

**Feature**

§ Low Power Consumption

§ I.C. compatible

**Applications**

§ Commercial Outdoor Sign Board

§ Front Panel Indicator

§ Dot-Matrix Module

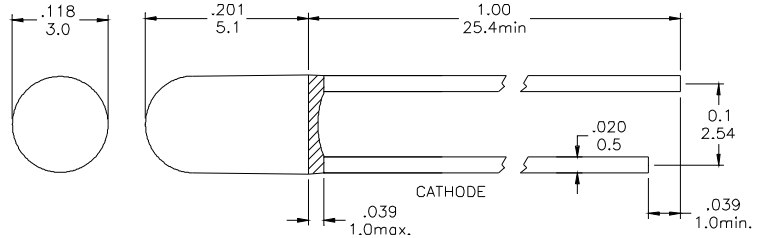
§ LED Bulb

**Description**

 § These LEDs are Based on  
InGaN/Sapphire

Material Technology

§ Water Transparent Lens



\*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 + 85	°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			100	μA
$\Delta \theta$	Half Intensity Angle	IF = 20 mA		25		Deg.
IV	Luminous Intensity	IF = 20 mA		9700		mcad.
$\lambda d$	Peak Wavelength	IF = 20 mA		525		nm

**n**



**APEX OPTO  
CORP**

**SUPERBRIGHT LED LAMP**

**AOL-3H2PGR4**

**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 21	4900~6900	P1	3.0~3.2	G19	520~525
	BIN 22	6900~9700	P2	3.2~3.4	G20	525~530
	BIN 23	9700~13600	P3	3.4~3.6		
	BIN 24	13600~19000	P4	3.6~3.8		
			P5	3.8~4.0		

Intensity: Tolerance of minimum and maximum = ± 15%

Vf: Tolerance of minimum and maximum = ± 0.05v

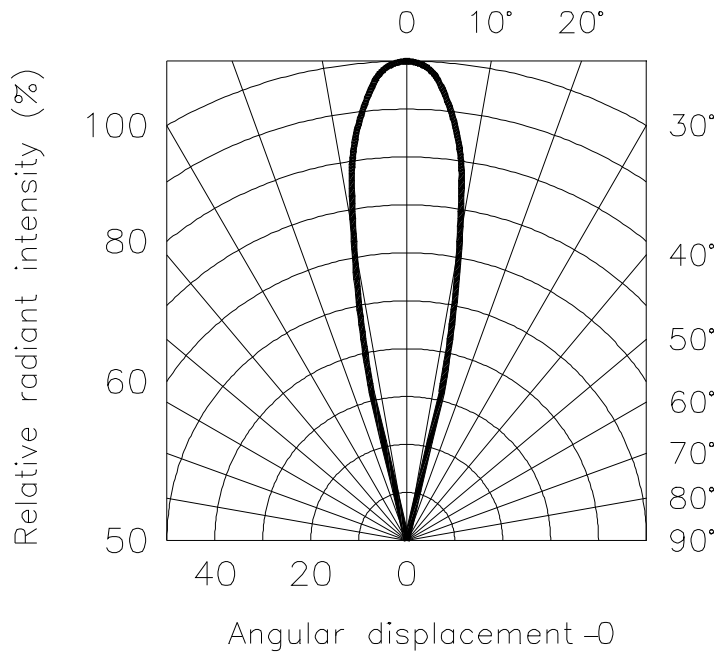
NOTE:

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**

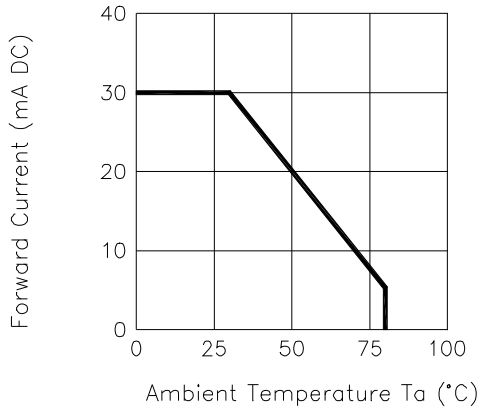
**IF=20 mA 50% Power Angle Angle =25°**

Radiation Diagram

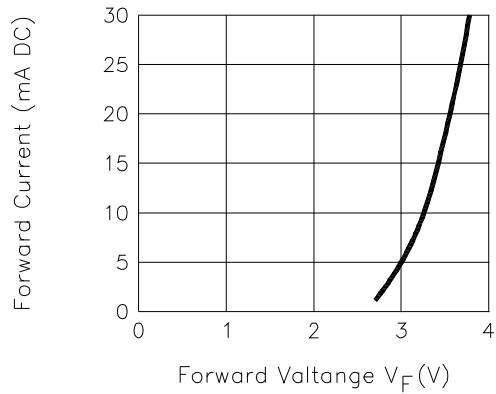




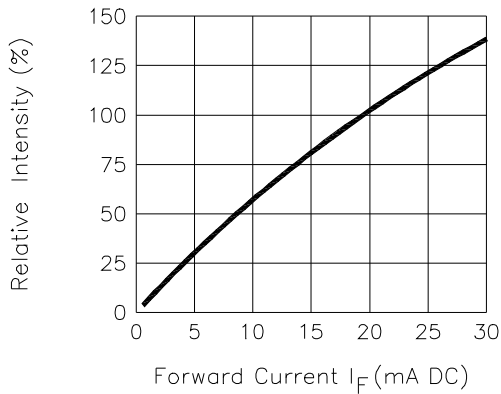
Forward Current  
Vs. Ambient Temperature



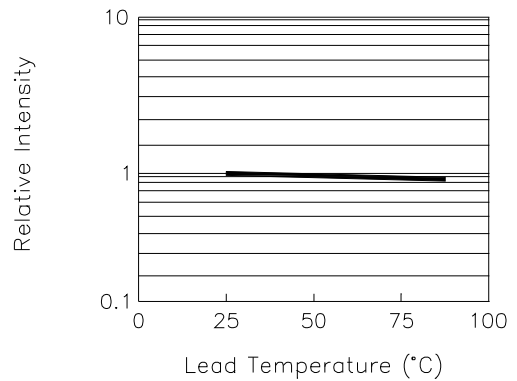
Forward Current  
Vs. Forward Voltage



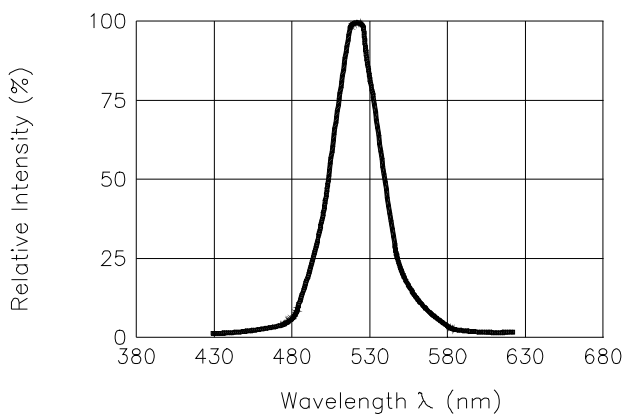
Relative Intensity  
Vs. Forward Current



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)

