



# IR Emitter and Detector Product Data Sheet

LTE-3677

Spec No.: DS-50-99-0015

Effective Date: 04/19/2000

Revision: A

**LITE-ON DCC**

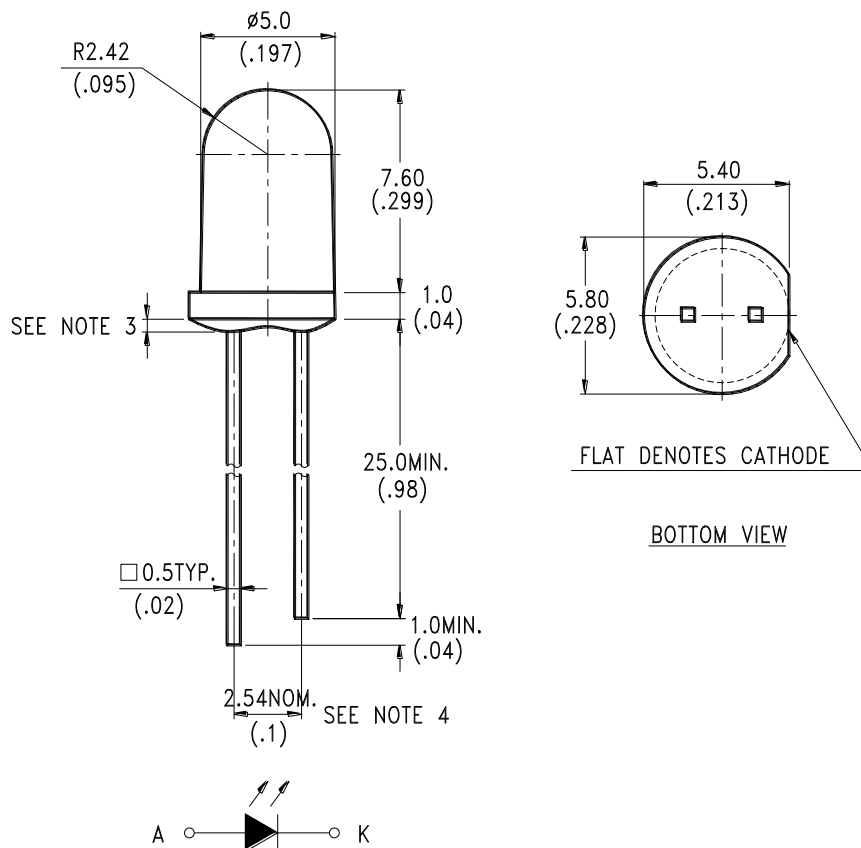
**RELEASE**

BNS-OD-FC001/A4

## FEATURES

- \* HIGH SPEED
- \* HIGH POWER
- \* AVAILABLE FOR PULSE OPERATING
- \* CLEAR TRANSPARENT COLOR PACKAGE

## PACKAGE DIMENSIONS



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.
3. Protruded resin under flange is 1.5mm (.059") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| PARAMETER  | MAXIMUM RATING      | UNIT |
|--|---------------------|------|
| Power Dissipation                                      | 260                 | mW   |
| Peak Forward Current (300pps, 10 μs pulse)             | 1                   | A    |
| Continuous Forward Current                             | 100                 | mA   |
| Reverse Voltage  | 5                   | V    |
| Operating Temperature Range                            | 0°C to + 70°C       |      |
| Storage Temperature Range                              | -20°C to + 85°C     |      |
| Lead Soldering Temperature<br>[1.6mm(.063") From Body] | 260°C for 5 Seconds |      |

## ELECTRICAL / OPTICAL CHARACTERISTICS AT TA=25°C

| PARAMETER                  | SYMBOL                         | MIN.  | TYP. | MAX.  | UNIT               | TEST CONDITION         | BIN NO. |
|----------------------------|--------------------------------|-------|------|-------|--------------------|------------------------|---------|
| Aperture Radiant Incidence | E <sub>e</sub>                 | 1.28  |      | 2.64  | mW/cm <sup>2</sup> | I <sub>F</sub> = 20mA  | BIN D   |
|                            |                                | 1.76  |      |       |                    |                        | BIN E   |
| Radiant Intensity          | I <sub>E</sub>                 | 9.62  |      | 19.85 | mW/sr              | I <sub>F</sub> = 20mA  | BIN D   |
|                            |                                | 13.23 |      |       |                    |                        | BIN E   |
| Peak Emission Wavelength   | λ <sub>P</sub>                 | 860   | 875  | 895   | nm                 | I <sub>F</sub> = 50mA  |         |
| Spectral Line Half-Width   | Δλ                             |       | 50   |       | nm                 | I <sub>F</sub> = 50mA  |         |
| Forward Voltage            | V <sub>F</sub>                 | 1.3   | 1.5  | 1.7   | V                  | I <sub>F</sub> = 50mA  |         |
| Forward Voltage            | V <sub>F</sub>                 | 1.4   | 1.67 | 1.85  | V                  | I <sub>F</sub> = 100mA |         |
| Reverse Current            | I <sub>R</sub>                 |       |      | 100   | μA                 | V <sub>R</sub> = 5V    |         |
| Rise/Fall Time             | T <sub>r</sub> /T <sub>f</sub> |       | 40   |       | nS                 | 10% ~ 90%              |         |
| Viewing Angle (See FIG.6)  | 2θ <sub>1/2</sub>              |       | 30   |       | deg.               | I <sub>F</sub> = 20mA  |         |

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

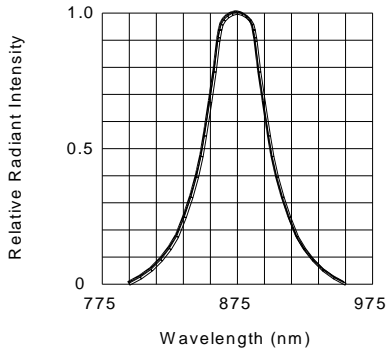


FIG.1 SPECTRAL DISTRIBUTION

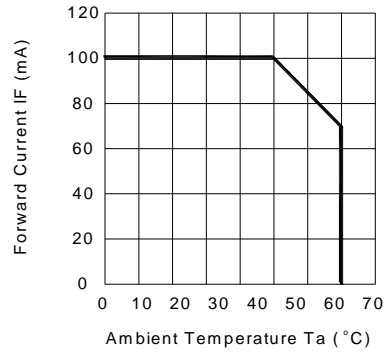


FIG.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

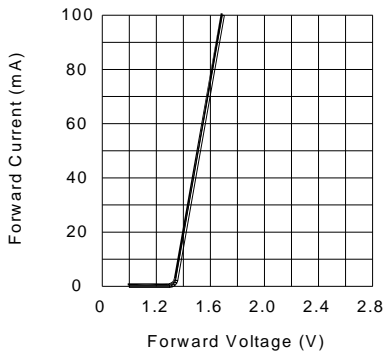


FIG.3 FORWARD CURRENT VS. FORWARD VOLTAGE

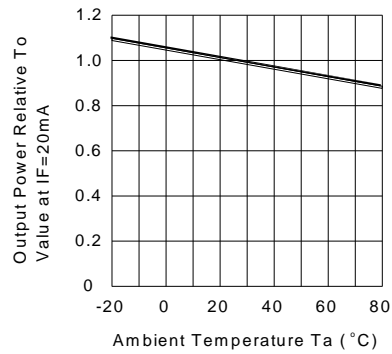


FIG.4 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

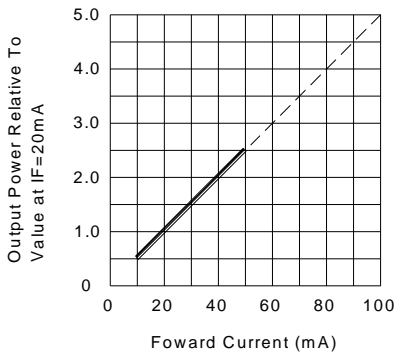


FIG.5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

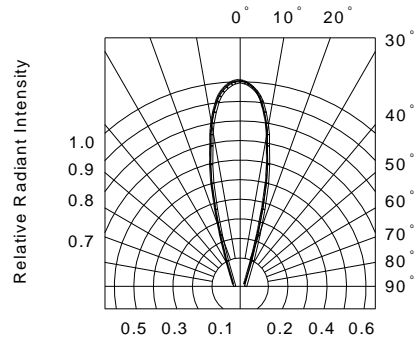


FIG.6 RADIATION DIAGRAM

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