

Feature

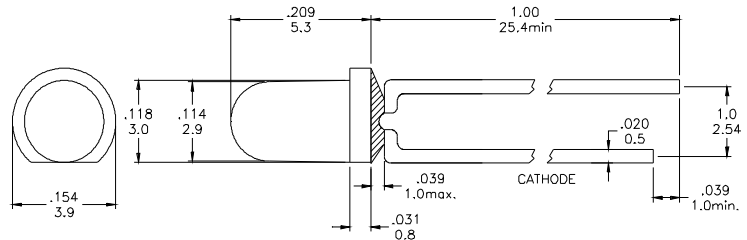
- § Low Power Consumption
- § I.C. compatible

Applications

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

Description

- § These LEDs are Based on AlInGaP/GaP 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 + 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		2.1	2.4	V
IR	Reverse Current	VR = 5 V			100	μA
$\Delta \theta$	Half Intensity Angle	IF = 20 mA		45		Deg.
IV	Luminous Intensity	IF = 20 mA		4000		mcd.
λd	Peak Wavelength	IF = 20 mA		625		nm



**APEX OPTO
CORP**

**(3mm)SUPER BRIGHT LED
LAMP**

AOL-3JRP4

Electrical Characteristics at Ta=25°C

Symbol	I _v		V _F		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 19	3500~4900	C	1.9~2.0	O2	620~625
	BIN 20	4900~6900	D	2.0~2.1	O3	625~630
			E	2.1~2.2		
			F	2.2~2.3		
			G	2.3~2.4		

Intensity: Tolerance of minimum and maximum = ± 15%

V_f: Tolerance of minimum and maximum = ± 0.05v

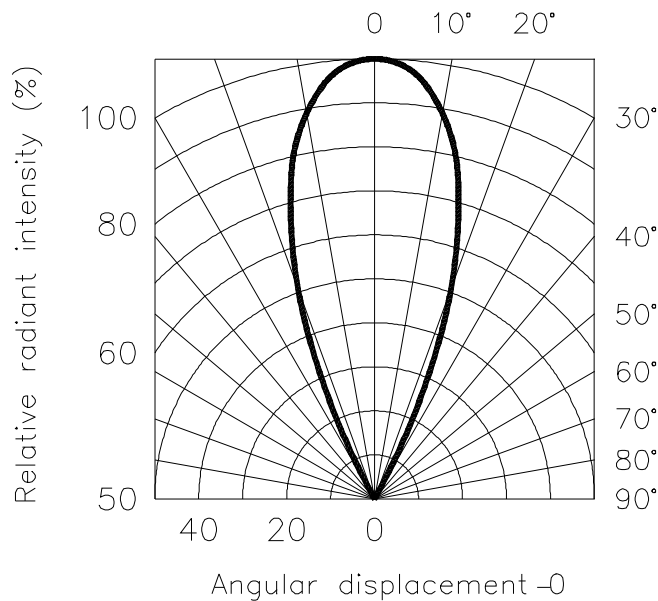
NOTE:

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 =45°

Radiation Diagram



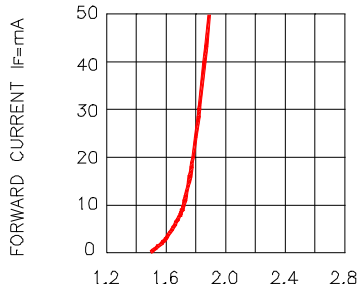


**APEX OPTO
CORP**

**(3mm)SUPER BRIGHT LED
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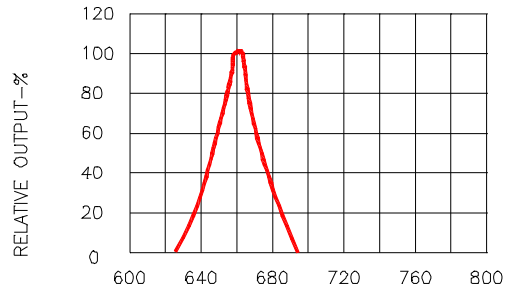
AOL-3JRP4

**Typical Electro-optical Characteristic Curves
(25°C Free Air Temperature Unless Otherwise Specified)**



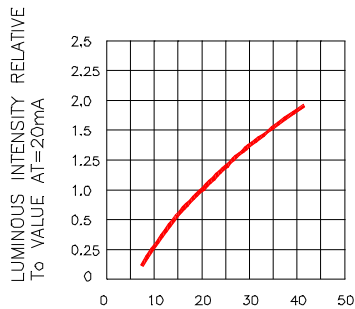
FORWARD VOLTAGE(Vf)-VOLTS

Fig.1 FORWARD CURRENT VS FORWARD VOLTAGE



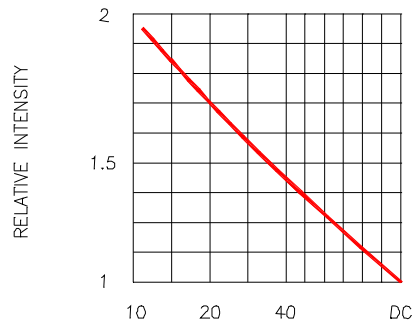
WAVELENGTH(λ)-nm

Fig.2 SPECTRAL RESPONSE



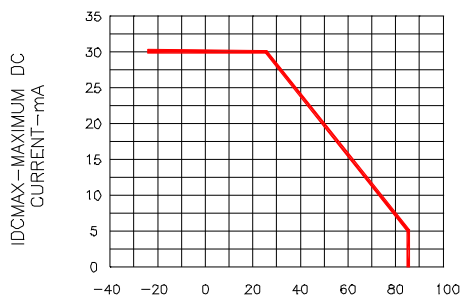
If-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE% PER SEGMENT (AVERAGE If=10mA)

Fig.4 LUMINOUS INTENSITY VS. DUTY CYCLE



TA AMBIENT TEMPERATURE °C

Fig.5 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

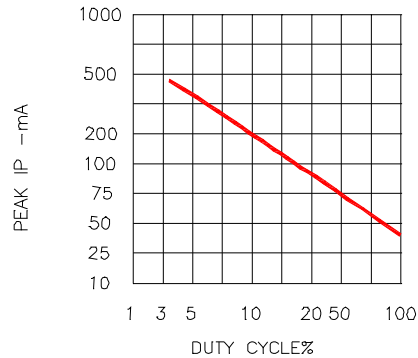


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1KHz)