

High Power Infrared LED HIR38-01C

Features

- High reliability
- High radiant intensity
- Peak wavelength $\lambda_p=850\text{nm}$
- Low forward voltage
- Pb free
- The product itself will remain within RoHS compliant version.



Descriptions

- EVERLIGHT'S Infrared Emitting Diode(HIR38-01C) is a high intensity diode , molded in a water clear plastic package.
- The device is spectrally matched with phototransistor , photodiode and infrared receiver module.

Applications

- CCTV
- Infrared applied system

Device Selection Guide

LED Part No.	Chip	Lens Color
	Material	
HIR	GaAlAs	Water Clear

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

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	100	mA
Peak Forward Current *1	I_{FP}	1.0	A
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Soldering Temperature*2	T_{sol}	260	°C
Power Dissipation at(or below) 25°C Free Air Temperature	P_d	200	mW

Notes: *1: I_{FP} Conditions--Pulse Width $\leq 100 \mu\text{s}$ and Duty $\leq 1\%$.

*2:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Radiant Intensity	I _e	I _F =20mA	7.8	17	--	mW/sr
		I _F =100mA	--	85	--	
Peak Wavelength	λ _p	I _F =20mA	--	850	--	nm
Spectral Bandwidth	Δλ	I _F =20mA	--	50	--	nm
Forward Voltage	V _F	I _F =20mA		1.45	1.65	V
		I _F =100mA Pulse Width ≤ 100 μs, Duty ≤ 1%	--	1.80	2.40	
Reverse Current	I _R	V _R =5V	--	--	10	μA
View Angle	2θ _{1/2}	I _F =20mA	--	30	--	deg

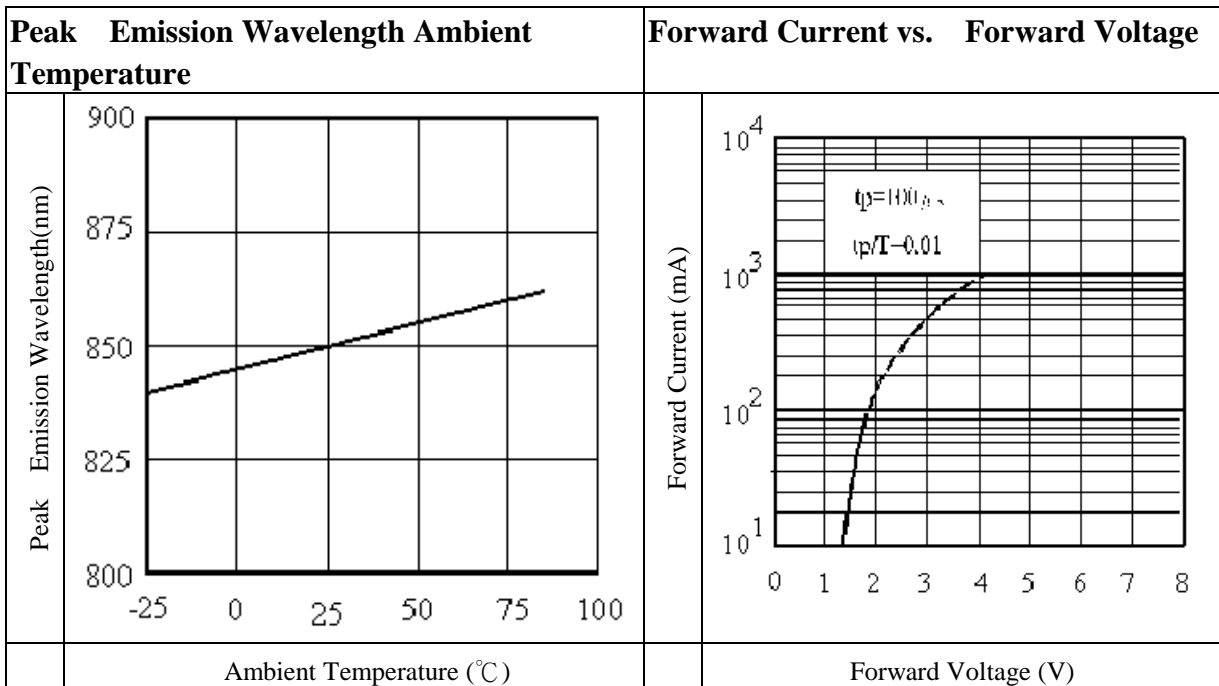
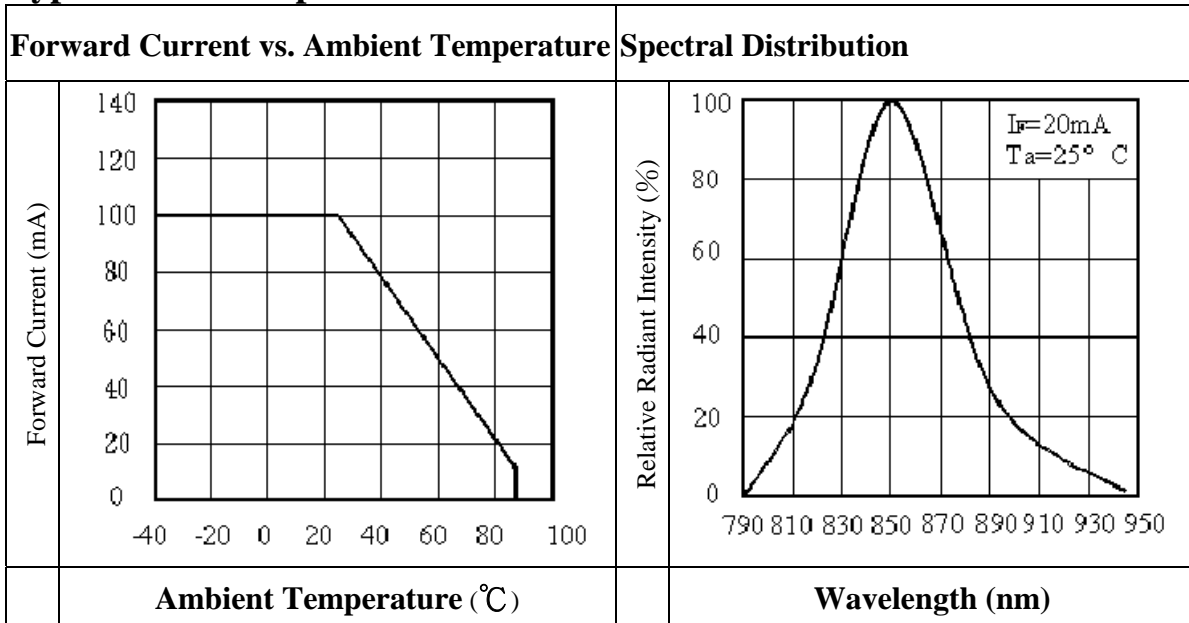
Rank

Condition: I_F=20mA

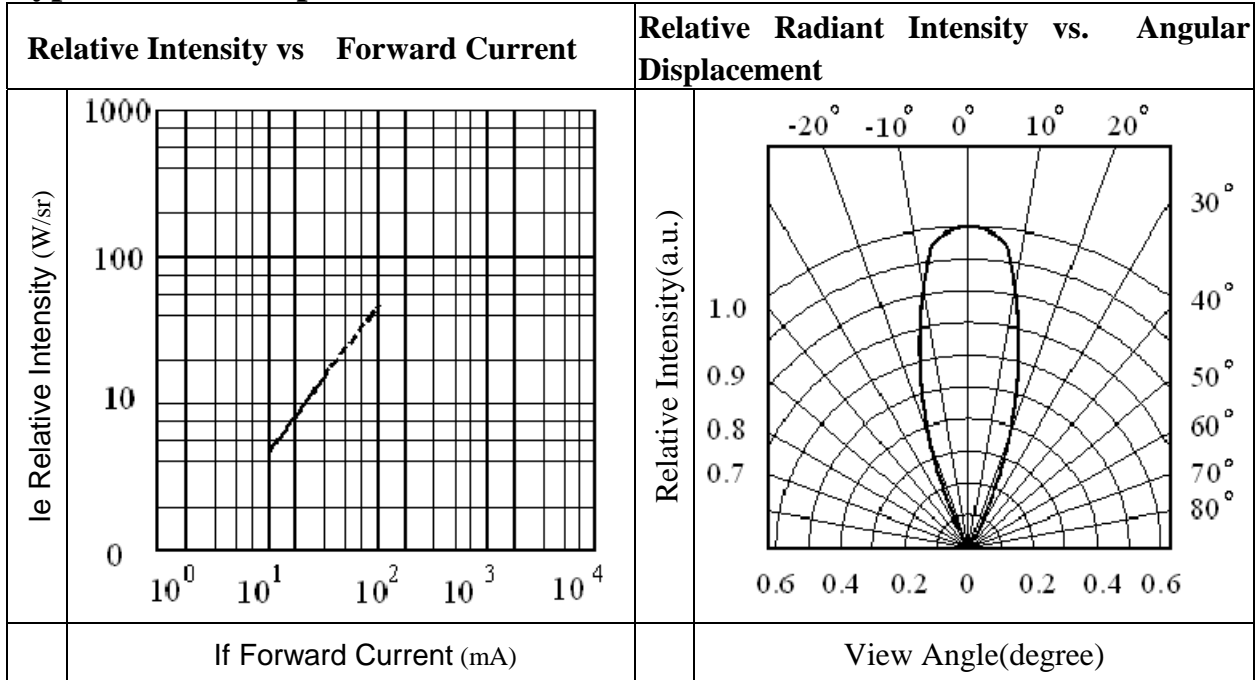
Unit: mW/sr

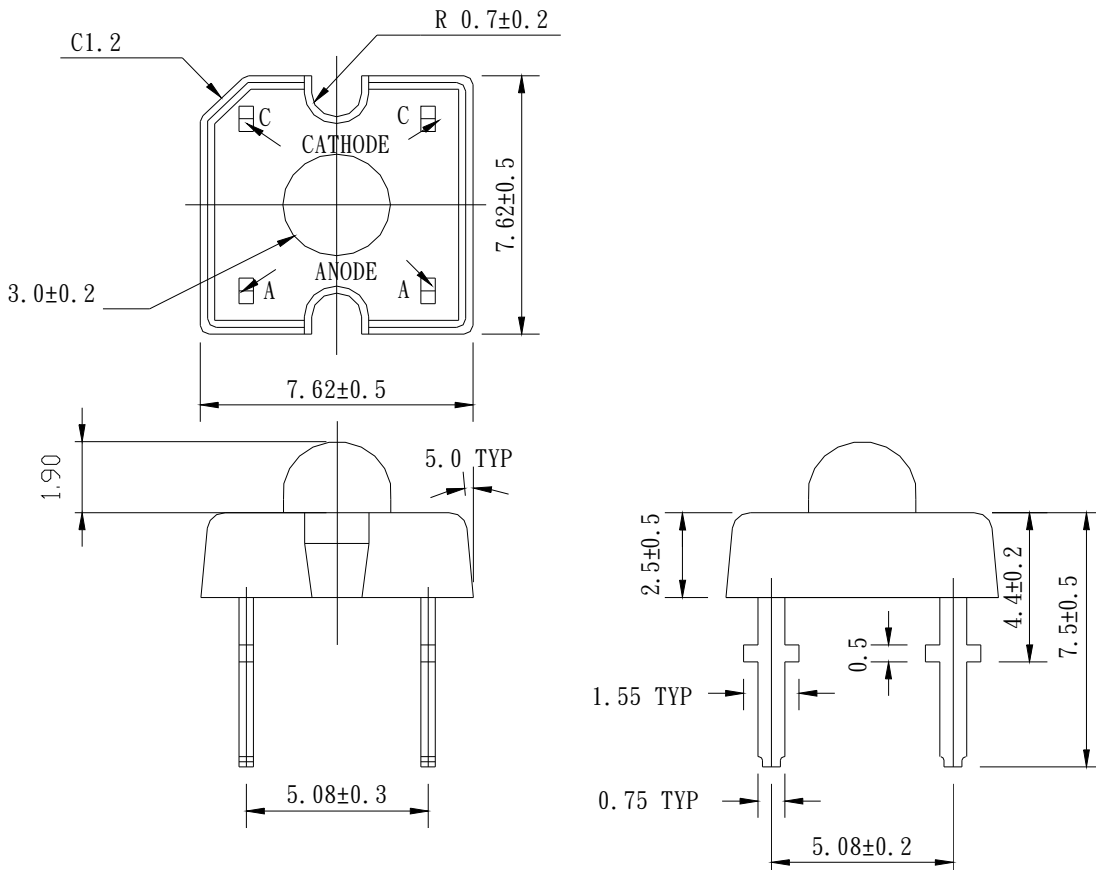
Bin number	M	N	P	Q
Min	7.8	11.0	15.0	21.0
Max	12.5	17.6	24.0	34.0

Typical Electro-Optical Characteristics Curves



Typical Electro-Optical Characteristics Curves





- Notes:**
- 1.All dimensions are in millimeters
 - 2.Tolerances unless dimensions ± 0.25 mm

Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%


LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP. : $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$	10secs	22pcs	$I_R \geq U \times 2$ $I_e \leq L \times 0.8$ $V_F \geq U \times 1.2$ U : Upper Specification Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : $+100^{\circ}\text{C}$ 15mins \updownarrow 5mins L : -40°C 15mins	50Cycles	22pcs		0/1
3	Thermal Shock	H : $+100^{\circ}\text{C}$ 5mins \updownarrow 10secs L : -10°C 5mins	50Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : $+100^{\circ}\text{C}$	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : -40°C	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F = 20\text{mA}$	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	$85^{\circ}\text{C} / 85\% \text{ R.H}$	1000hrs	22pcs		0/1

Packing Quantity Specification

1.80PCS/1Tube , 30Tubes/1Box or 105Tubes/1Box

Label Form Specification(For tube)

	PART NO:	QTY:
	LOT NO:	CAT:

Label Form Specification (For box)

	
CPN:	
P/N:	
	
HIR38-01C	
QTY:	CAT:
	HUE:
LOT NO:	REF:
	
MADE IN TAIWAN	

CPN: Customer's Production Num
 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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