



American Opto Plus LED

L-513NBC-30D

5mm Dia LED LAMP - WATER CLEAR

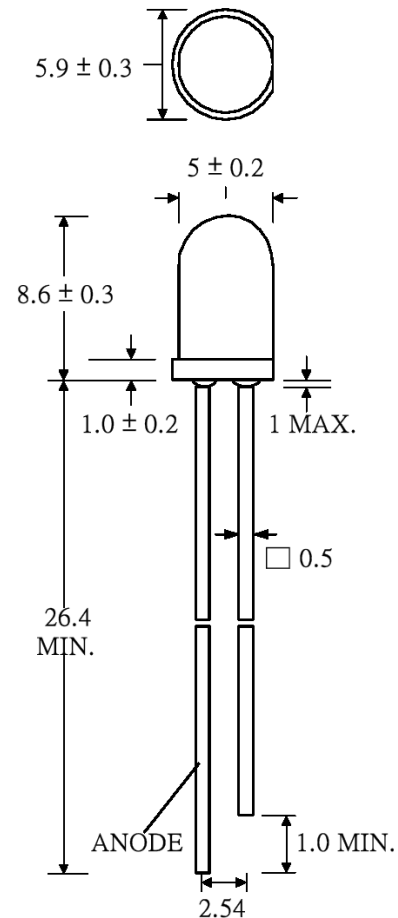
- ◆ 5.0mm DIA LED LAMP
- ◆ I.C. COMPATIBLE
- ◆ LOW POWER CONSUMPTION
- ◆ HIGH LUMINOUS INTENSITY

DESCRIPTION

- Super bright LED lamp
- Round type
- T1-3/4 (5mm) diameter
- Lens color: Water clear
- With flange
- Solder leads without stand-off

FEATURES

- Emitted color: Super Blue
- High luminous intensity
- Technology: GaN
- Peak wavelength $\lambda_p = 472\text{nm}$
- Viewing angle: 30°
- UV resistant epoxy



- Notes:
1. All dimensions are in millimeter.
 2. Lead spacing is measured where the lead emerge from the package.

SELECTION GUIDE

Chip Material	Chip Emitted	Lens Color	Viewing Angle
GaN	Super Blue	Water Clear	30°



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ABSOLUTE MAXIMUM RATINGS

(Ta=25 °C)

PARAMETER	SYMBOL	MAX. RATING	Unit
Power Dissipation	P _D	120	mW
Peak Forward Current (1/10 Duty Cycle @1KHz)	I _{PF}	100	mA
Continuous Forward Current	I _{AF}	30	mA
Reverse Voltage	V _R	5.0	V
Operating Temperature Range	T _{OPR}	-20~+80	°C
Storage Temperature Range	T _{STG}	-30~+100	°C

Solder temperature 1.6 mm from body for 3 seconds at 260 °C

OPTICAL-ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Luminous Intensity	I _V	I _F = 20mA	2500	3300		mcd
Forward Voltage	V _F	I _F = 20mA		3.5	4.0	V
Reverse Current	I _R	V _R = 5V			10	uA
Viewing Angle	2θ1/2	I _F = 20mA		30		deg.
Peak Wavelength	λ _P	I _F = 20mA		472		nm
Dominant Wavelength	λ _D	I _F = 20mA		470		nm
Spectrum Radiation Bandwidth	Δλ	I _F = 20mA		30		nm

*Tolerance of Viewing Angle: -10 / +5 deg.



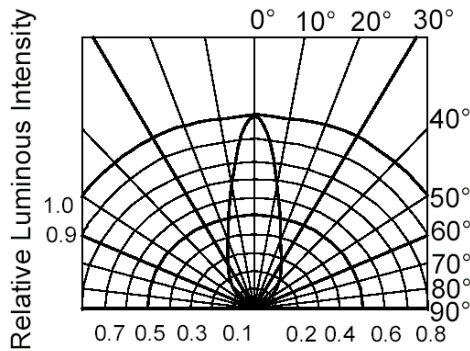
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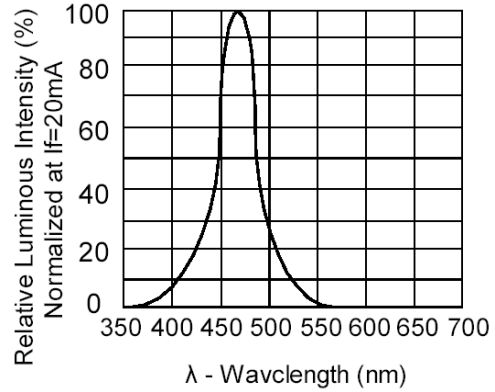
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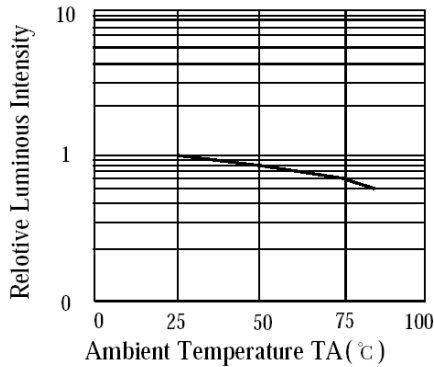
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES



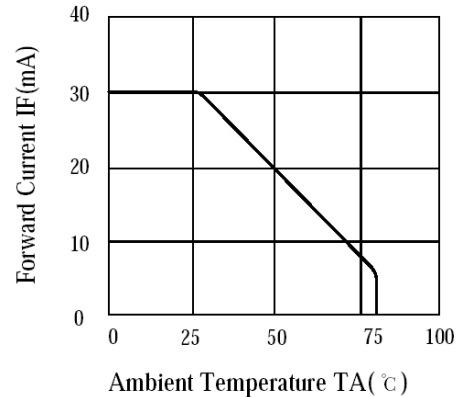
RADIATION DIAGRAM



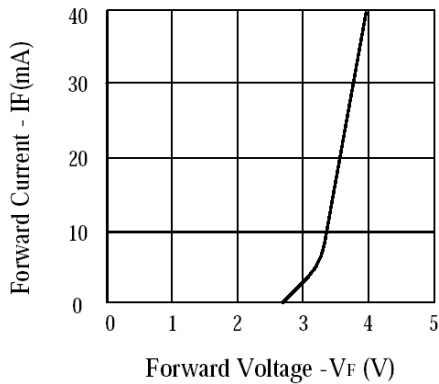
RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH



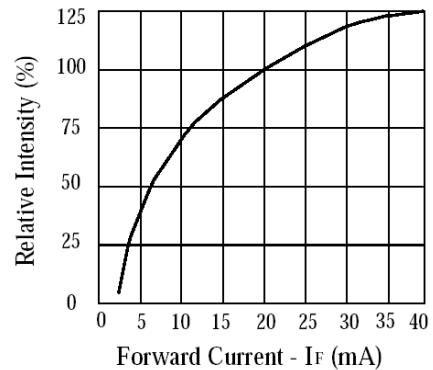
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. AMBIENT TEMPERATURE



FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



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Electrical Characteristics at Ta=25°C

COLOR BIN CODE FOR BLUE LED LAMP

Luminous Intensity		Dominant Wavelength		Forward Voltage	
IV(mcd)		λ d(nm)		VF(v)	
IF=20mA		IF=20mA		IF=20mA	
1	2500~3250	A	455~460	X	3.0~3.3
		B	460~465		
3	3250~4300	C	465~470	Y	3.3~3.6
		D	470~475	Z	3.6~3.8