



# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : DLE-031-007 REV: 3.0

4.7mm Round Type LED Lamps

MODEL NO : 313HD ECN : \_\_\_\_\_ Page: 1/4

### Features :

- Choice of various viewing angles
- Available on table and reel
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.

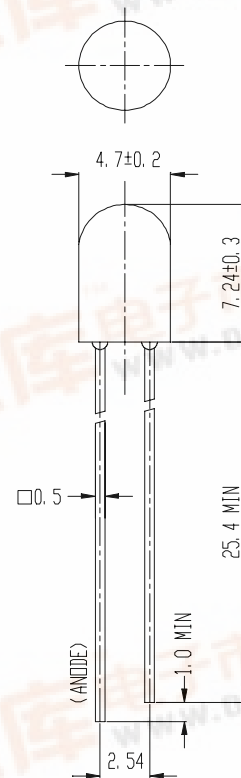
### Descriptions:

- The series is specially designed for applications requiring higher brightness.
- The LED lamps are available with different colors, intensities, epoxy colors, etc.

### Applications :

- TV set
- Monitor
- Telephone
- Computer

### Package Dimensions:



### Notes :

- 1.All dimensions are in millimeters.
- 2.An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.

PART NO	Chip		Lens Color
	Material	Emitted Color	
313HD	GaP	Bright Red	Red Diffused

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## Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Rating	Unit
Forward Current	If	15	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C
Soldering Temperature	Tsol	260 ± 5	°C
Power Dissipation	Pd	45	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	50	mA
Reverse Voltage	Vr	5	V

## Electronic Optical Characteristics :

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Luminous intensity	Iv	0.50	1.60	/	mcd	If= 10 mA
Viewing Angle	2θ 1/2	/	60	/	deg	If= 10 mA
Peak Wavelength	λ p	/	697	/	nm	If= 10 mA
Dominant Wavelength	λ d	/	650	/	nm	If= 10 mA
Spectrum Radiation Bandwidth	△ λ	/	90	/	nm	If= 10 mA
Forward Voltage	Vf	1.5	2.0	2.4	V	If= 10 mA
Reverse Current	Ir	/	/	10	μ A	Vr= 5 V



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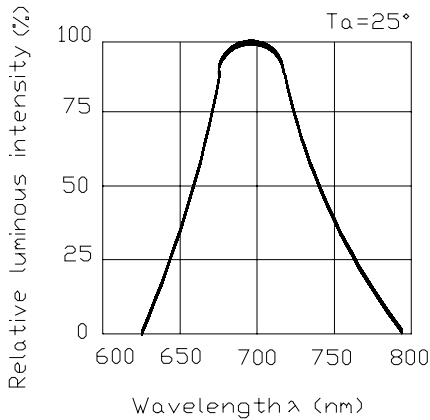
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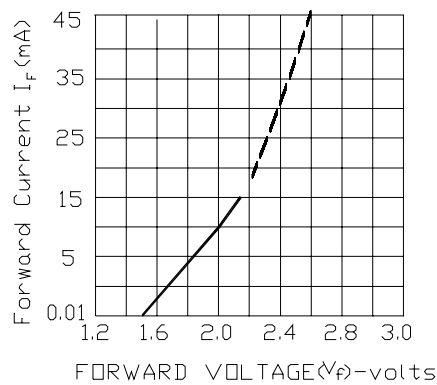
## Typical Electro-Optical Characteristic Curves



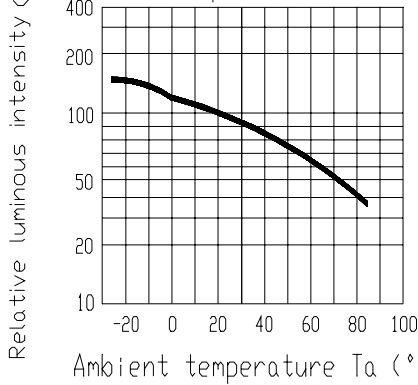
Spectrum Distribution  $T_a=25^\circ$



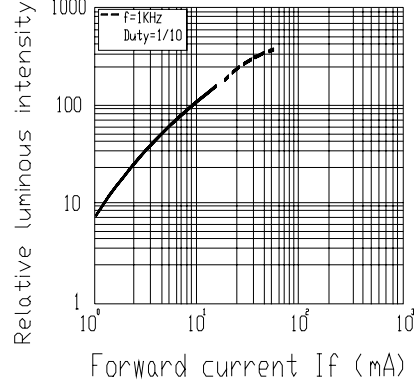
Forward Current vs. Forward Voltage



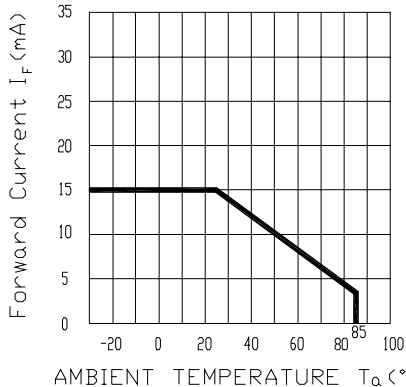
Relative Luminous Intensity vs. Ambient Temperature ( $I_f=20mA$ )



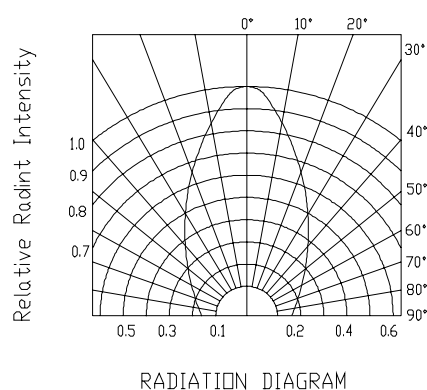
Luminous Intensity vs Forward Current  $T_a=25^\circ$



Forward Current Derating Curve  $T_a=25^\circ$



Radiation Diagram  $T_a=25^\circ$





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## ■ Reliability test items and conditions

No	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	If = 10 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1