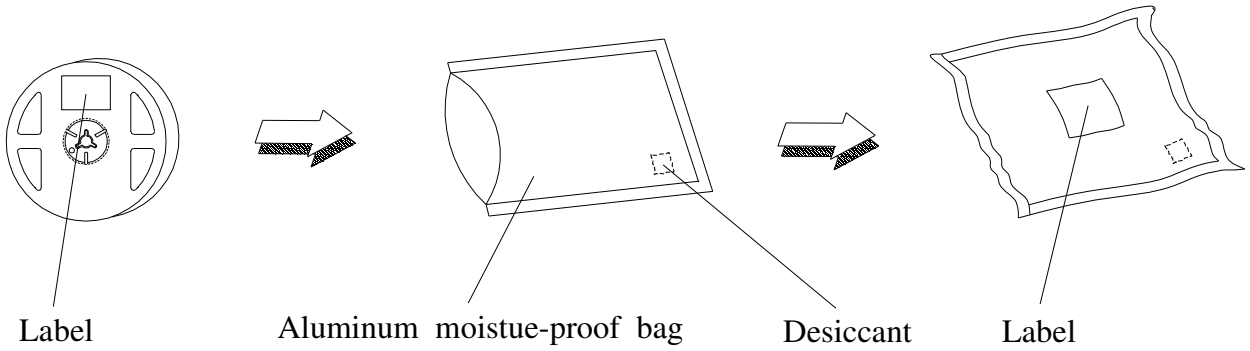
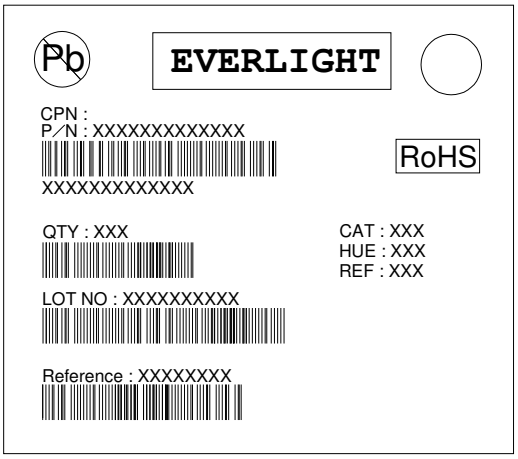
Packing Procedure



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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