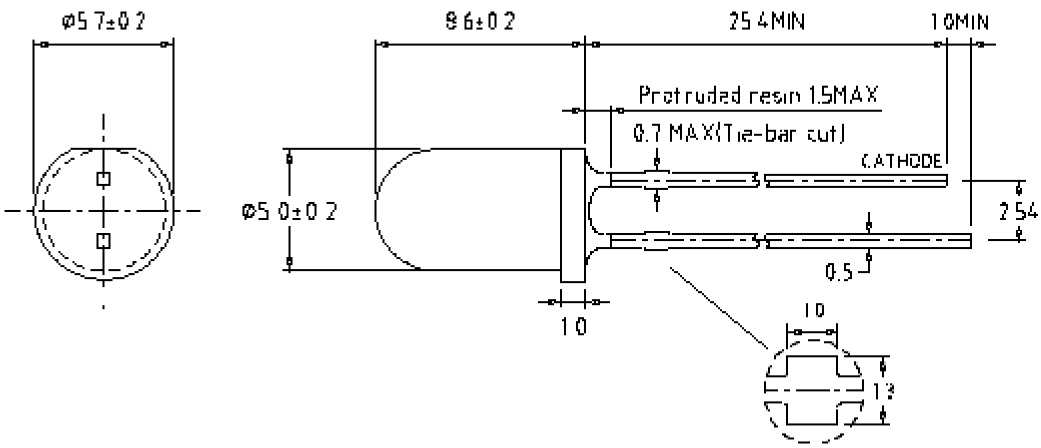
# High Output Violet Blue LED Lamp

**5mm Through-Hole Package**

# BL–LBVB5N15C series

| FEATURES | APPLICATIONS |
|---|---|
| • High Output Violet Blue 435nm λp (+/- 5nm)<br>• InGaN on Sapphire ($Al_2O_3$) die.<br>• 5mm round shaped resin mold.<br>• Water Clear Lens.<br>• Narrow viewing angle (15 degrees). | • Epoxy Curing<br>• Currency validation / detection<br>• Bacteria detection.<br>• Medical and forensics.<br>• Decorative /Accent Lighting |

## PACKAGE OUTLINE DIMENSIONS:

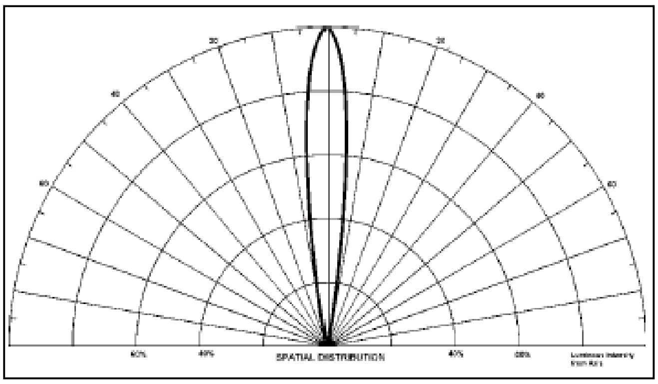



Lead Stoppers Optional

**NOTES:**

1. All dimensions are in millimeters.
2. Tolerance is ±0.25 mm unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

## BEAM RADIATION PATTERN



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## ABSOLUTE MAXIMUN RATING (at $T_A$ = 25°C)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| **Continuous Forward Current** | $I_F$ | 30 | mA |
| **Peak Forward Current** (1/10 Duty Cycle, 0.1msec Pulse width) | $I_{Fp}$ | 100 | mA |
| **Power Dissipation** | $P_d$ | 112 | mW |
| **Forward Voltage** | $V_f$ | 3.7 | V |
| **Reverse Voltage** | $V_R$ | 5.0 | V |
| **Operating Temperature** | $T_{opr}$ | -40 to +85 | °C |
| **Storage Temperature** | $T_{stg}$ | -45 to +100 | °C |
| **Lead Soldering Temperature** (1.6mm (0.063") from body) | **260°C for 5 seconds** | | |

## ELECTRICAL / OPTICAL CHARACTERISTICS (at $T_A$ = 25°C)

| Parameter | | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Forward Voltage** | $I_F$= 20 mA | $V_F$ | | 3.4 | 3.7 | V |
| **Radiant Intensity** | $I_F$= 20 mA | $I_r$ | | 20 | | mW/sr |
| **Peak Wavelength** | $I_F$= 20 mA | $\lambda_p$ | 430 | 435 | 440 | nm |
| **Dominant Wavelength** | $I_F$= 20 mA | $\lambda_d$ | | 445 | | nm |
| **Spectrum Radiation Bandwidth** | $I_F$= 20 mA | $\Delta\lambda$ | | 31 | | nm |
| **Viewing Angle** | | $2\theta 1/2$ | 12 | 15 | 17 | deg |
| **Reverse Current** | $V_R$= 5 V | $I_R$ | | 10 | 100 | μA |

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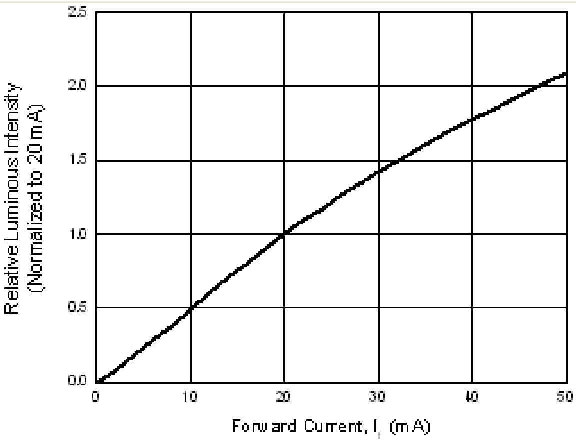
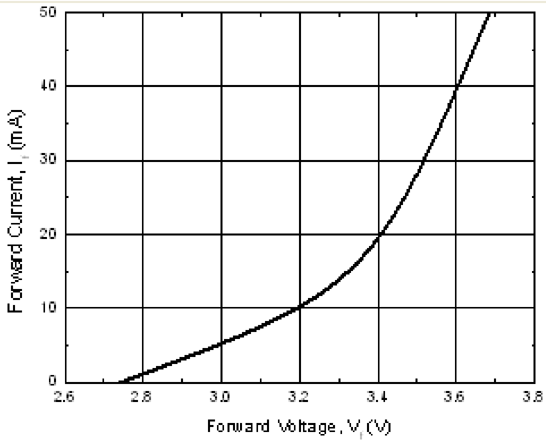
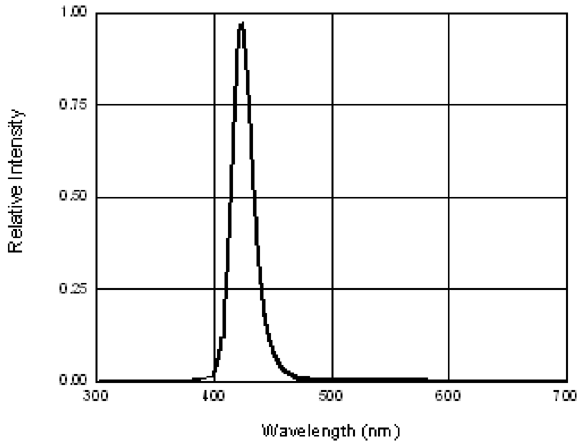
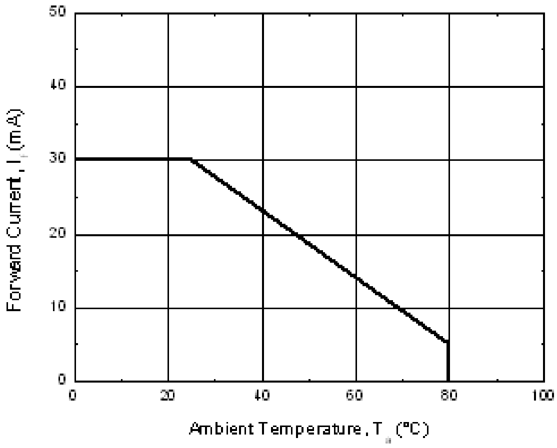
## TYPICAL ELECTRICAL CHARACTERISTICS CURVES (at 20 mA DC / $T_A$ = 25°C)




**GENERAL NOTES:**

1. Radiant Intensity (I), a radiometric measurement, is obtained by measuring the LED lamp with a Spectral Goniometric Analyzer. It is the Light Energy (mW) emitted by the LED lamp in the forward axial direction (within a 3˚ solid angle (sr)).
2. Radiant Intensity measurement uncertainty is +/- 15% due to test procedures and equipment variations.
3. θ1/2 is the off-axis angle at which the luminous intensity is half the axial luminous intensity. Tolerance +/- 3°.
4. Dominant wavelength is derived from the 1931 CIE 2° Observer Chromaticity Diagram.
5. Peak and Dominant wavelength measurement uncertainty is +/- 0.05 due to variations.
6. Caution for ESD: Static Electricity and surges can damage the LED. It is recommended using a wristband or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
7. Do not apply excess mechanical stress to the leads, especially when heated or while soldering.

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## PRODUCT CODE BREAKDOWN

$X_1X_2$ - $X_3$ $X_4$ $X_5X_6$ $X_7$ $X_8$ $X_9X_{10}$ $X_{11}$ - $X_{12}$ $X_{13}$

**Manufacturer**
BL= Brite-LED
PL=PowerLED
SG=SinoGerman

**Package Type**
L= Lamp TH

**Product Series**

**Emitted Color**
VB= Violet Blue

**Lens Size**
5= 5mm

**Lens Shape**
N= Normal

**Viewing Angle**
15= 15° ± 3°

**Lens Resin**
C= Clear

**Lead Stoppers**
N=No Stoppers
S= with Stoppers

**Delivery**
B= Bulk
R= Reel
A= Ammo