

**Feature**

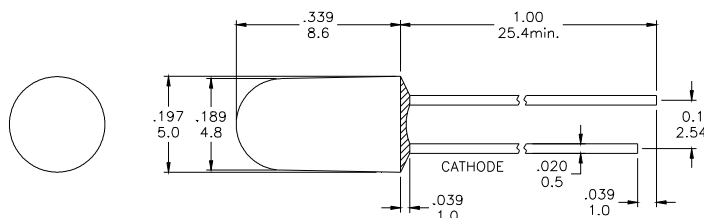
- § Low Power Consumption
- § High Intensity
- § I.C. compatible

**Applications**

- § Commercial Outdoor Sign Board
- § Front Panel Indicator
- § Dot-Matrix Module
- § LED Bulb

**Description**

- § These High Intensity LEDs are Based on InGaN/Sapphire Material Technology
- § Water Transparent Lens

**Package Dimension**


\*Tolerance :  $\pm \frac{0.01}{0.25}$  Unit :  $\pm \frac{\text{inch}}{\text{mm}}$

**Absolute Maximum Ratings at Ta=25°C**

| Symbol | Parameter                             | Max.          | Unit    |
|--------|---------------------------------------|---------------|---------|
| PD     | Power Dissipation                     | 120           | mW      |
| VR     | Reverse Voltage                       | 5             | V       |
| IAF    | Average Forward Current               | 20            | mA      |
| IPF    | Peak Forward Current (Duty=0.1, 1kHz) | 85            | mA      |
| —      | Derating Linear Form 25°C             | 0.4           | mA / °C |
| Topr   | Operating Temperature Range           | - 40 to + 80  | °C      |
| Tstg   | Storage Temperature Range             | - 40 to + 100 | °C      |

Lead Soldering Temperature [1.6mm (0.063inch) From Body] 260°C For 5 Seconds.

**Electrical / Optical Characteristics and Curves at Ta=25°C**

| Symbol         | Parameter            | Test Condition | Min. | Typ. | Max. | Unit |
|----------------|----------------------|----------------|------|------|------|------|
| VF             | Forward Voltage      | IF= 20 mA      |      | 3.5  | 4.0  | V    |
| IR             | Reverse Current      | VR= 5 V        |      |      | 50   | μA   |
| $\Delta\theta$ | Half Intensity Angle | IF= 20 mA      |      | 30   |      | Deg. |
| IV             | Luminous Intensity   | IF= 20 mA      |      | 6800 |      | mcd. |
| $\lambda d$    | Peak Wavelength      | IF= 20 mA      |      | 525  |      | nm   |

**n**

AOL-5HPGY4



**APEX OPTO  
CORP**

**SUPERBRIGHT LED LAMP  
AOL-5HPGY4**

| 版 本 | 製 訂 日 期   | 變 更 項 目 |
|-----|-----------|---------|
| A   | 2004/7/21 | 新規格發行   |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |
|     |           |         |

|       |   |       |   |       |   |
|-------|---|-------|---|-------|---|
| 電 性 圖 | ▼ | 尺 寸 圖 | ▼ | 角 度 圖 | ▼ |
|-------|---|-------|---|-------|---|

|      |      |                  |
|------|------|------------------|
| 核 准: | 審 核: | 製 作:             |
|      |      | <b>Tony.Kuo.</b> |



**Electrical Characteristics at Ta=25°C**

| Symbol    | I <sub>v</sub>     |           | V <sub>F</sub>  |         | λ D                 |         |
|-----------|--------------------|-----------|-----------------|---------|---------------------|---------|
| Parameter | Luminous Intensity |           | Forward Voltage |         | Dominant Wavelength |         |
| Condition | IF= 20mA           |           | IF= 20mA        |         | IF= 20mA            |         |
| Unit      | mcd                |           | V               |         | nm                  |         |
| Binning   | Grade              | Range     | Grade           | Range   | Grade               | Range   |
|           | BIN 21             | 4900~6900 | P1              | 3.0~3.2 | G19                 | 520~525 |
|           | BIN 22             | 6900~9700 | P2              | 3.2~3.4 | G20                 | 525~530 |
|           |                    |           | P3              | 3.4~3.6 |                     |         |
|           |                    |           | P4              | 3.6~3.8 |                     |         |
|           |                    |           | P5              | 3.8~4.0 |                     |         |
|           |                    |           |                 |         |                     |         |
|           |                    |           |                 |         |                     |         |

Intensity: Tolerance of minimum and maximum = ± 15%

V<sub>F</sub>: Tolerance of minimum and maximum = ± 0.05v

NOTE:

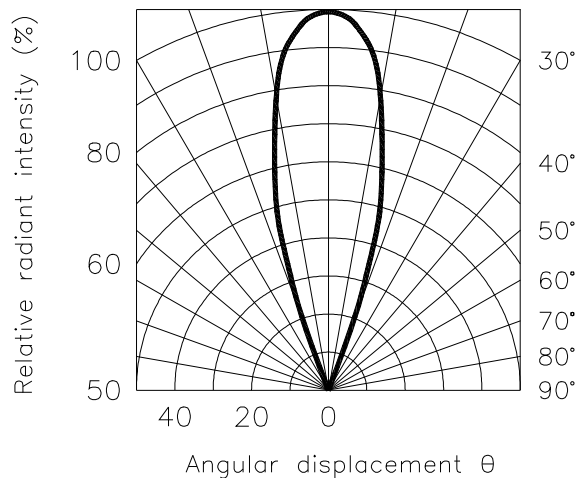
1. Static electricity and surge damages the LED. It is recommend to use a anti-static wrist band or anti-electrostatic glove when handing the LEDs. All devices, equipment and machinery must be properly grounded.

**Radiation Diagram**

**IF=20 mA    50% Power Angle    Angle =30°**

Radiation Diagram

0    10°    20°

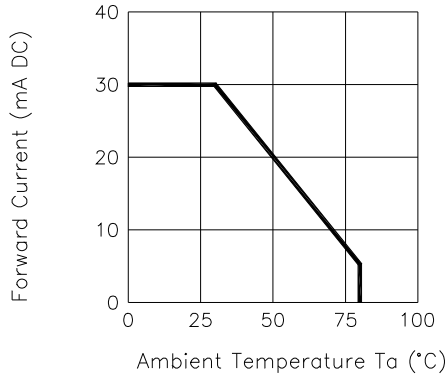




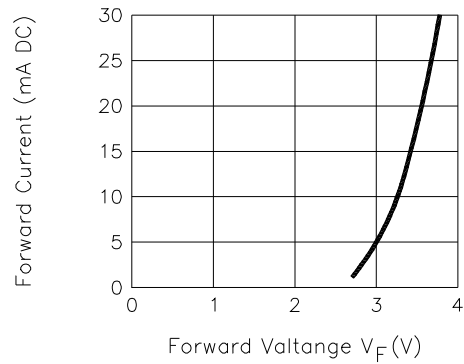
# SUPERBRIGHT LED LAMP

## AOL-5HPGY4

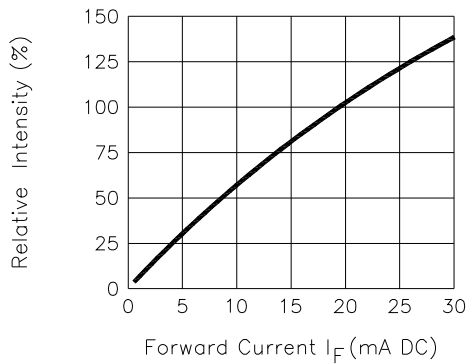
Forward Current  
Vs. Ambient Temperature



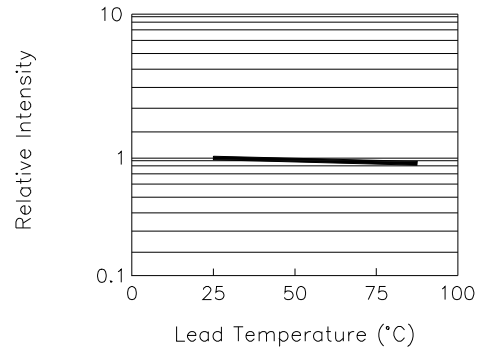
Forward Current  
Vs. Forward Voltage



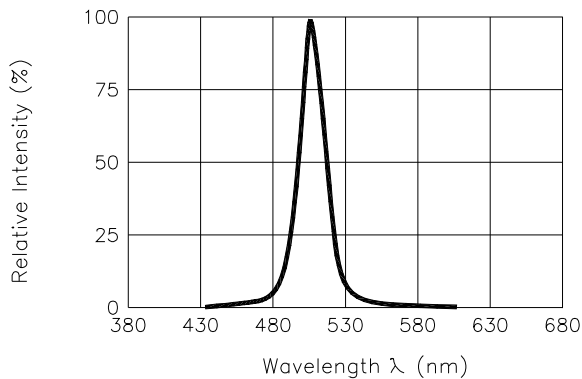
Relative Intensity  
Vs. Forward Current



Relative Intensity  
Vs. Lead Temperature  
(Pulsed 20 mA; 300us pulse,  
10ms period)



Relative Intensity Vs. Wavelength



Peak Forward Voltage  
Vs. Forward Current  
(100us test pulse,  
1% duty cycle)

