



# Technical Data Sheet

## 3.0mm Round Type LED Lamps

### 204HD



#### ■ Features :

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free

#### ■ Descriptions :

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities,

#### ■ Applications :

- TV set
- Monitor
- Telephone
- Computer

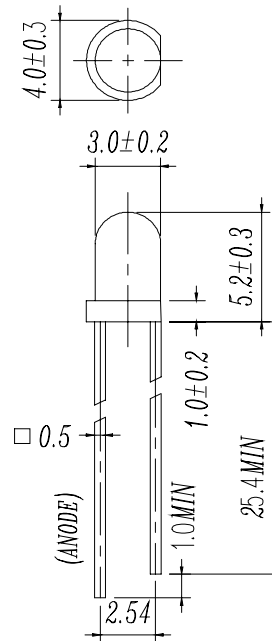
PART NO.	Material	Emitted Color	Lens Color
204HD	GaP	Bright Red	Red Diffused

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#### Package Dimensions



- Notes:**
1. All dimensions are in millimetres
  2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.
  3. Tolerances unless Dimension  $\pm 0.25$ mm.

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Forward Current	$I_F$	15	mA
Operating Temperature	$T_{opr}$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to +100	$^\circ\text{C}$
Soldering Temperature	$T_{sol}$	$260 \pm 5$	$^\circ\text{C}$
Power Dissipation	$P_d$	45	mW
Peak Forward Current	$I_F(\text{Peak})$	50	mA
Reverse Voltage	$V_R$	5	V

Note: \*1:  $I_F$  Conditions --Pulse Width  $\leq 1\text{msec}$  and Duty  $\leq 1/10$ .

\*2: Soldering time  $\leq 5$  seconds.



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**Electro-Optical Characteristics (Ta=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10 mA	1.5	2.0	2.4	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5 V	/	/	10	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 10 mA	0.5	1.0	/	mcd
Viewing Angle	2θ 1/2	I <sub>F</sub> = 10 mA	/	60	/	deg
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> = 10 mA	/	697	/	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> = 10 mA	/	650	/	nm
Spectrum Radiation Bandwidth	Δλ	I <sub>F</sub> = 10 mA	/	90	/	nm



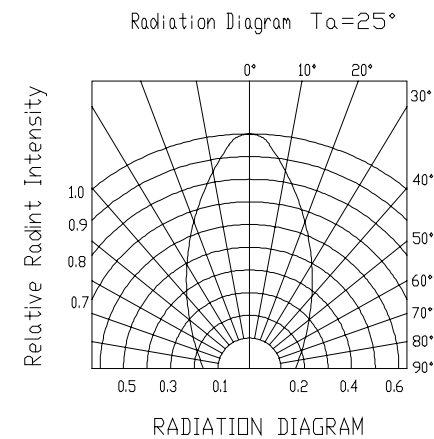
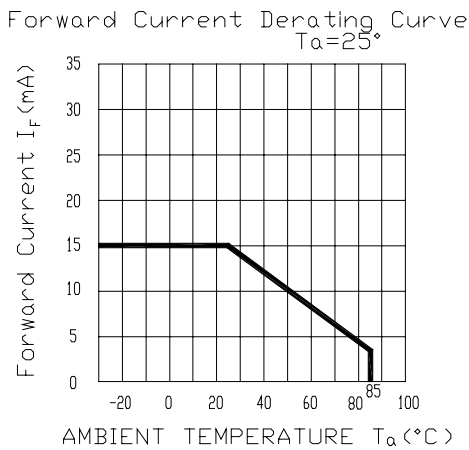
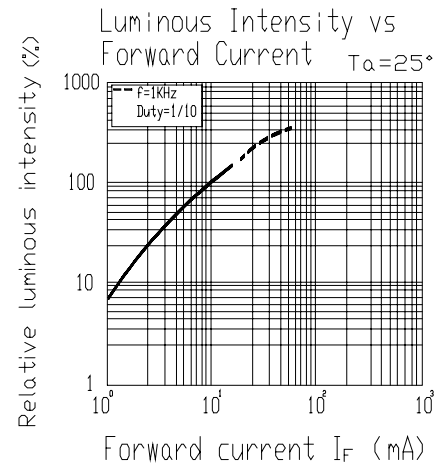
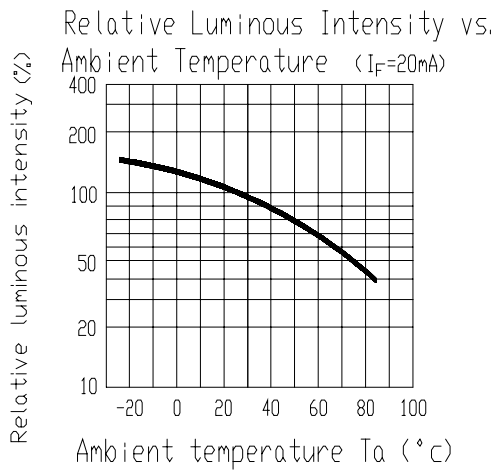
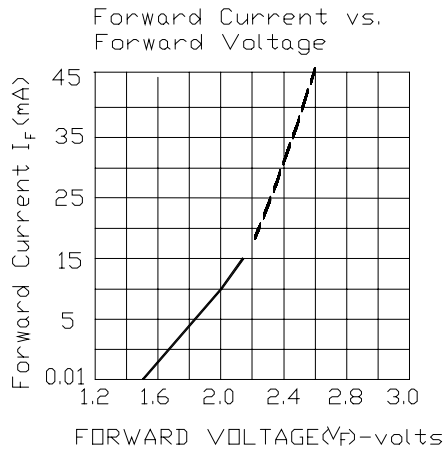
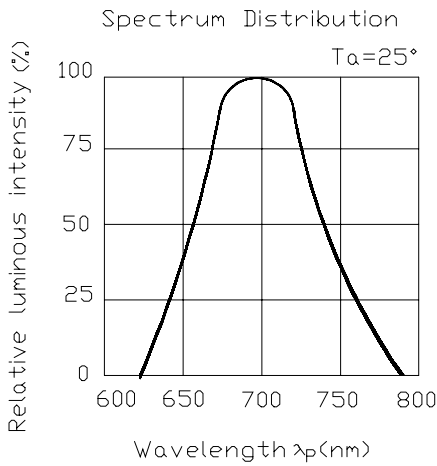
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#### Typical Electro-Optical Characteristic Curves:

( H )





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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	10 SEC	76 PCS	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	TEMP : 25°C IF = 10mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85% RH	1000 HRS	76 PCS	0/1



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#### Packing Quantity Specification

- 1.1000PCS/1Bag · 4Bags/1Box
- 2.10Boxes/1Carton

#### Label Form Specification



CPN:  
P/N:



204HD

QTY:



CAT:  
HUE:  
REF:

LOT NO: EL



- 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

MADE IN TAIWAN

#### 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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