



American Opto Plus LED

L-513NBC-30D

5mm Dia LED LAMP - WATER CLEAR

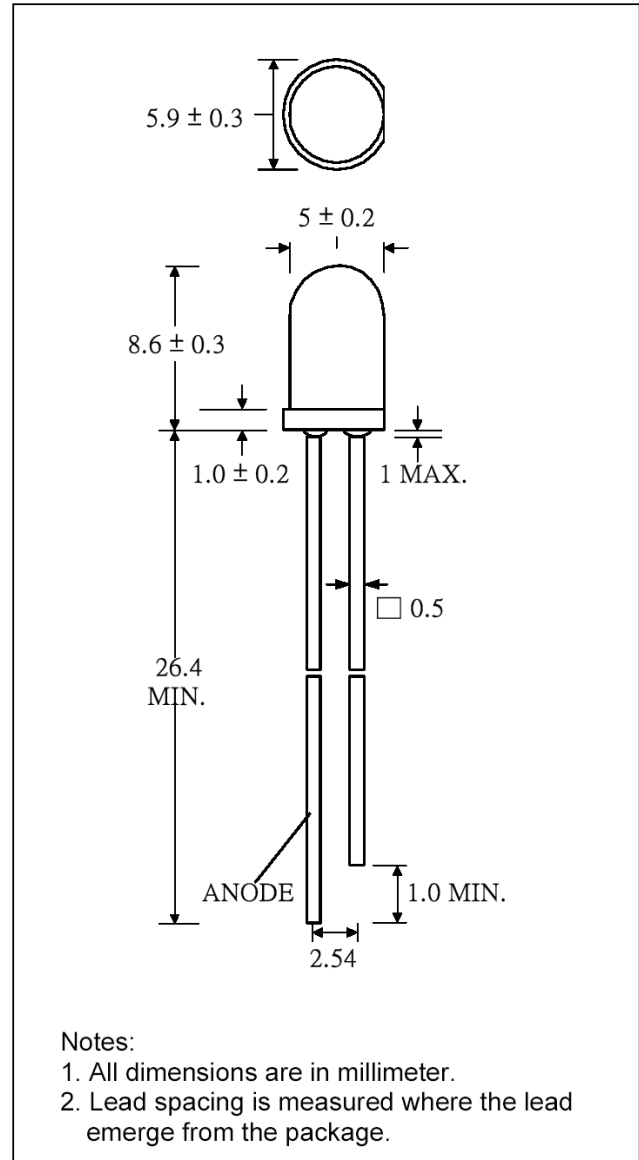
- ◆ 5.0mm DIA LED LAMP
- ◆ I.C. COMPATIBLE
- ◆ LOW POWER CONSUMPTION
- ◆ HIGH LUMINOUS INTENSITY

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



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	2θ _{1/2}	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.



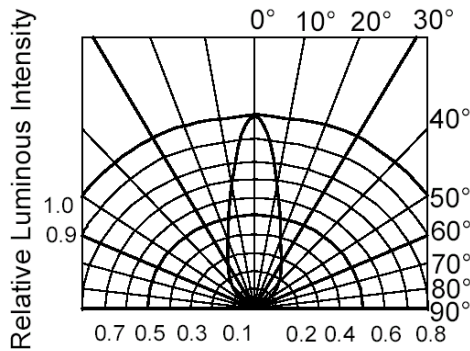
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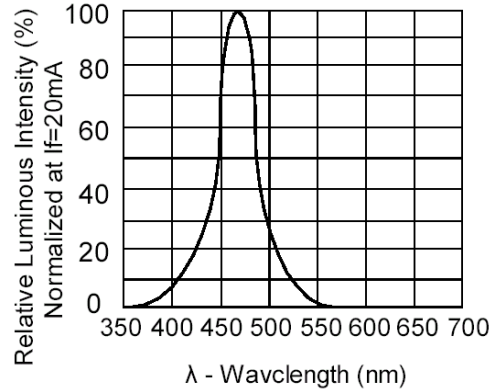
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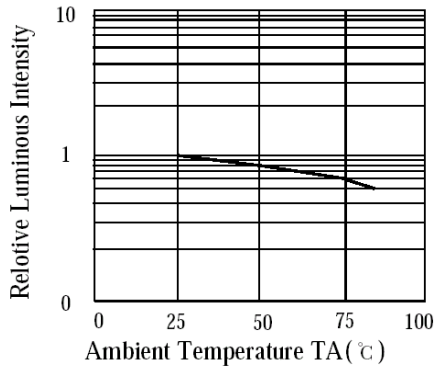
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES



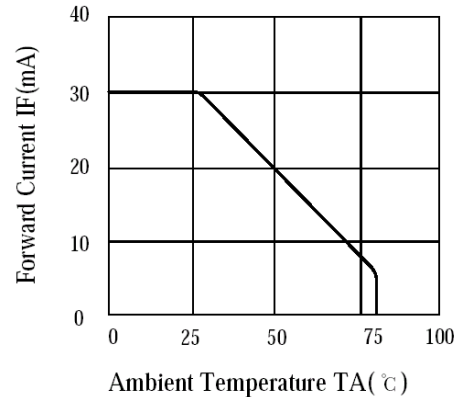
RADIATION DIAGRAM



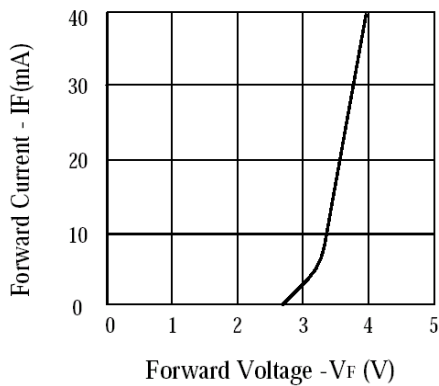
RELATIVE LUMINOUS INTENSITY Vs. WAVELENGTH



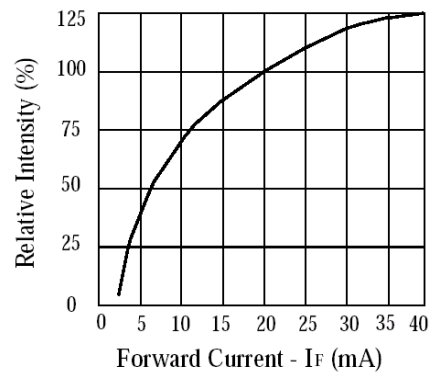
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



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