



IR Emitter and Detector Product Data Sheet

LTR-1650D

Spec No.: DS-50-95-0016

Effective Date: 05/06/2000

Revision: A

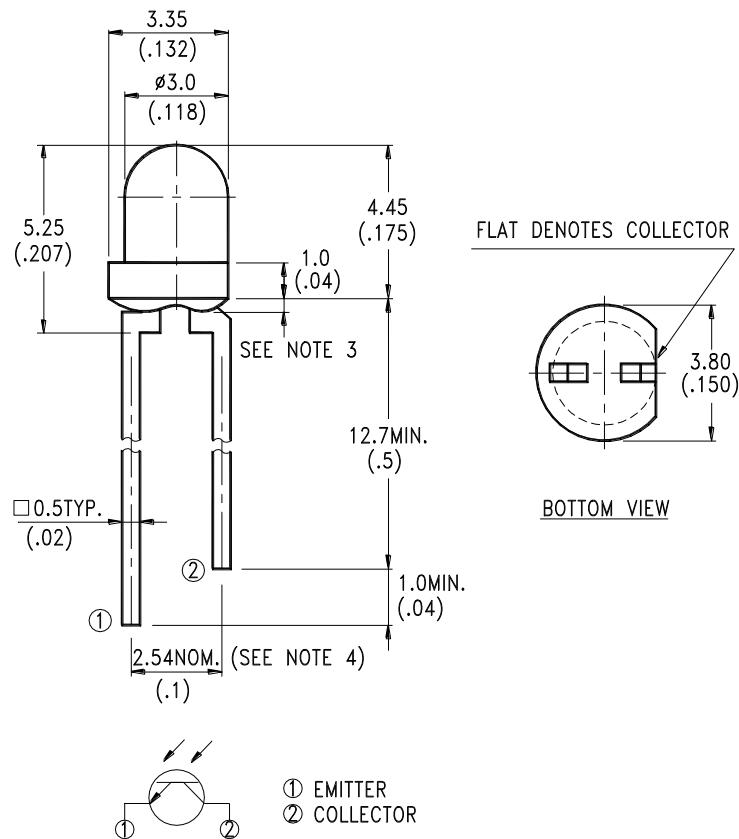
LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

FEATURES

- * WIDE RANGE OF COLLECTOR CURRENT
- * THE LENS IS FOR HIGH SENSITIVITY
- * LOW COST PLASTIC PACKAGE
- * SPECIAL DARK TRANSPARENT COLOR PACKAGE

PACKAGE DIMENSIONS**NOTES:**

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}(.010\text{'})$ unless otherwise noted.
3. Protruded resin under flange is $1.5\text{mm}(.059\text{'})$ 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 | 100 | mW |
| Collector-Emitter Voltage | 30 | V |
| Emitter-Collector Voltage | 5 | V |
| Operating Temperature Range | -40°C to + 85°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 TA=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION | BIN NO. |
|--------------------------------------|---------------|------|------|------|---------|--|---------|
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 30 | | | V | $I_C = 1mA$ $E_e = 0mW/cm^2$ | |
| Emitter-Collector Breakdown Voltage | $V_{(BR)ECO}$ | 5 | | | V | $I_E = 100 \mu A$ $E_e = 0mW/cm^2$ | |
| Collector Emitter Saturation Voltage | $V_{CE(SAT)}$ | | | 0.4 | V | $I_C = 100 \mu A$ $E_e = 1mW/cm^2$ | |
| Rise Time | T_r | | 10 | | μs | $V_{CC} = 5V$ $I_C = 1mA$ | |
| Fall Time | T_f | | 10 | | μs | $R_L = 1K\Omega$ | |
| Collector Dark Current | I_{CEO} | | | 100 | nA | $V_{CE} = 10V$ $E_e = 0mW/cm^2$ | |
| On State Collector Current | $I_{C(ON)}$ | 0.2 | | 0.6 | mA | $V_{CE} = 5V$ $E_e = 1mW/cm^2$ $\lambda = 940nm$ | BIN A |
| | | 0.4 | | 1.2 | | | BIN B |
| | | 0.8 | | 2.4 | | | 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)

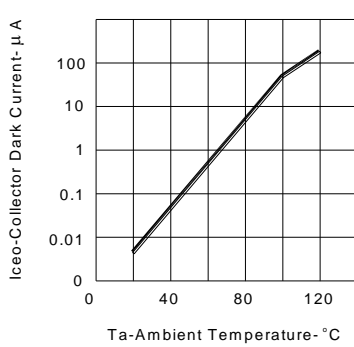


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

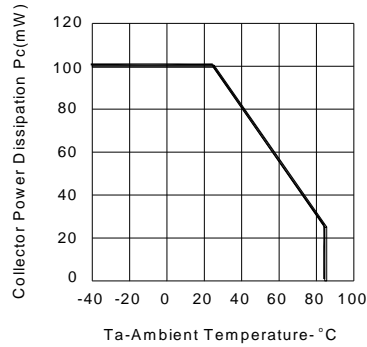


FIG.2 COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE

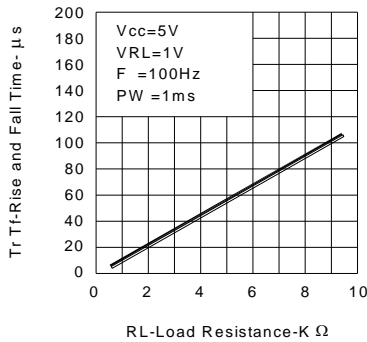


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

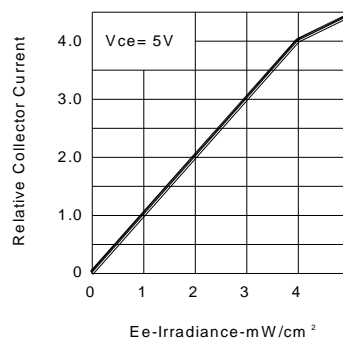


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

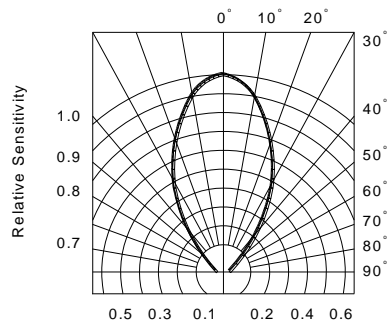


FIG.5 SENSITIVITY DIAGRAM