

**Feature**

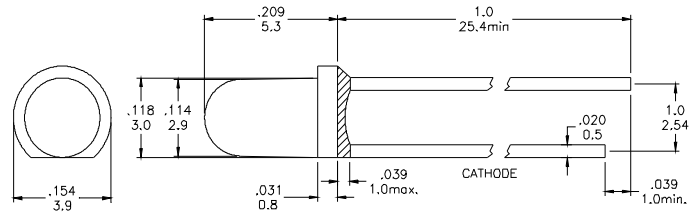
- § Low Power Consumption
- § High Intensity
- § I.C. compatible

**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	30	mA
IPF	Peak Forward Current ( Duty=0.1 , 1kHz )	100	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		3500		mcd.
X	Chromaticity	IF = 20 mA		0.24		
Y	Coordination	IF = 20 mA		0.25		



**APEX OPTO  
CORP**

**SUPERBRIGHT LED LAMP**

**AOL-3GWR4**

版 本	製 訂 日 期	變 更 項 目
A	2005/5/12	新規格發行

電 性 圖	▼	尺 寸 圖	▼	角 度 圖	▼
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核 准:	審 核:	製 作:
		<b>Tony.Kuo.</b>



**APEX OPTO  
CORP**

**SUPERBRIGHT LED LAMP**

**AOL-3GWR4**

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

Symbol	Iv		VF		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 18	1800~2500	P1	3.0~3.2	WA	Bluish White
	BIN 19	2500~3500	P2	3.2~3.4	WB	Bluish White
	BIN 20	3500~4500	P3	3.4~3.6	WC	White
			P4	3.6~3.8	WD	White
			P5	3.8~4.0	WE	Yellowish White
					WF	Yellowish White

Intensity: Tolerance of minimum and maximum = ± 15%

Vf: Tolerance of minimum and maximum = ± 0.05v

NOTE:

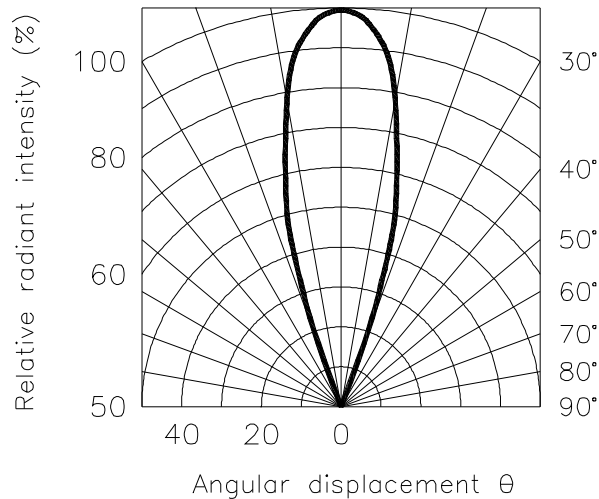
1. Static electricity and surge damages the LED. It is recommend to use a anti-static wrist band or anti-electrostatic glove when handing the LEDs. All devices, equipment and machinery must be properly grounded.

**Radiation Diagram**

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

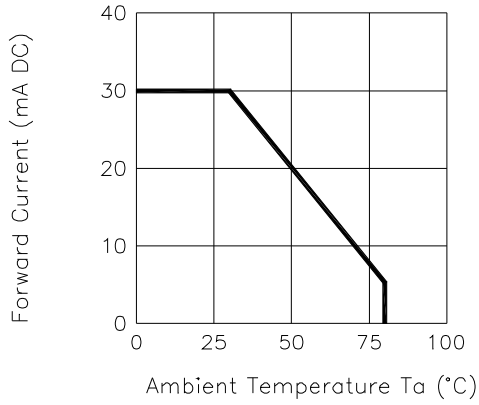
Radiation Diagram

0    10°    20°

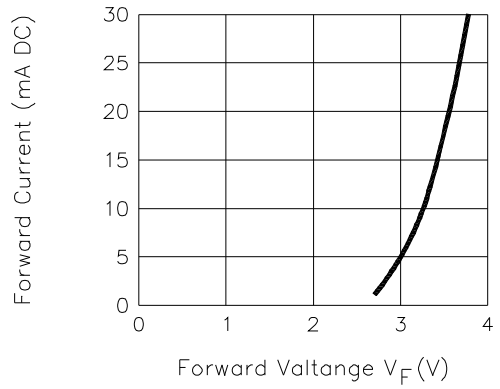




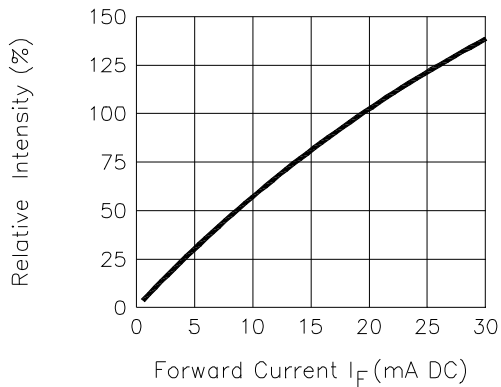
Forward Current  
Vs. Ambient Temperature



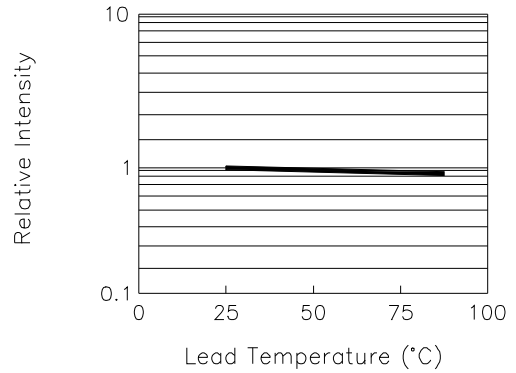
Forward Current  
Vs. Forward Voltage



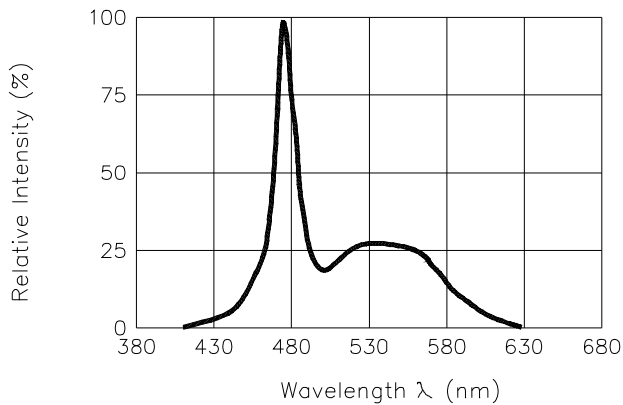
Relative Intensity  
Vs. Forward Current



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)

