



SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD.

SPECIFICATION FOR APPROVAL

Customer: _____

Description: _____ SMD LED _____

Model: _____ GYX-SD-HP512 _____

Lot No.: _____

No.: _____ SD-0400468 _____

Date: _____ 2007-04-16 _____

Enclosure is the specification

| SHENZHEN GUOYEXING OPTOELECTRONICS CO., LTD. | | | |
|--|---------------|-------------------|-----------------|
| Production Dept. | Quality Dept. | Engineering Dept. | Marketing Dept. |
| | | | |

| APPROVED SIGNATURES | | | |
|---------------------|--|--|--|
| | | | |

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GYX-SD-HP512

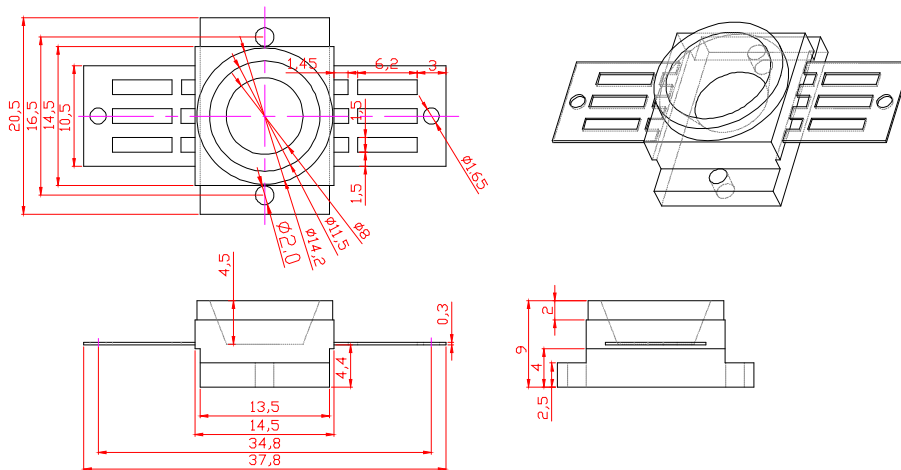
Features And Applications

- 1) 5W High Power LED.
- 2) Low forward voltage operated.
- 3) Wide viewing angle.
- 4) Long operating life(up to 100,000 hours).
- 5) Istant light(less than 100ns).
- 6) More Energy Efficient than incandescent and halogen lamps.
- 7) No UV.
- 8) Ideal for Indoor and Outdoor Commercial lighting、Uplighters and Downlighters、reading lights、LCD Backlights/Light guides、Portable flashlight、Bollards/Security/Garden lighting and general lighting.
- 9) Various colors and lens types available.

Description

The White、Red、Amber、TrueGreen、Blue source color devices are made with InGaN、AlGaInP/GaAs、AlGaInP/GaAs、InGaN、InGaN Light Emitting Diode.

Package Dimensions



viewing angle : 120°

Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.1 unless otherwise noted.
3. Specifications are subject to change without notice.



Electrical / Optical Characteristics at $I_F=1400mA(T_A=25^\circ C)$

| Part Number | Color | Symbol | Parameter | Min. | Typ. | Max. | Units |
|------------------|------------|-------------------------|--|------|------|------|----------------|
| GYX-SD-HP512QWC | White | Flux | Luminous Flux | 130 | 135 | 140 | lm |
| | | V_F | Forward Voltage | 3.1 | - | 4.2 | V |
| | | CCT | Color Temperature | 4000 | 6000 | 8000 | nm |
| | | $R_{\theta J-B}$ | Thermal Resistance Junction to Board | - | 20 | - | $^\circ C/W$ |
| | | $\Delta V_F / \Delta T$ | Temperature Coefficient Of Forward Voltage | - | -2 | - | mV/ $^\circ C$ |
| | | $I_R(V_R=5V)$ | Reverse Current | - | - | 50 | μA |
| GYX-SD-HP512SURC | Red | Flux | Luminous Flux | / | / | / | lm |
| | | V_F | Forward Voltage | 2.0 | - | 3.0 | V |
| | | λ_D | Dominate Wavelength | 620 | - | 630 | nm |
| | | $R_{\theta J-B}$ | Thermal Resistance Junction to Board | - | 20 | - | $^\circ C/W$ |
| | | $\Delta V_F / \Delta T$ | Temperature Coefficient Of Forward Voltage | - | -2 | - | mV/ $^\circ C$ |
| | | $I_R(V_R=5V)$ | Reverse Current | - | - | 50 | μA |
| GYX-SD-HP512SYC | Amber | Flux | Luminous Flux | / | / | / | lm |
| | | V_F | Forward Voltage | 2.0 | - | 3.0 | V |
| | | λ_D | Dominate Wavelength | 585 | - | 595 | nm |
| | | $R_{\theta J-B}$ | Thermal Resistance Junction to Board | - | 20 | - | $^\circ C/W$ |
| | | $\Delta V_F / \Delta T$ | Temperature Coefficient Of Forward Voltage | - | -2 | - | mV/ $^\circ C$ |
| | | $I_R(V_R=5V)$ | Reverse Current | - | - | 50 | μA |
| GYX-SD-HP512ZGC | True Green | Flux | Luminous Flux | / | / | / | lm |
| | | V_F | Forward Voltage | 3.1 | - | 4.2 | V |
| | | λ_D | Dominate Wavelength | 515 | - | 535 | nm |
| | | $R_{\theta J-B}$ | Thermal Resistance Junction to Board | - | 20 | - | $^\circ C/W$ |
| | | $\Delta V_F / \Delta T$ | Temperature Coefficient Of Forward Voltage | - | -2 | - | mV/ $^\circ C$ |
| | | $I_R(V_R=5V)$ | Reverse Current | - | - | 50 | μA |
| GYX-SD-HP512QBC | Blue | Flux | Luminous Flux | 95 | 105 | 115 | lm |
| | | V_F | Forward Voltage | 3.1 | - | 4.2 | V |
| | | λ_D | Dominate Wavelength | 468 | 473 | 480 | nm |
| | | $R_{\theta J-B}$ | Thermal Resistance Junction to Board | - | 20 | - | $^\circ C/W$ |
| | | $\Delta V_F / \Delta T$ | Temperature Coefficient Of Forward Voltage | - | -2 | - | mV/ $^\circ C$ |
| | | $I_R(V_R=5V)$ | Reverse Current | - | - | 50 | μA |

Note:

1. Flux is measured with an accuracy of $\pm 15\%$.
2. CCT selection acc. To CCT groups and an accuracy of $\pm 400K$.
3. forward Voltage is measured with an accuracy of $\pm 0.2V$.
4. Wavelength is measured with an accuracy of $\pm 3nm$.

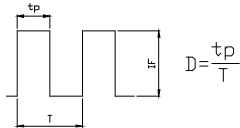


Absolute Maximum Ratings at TA=25° C

| Parameter | Symbol | Rating | Units |
|--|--------------------|----------|---------|
| DC Forward Current | I _F | 1400 | mA |
| Peak pulse current; (tp ≤ 100us, Duty cycle=0.005)*1 | I _{pulse} | 1600 | mA |
| Reverse Voltage | V _R | 5 | V |
| LED junction Temperature(at 1050 mA) | T _j | 125 | °C |
| Operating Temperature | T _{opr} | -30~+110 | °C |
| Storage Temperature | T _{stg} | -40~+120 | °C |
| Manual Soldering Time at 260° C(Max.) | T _{sol} | 5 | seconds |

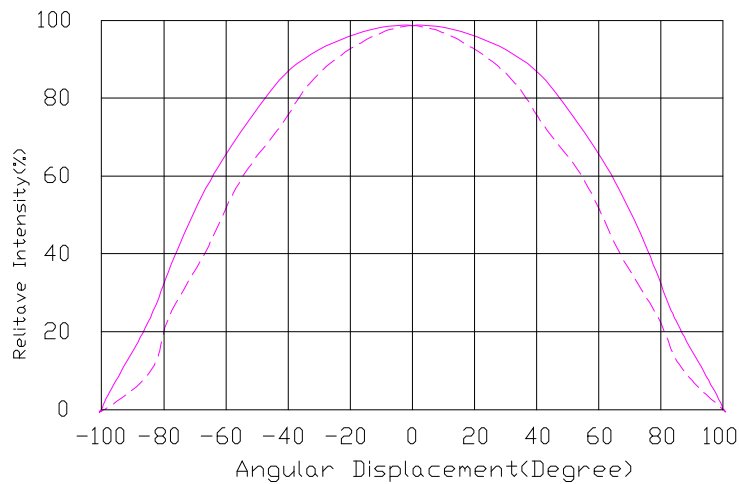
Note:

1. Duty Cycle:



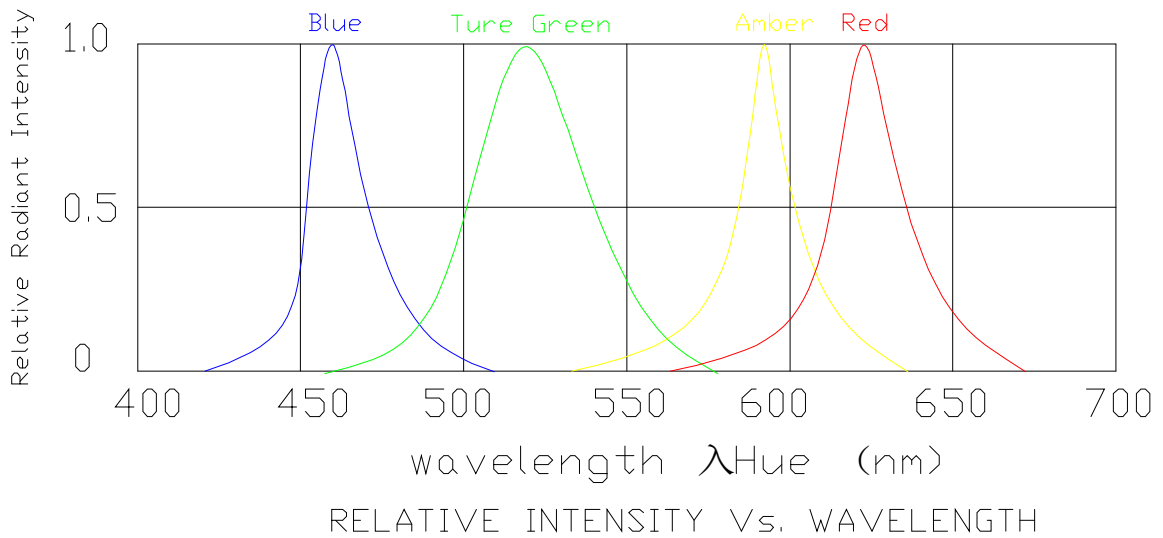
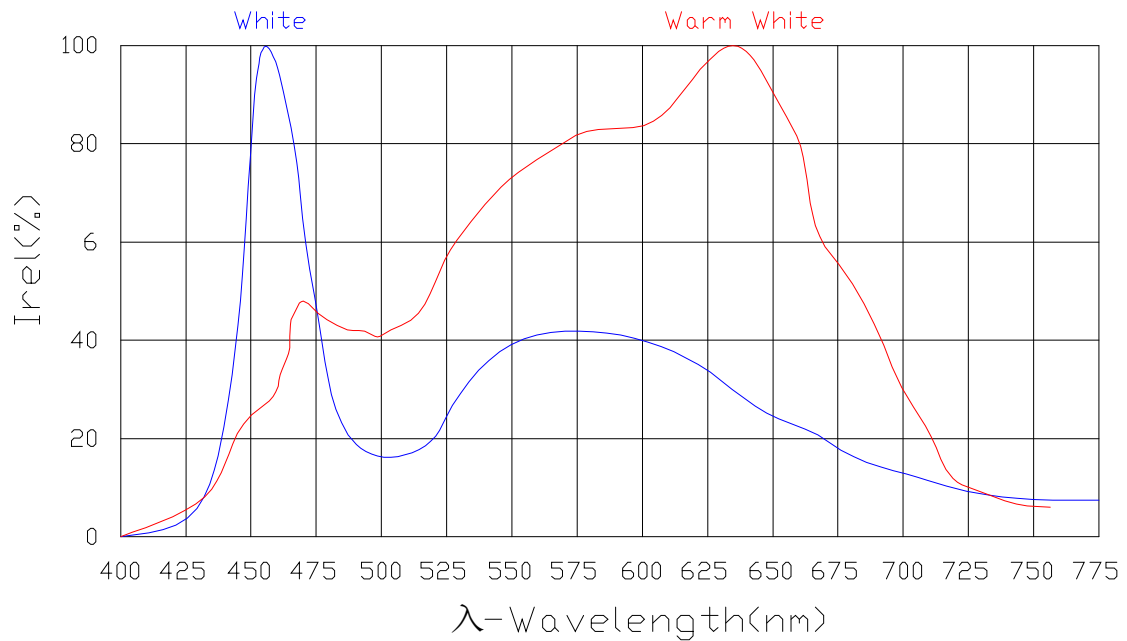
Typical Radiation Pattern for Lambertian

Typical Radiation Pattern for Lambertian(120°)



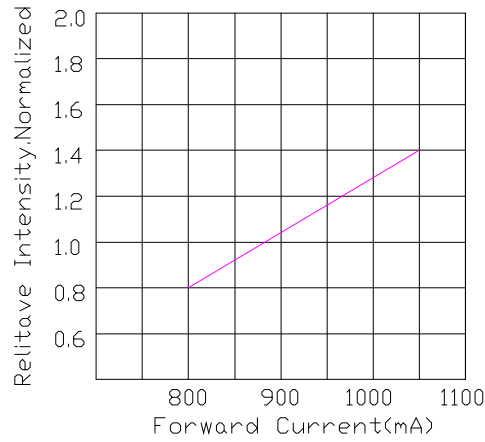


Electrical & Optical Curves

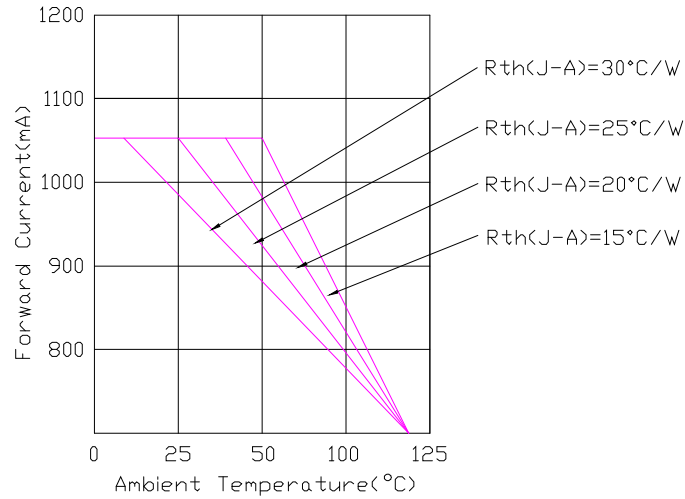




Current & Luminous Flux



Operating Current & Ambient Temperature



Operating Current & Forward Voltage

