



# Through Hole Lamp Product Data Sheet LTL-42M1NHKP

Spec No.: DS20-2002-053

Effective Date: 06/01/2002

Revision: -

**LITE-ON DCC**

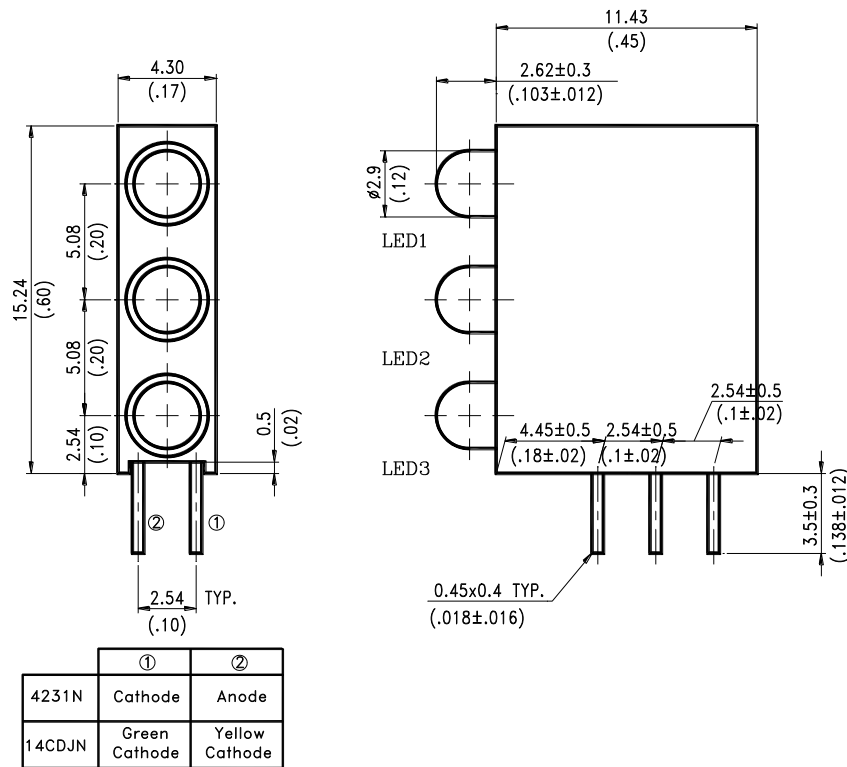
**RELEASE**

BNS-OD-FC001/A4

## Features

- \* Designed for ease in circuit board assembly.
- \* Black case enhance contrast ratio.
- \* Solid state light source.
- \* Reliable and rugged.

## Package Dimensions



Lamp Part No.	Lens	Source Color
LTL-4231N	Green Diffused	Green
LTL-14CDJN	White Diffused	Green/Yellow

### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.
3. The holder color is black.
4. The LED1&LED3 lamps are LTL-4231N.  
The LED2 lamp is LTL-14CDJN.
5. Specifications are subject to change without notice.



**Absolute Maximum Ratings at Ta=25°C**

Parameter	Green	Yellow	Unit
Power Dissipation	100	60	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	120	80	mA
Continuous Forward Current	30	20	mA
Derating Linear From 50°C	0.4	0.25	mA/°C
Reverse Voltage	5	5	V
Operating Temperature Range	-55°C to + 100°C		
Storage Temperature Range	-55°C to + 100°C		
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds		

### Electrical Optical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	LTL-4231N LTL-14CDJN	Min.		Typ.		Max.	Unit	Test Condition
Luminous Intensity	$I_v$	GREEN	3.7		12.6			mcd	$I_F = 10\text{mA}$ Note 1,4
		GR   YE	3.7   2.5	12.6   8.7		$I_F = 20\text{mA}$ Note 1,4			
Viewing Angle	$2\theta_{1/2}$	GREEN			60			deg	Note 2 (Fig.6)
		GR   YE			80				
Peak Emission Wavelength	$\lambda_p$	GREEN			565			nm	Measurement @Peak (Fig.1)
		GR   YE			565   585				
Dominant Wavelength	$\lambda_d$	GREEN			565			nm	Note 3
		GR   YE			569   588				
Spectral Line Half-Width	$\Delta\lambda$	GREEN			30			nm	
		GR   YE			30   35				
Forward Voltage	$V_F$	GREEN			2.1	2.6		V	$I_F = 20\text{mA}$
		GR   YE			2.1	2.6			
Reverse Current	$I_R$	GREEN					100	$\mu\text{A}$	$V_R = 5\text{V}$
		GR   YE							
Capacitance	C	GREEN			35			pF	$V_F = 0, f = 1\text{MHz}$
		GR   YE			35   15				

- Note: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength,  $\lambda_d$  is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
4.  $I_v$  needs  $\pm 15\%$  additional for guaranteed limits.
5. The stated maximum ratings refer to one chip.

Property of Lite-On Only

## Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

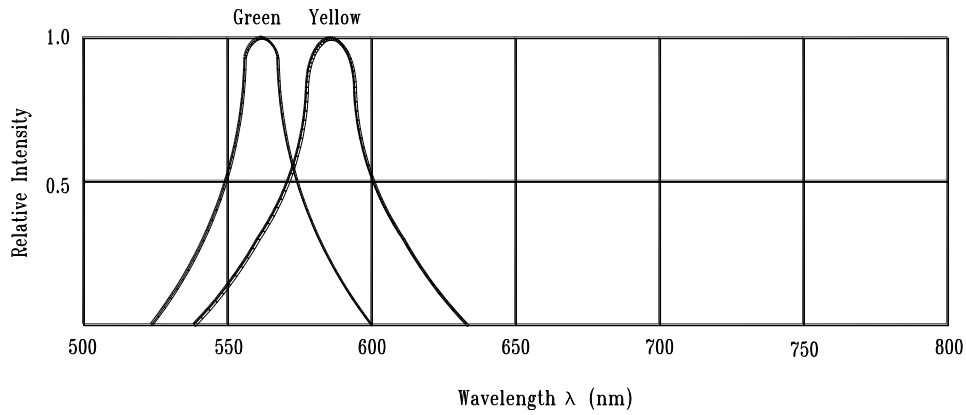


Fig.1 Relative Intensity vs. Wavelength

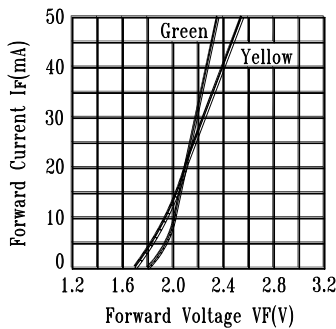


Fig.2 Forward Current vs. Forward Voltage

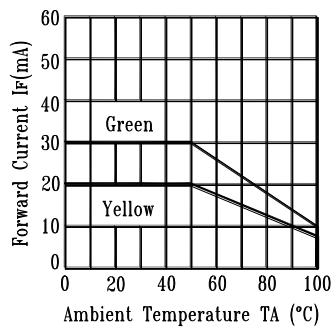


Fig.3 Forward Current Derating Curve

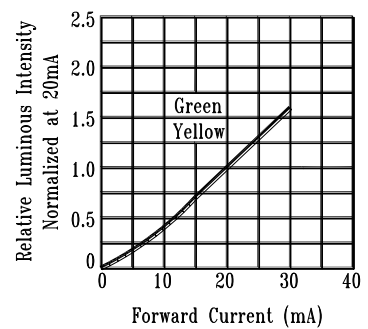


Fig.4 Relative Luminous Intensity vs. Forward Current

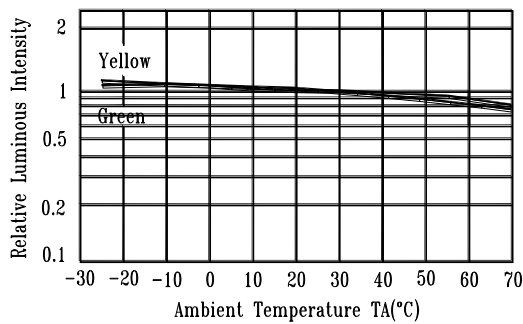


Fig.5 Luminous Intensity vs. Ambient Temperature

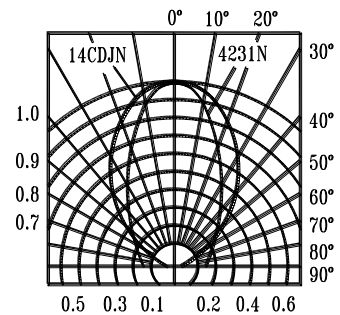


Fig.6 Spatial Distribution