



Technical Data Sheet

3.0mm Multi-Color Round Type LED Lamps

209HGW

■ Features :

- Two chips are matched for uniform light output, wide viewing angle
- Long life-solid state reliability
- I.C. compatible/Low power consumption
- Pb free



■ Descriptions :

- The 209 LED lamps contain two integral chips and is available as both bicolor and bipolar types.
- The Bright Red and Green light is emitted by diodes of GaP and GaP respectively.
- Type of bipolar lamps are both White Diffused and Color Diffused while the bicolor are White Diffused.

■ Applications :

- TV set
- Monitor
- Telephone
- Computer

| PART NO. | Chip | | Lens Color |
|----------|----------|---------------|----------------|
| | Material | Emitted Color | |
| 209HGW | GaP | Bright Red | White Diffused |
| | GaP | Green | |

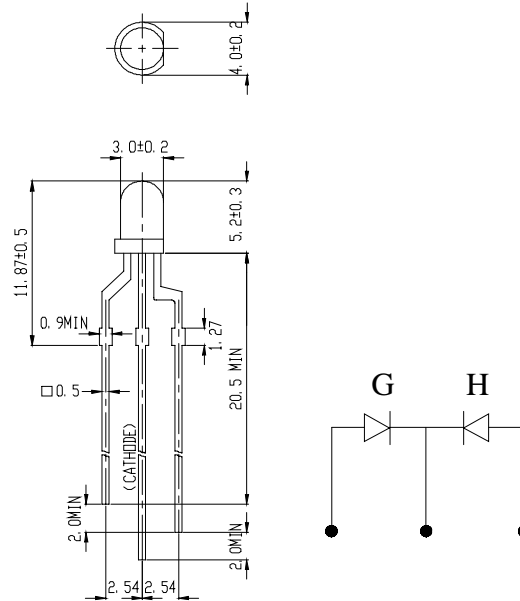


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Package Dimensions



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 ± 0.25 mm.

Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Rating | Unit |
|-----------------------|----------|-------------|------|
| Forward Current | IF | H 15 | mA |
| | | G 30 | |
| Operating Temperature | Topr | -40 to +85 | °C |
| Storage Temperature | Tstg | -40 to +100 | °C |
| Soldering Temperature | Tsol | 260 ± 5 | °C |
| Power Dissipation | Pd | H 45 | mW |
| | | G 100 | |
| Peak Forward Current | IF(Peak) | H 50 | mA |
| | | G 160 | |
| Reverse Voltage | VR | 5 | V |

Note: *1:IFP Conditions --Pulse Width \leq 1msec and Duty \leq 1/10.

*2:Soldering time \leq 5 seconds.



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Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|------------------|------|------|------|------|------------------------|
| Luminous Intensity | I _v H | 0.4 | 0.8 | / | mcd | I _F = 10 mA |
| | G | 1.0 | 2.0 | / | | I _F = 20 mA |
| Viewing Angle | 2θ 1/2 | / | 70 | / | deg | I _F = 20 mA |
| Peak Wavelength | λ _p H | / | 697 | / | nm | I _F = 10 mA |
| | G | / | 565 | / | | I _F = 20 mA |
| Dominant Wavelength | λ _d H | / | 650 | / | nm | I _F = 10 mA |
| | G | / | 570 | / | | I _F = 20 mA |
| Spectrum Radiation Bandwidth | Δλ H | / | 90 | / | nm | I _F = 10 mA |
| | G | / | 30 | / | | I _F = 20 mA |
| Forward Voltage | V _F H | 1.5 | 2.0 | 2.4 | V | I _F = 10 mA |
| | G | 1.7 | 2.1 | 2.4 | | I _F = 20 mA |
| Reverse Current | I _R | / | / | 10 | μ A | V _R = 5 V |



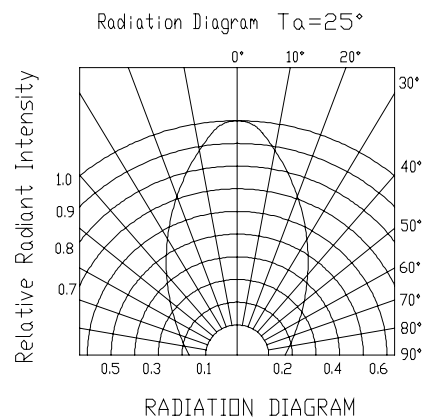
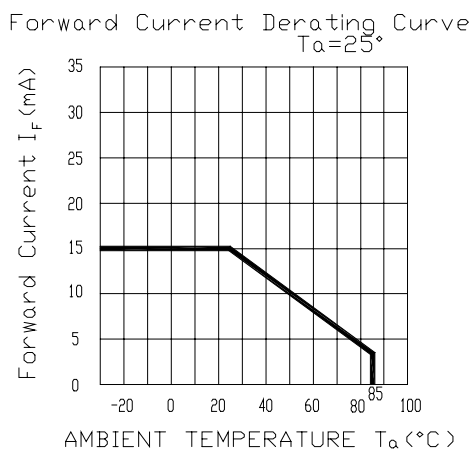
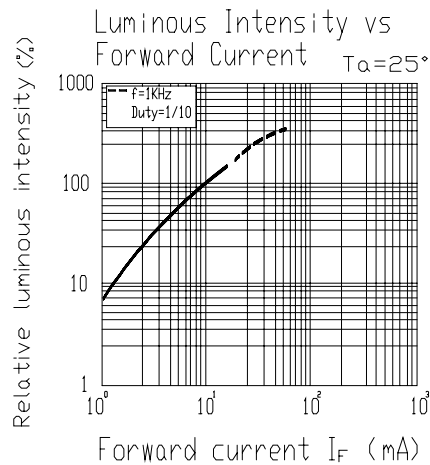
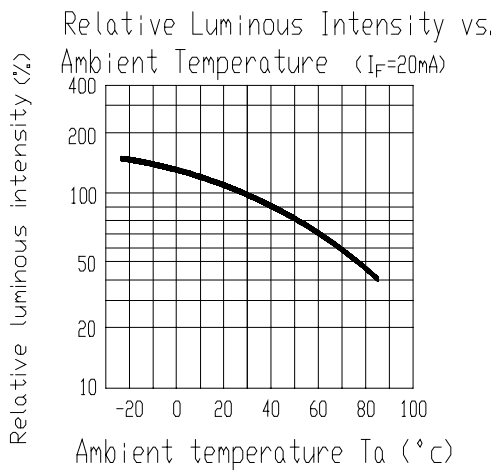
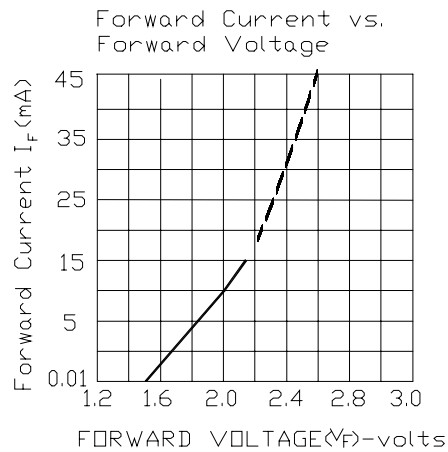
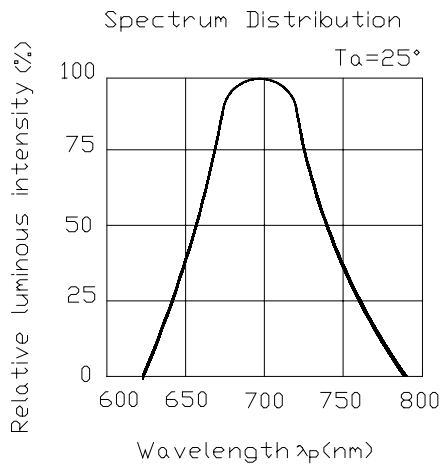
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Typical Electro-Optical Characteristic Curves:

(H)





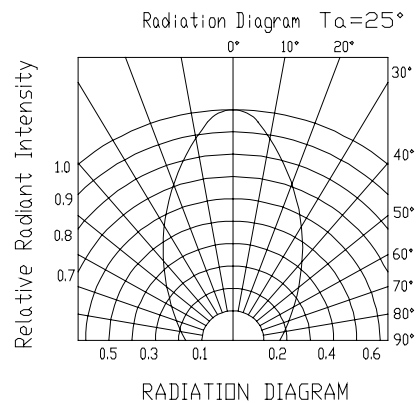
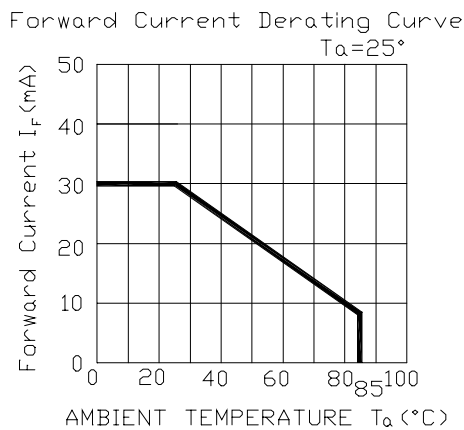
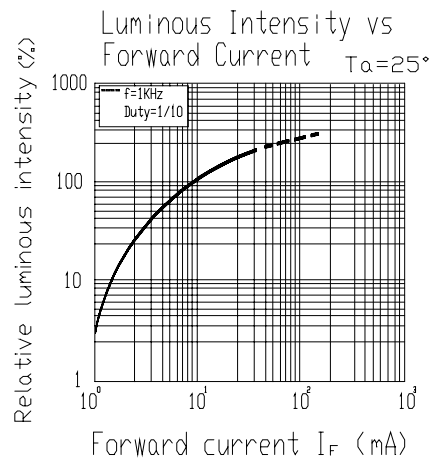
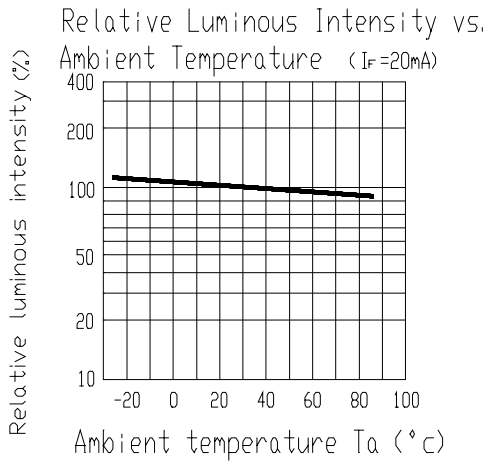
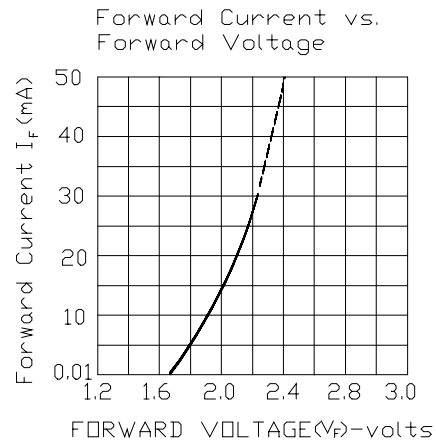
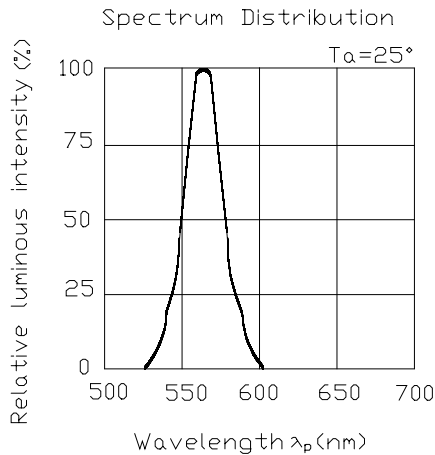
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Typical Electro-Optical Characteristic Curves:

(G)





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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 H: IF = 10mA ; G: IF=20mA | 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

1.500PCS/1Bag , 6Bags/1Box

2.10Boxes/1Carton

Label Form Specification

EVERLIGHT

CPN:

P/N:



209HGW

QTY:



CAT:

HUE:

REF:

LOT NO: EL



MADE IN TAIWAN

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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