



# **IR Emitter and Detector** **Product Data Sheet**

**LTR-526AB**

Spec No.: DS50-2000-005

Effective Date: 07/24/2012

Revision: B

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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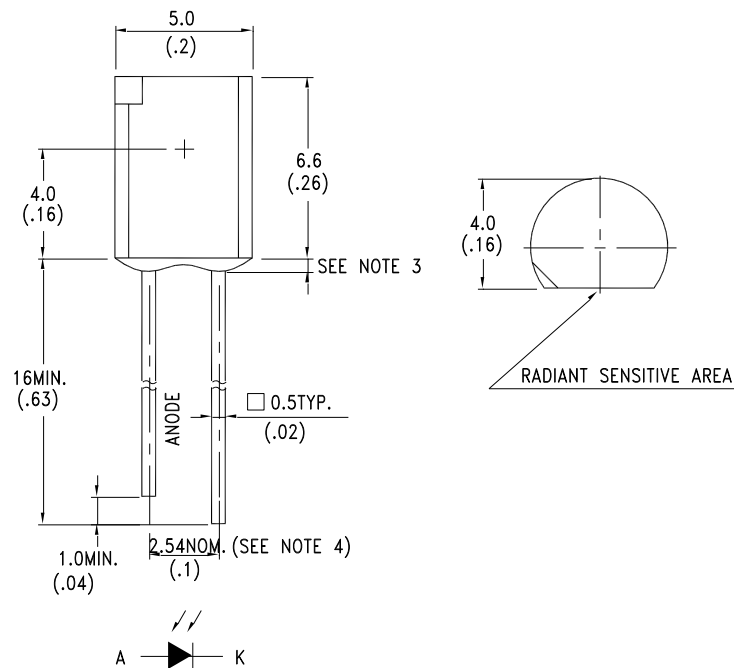
## FEATURES

- \* HIGH PHOTO SENSITIVITY
- \* SUITABLE FOR INFRARED RADIATION
- \* LOW JUNCTION CAPACITANCE
- \* HIGH CUT-OFF FREQUENCY
- \* FAST SWITCHING TIME
- \* THE LTR-526AB IS A SPECIAL DARK BLUE PLASTIC PACKAGE THAT CUT THE VISIBLE LIGHT AND SUITABLE FOR THE DETECTORS OF INFRARED APPLICATIONS



REV.B JUL 2012

## 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  $1.5\text{mm}(.059")$  max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.



# LITE-ON TECHNOLOGY CORPORATION.

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## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| PARAMETER                                              | MAXIMUM RATING      | UNIT |
|--------------------------------------------------------|---------------------|------|
| Power Dissipation                                      | 150                 | mW   |
| Reverse Voltage                                        | 30                  | V    |
| Operating Temperature Range                            | -40°C to + 85°C     |      |
| Storage Temperature Range                              | -55°C to + 100°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                                                                     |
|-----------------------------------|---------------------|------|------|------|---------|------------------------------------------------------------------------------------|
| Reverse Break Down Voltage        | V <sub>(BR)</sub> R | 30   |      |      | V       | I <sub>R</sub> = 100 $\mu$ A<br>E <sub>e</sub> = 0mW/cm <sup>2</sup>               |
| Reverse Dark Current Voltage      | ID(R)               |      |      | 30   | nA      | V <sub>R</sub> = 10V<br>E <sub>e</sub> = 0mW/cm <sup>2</sup>                       |
| Open Circuit Voltage              | V <sub>OC</sub>     |      | 350  |      | mV      | $\lambda$ = 940nm<br>E <sub>e</sub> = 0.5mW/cm <sup>2</sup>                        |
| Rise Time                         | Tr                  |      | 50   |      | nsec    | V <sub>R</sub> = 10V<br>$\lambda$ = 940nm<br>R <sub>L</sub> = 1K $\Omega$          |
| Fall Time                         | Tf                  |      | 50   |      | nsec    |                                                                                    |
| Short Circuit Current             | I <sub>S</sub>      | 1.7  | 2    |      | $\mu$ A | V <sub>R</sub> = 5V<br>$\lambda$ = 940nm<br>E <sub>e</sub> = 0.1mW/cm <sup>2</sup> |
| Total Capacitance                 | C <sub>T</sub>      |      | 25   |      | P       | V <sub>R</sub> = 3V<br>f = 1MHZ<br>E <sub>e</sub> = 0mW/cm <sup>2</sup>            |
| Wavelength of the Max Sensitivity | $\lambda$ SMAX      |      | 900  |      | nm      |                                                                                    |

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

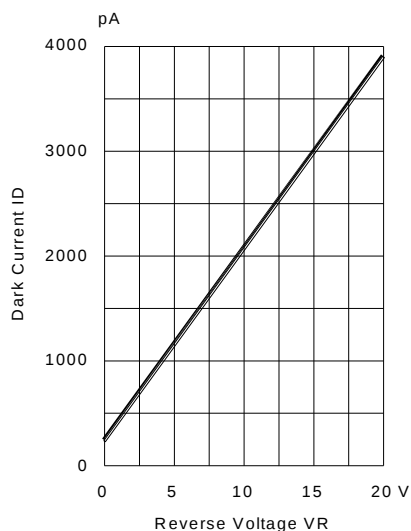


Fig.1 DARK CURRENT VS. REVERSE VOLTAGE  
TA=25° C, Ee=0 mW/cm<sup>2</sup>

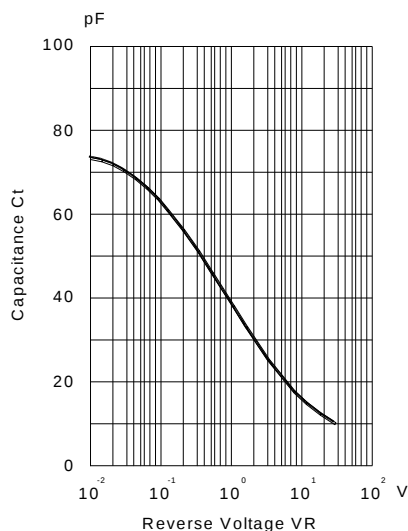


Fig.2 CAPACITANCE VS. REVERSE VOLTAGE  
F=1MHZ; Ee=0mW/cm<sup>2</sup>

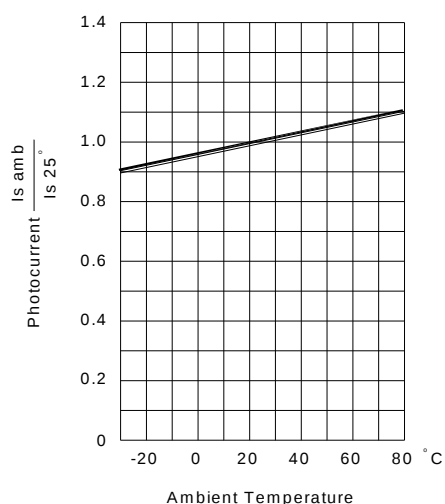


Fig.3 PHOTOCURRENT VS. AMBIENT TEMPERATURE

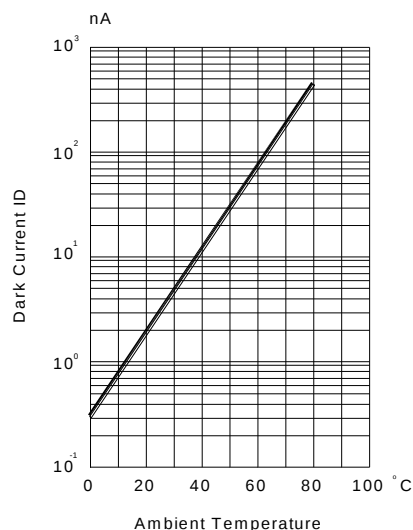


Fig.4 DARK CURRENT AMBIENT TEMPERATURE  
VR=10, Ee=0mW/cm<sup>2</sup>

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

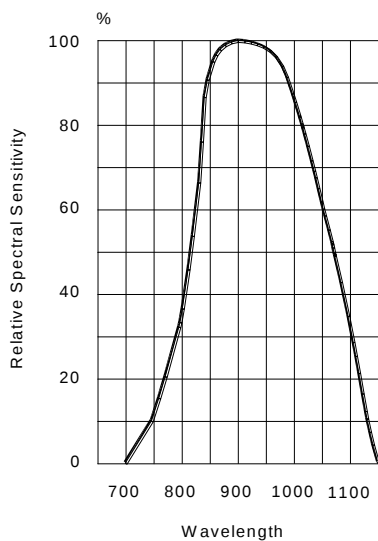


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS WAVELENGTH

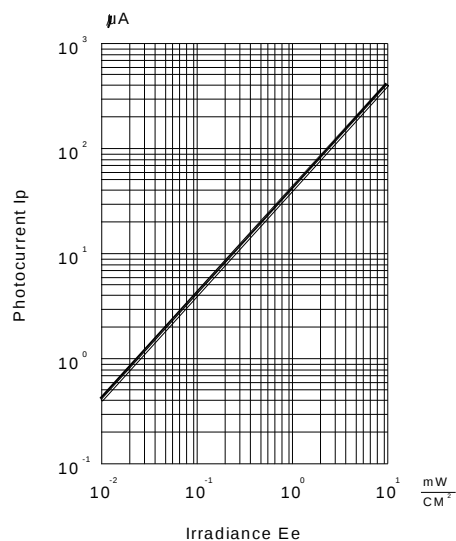


Fig.6 PHOTOCURRENT VS IRRADIANCE  $\lambda = 940 \text{ nm}$

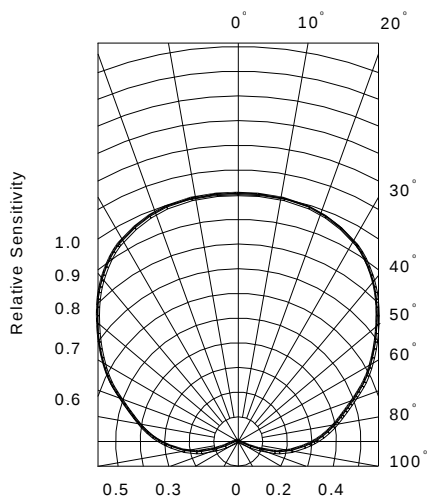


Fig.7 SENSITIVITY DIAGRAM

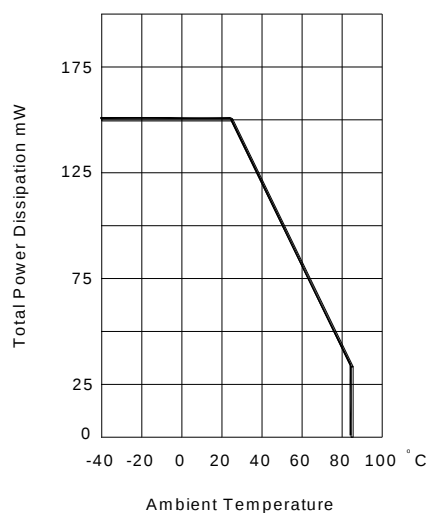


Fig.8 TOTAL POWER DISSIPATION VS AMBIENT TEMPERATURE