



# IR Emitter and Detector Product Data Sheet

LTR-4206

Spec No.: DS-50-92-0072

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**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

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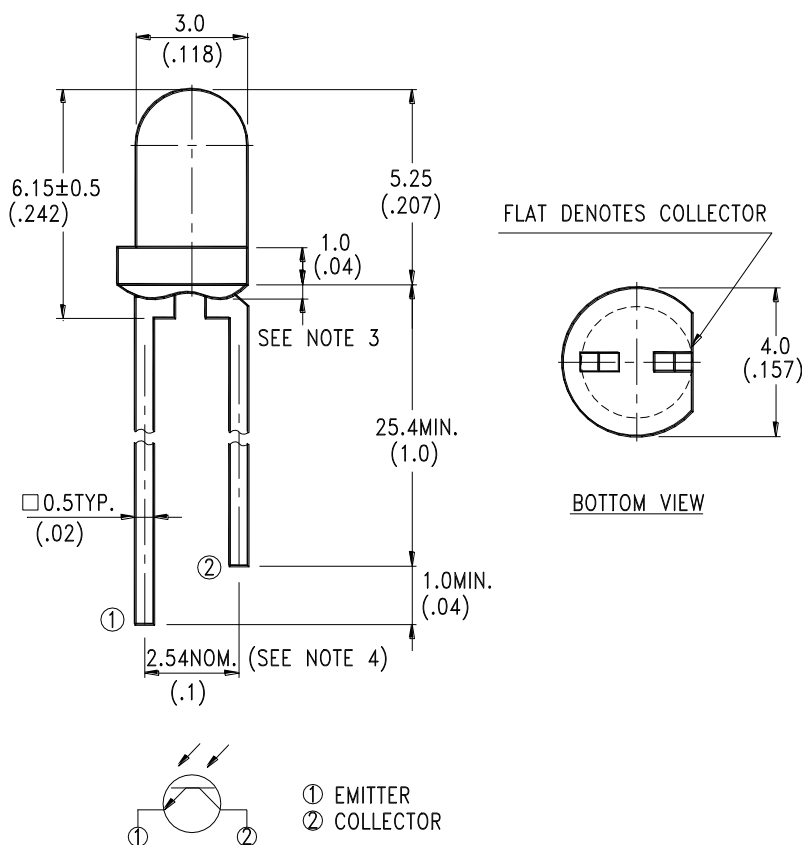
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## FEATURES

- \* WIDE RANGE OF COLLECTOR CURRENT
- \* LENSED FOR HIGH SENSITIVITY
- \* LOW COST PLASTIC 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 for performance improvement.

**ABSOLUTE MAXIMUM RATINGS AT  $T_A=25^{\circ}\text{C}$**

| PARAMETER                                              | MAXIMUM RATING                                  | UNIT |
|--------------------------------------------------------|-------------------------------------------------|------|
| Power Dissipation                                      | 100                                             | mW   |
| Collector-Emitter Voltage                              | 30                                              | V    |
| Emitter-Collector Voltage                              | 5                                               | V    |
| Operating Temperature Range                            | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$  |      |
| Storage Temperature Range                              | $-55^{\circ}\text{C}$ to $+100^{\circ}\text{C}$ |      |
| Lead Soldering Temperature<br>[1.6mm(.063") From Body] | $260^{\circ}\text{C}$ for 5 Seconds             |      |

## ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub>=25°C

| PARAMETER                            | SYMBOL               | MIN. | TYP. | MAX. | UNIT | TEST CONDITION                                                       | BIN NO. |
|--------------------------------------|----------------------|------|------|------|------|----------------------------------------------------------------------|---------|
| Collector-Emitter Breakdown Voltage  | V <sub>(BR)CEO</sub> | 30   |      |      | V    | I <sub>C</sub> = 1mA<br>Ee = 0mW/cm <sup>2</sup>                     |         |
| Emitter-Collector Breakdown Voltage  | V <sub>(BR)ECO</sub> | 5    |      |      | V    | I <sub>E</sub> = 100 μA<br>Ee = 0mW/cm <sup>2</sup>                  |         |
| Collector Emitter Saturation Voltage | V <sub>CE(SAT)</sub> |      |      | 0.4  | V    | I <sub>C</sub> = 0.5mA<br>Ee = 1mW/cm <sup>2</sup>                   |         |
| Rise Time                            | Tr                   |      | 10   |      | μs   | V <sub>CC</sub> = 5V<br>I <sub>C</sub> = 1mA<br>R <sub>L</sub> = 1KΩ |         |
| Fall Time                            | Tf                   |      | 10   |      | μs   |                                                                      |         |
| Collector Dark Current               | I <sub>CEO</sub>     |      |      | 100  | nA   | V <sub>CE</sub> = 10V<br>Ee = 0mW/cm <sup>2</sup>                    |         |
| On State Collector Current           | I <sub>C(ON)</sub>   | 0.8  |      | 2.4  | mA   | V <sub>CE</sub> = 5V<br>Ee = 1mW/cm <sup>2</sup><br>λ = 940nm        | BIN C   |
|                                      |                      | 1.6  |      | 4.8  |      |                                                                      | BIN D   |
|                                      |                      | 3.2  |      | 9.6  |      |                                                                      | BIN E   |
|                                      |                      | 6.4  |      |      |      |                                                                      | BIN F   |

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

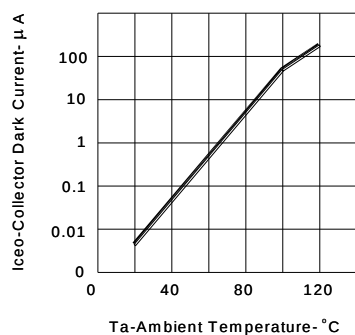


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

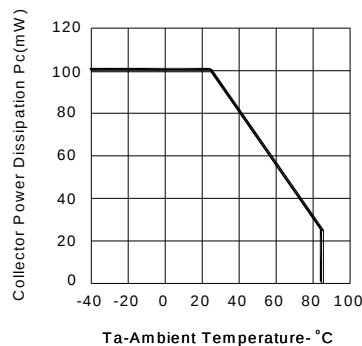


FIG.2 COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE

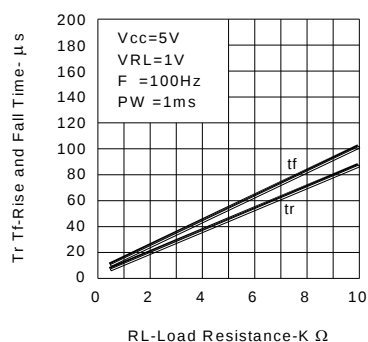


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

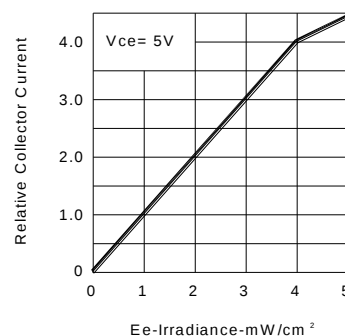


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

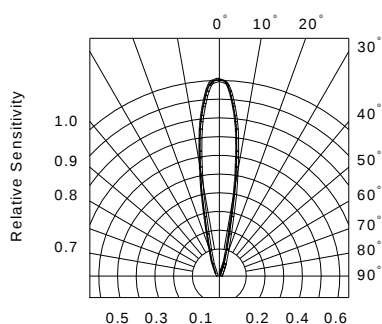


FIG.5 SENSITIVITY DIAGRAM