



# IR Emitter and Detector Product Data Sheet LTR-743DBM1-TA

Spec No.: DS50-2001-011

Effective Date: 10/19/2001

Revision: -

**LITE-ON DCC**

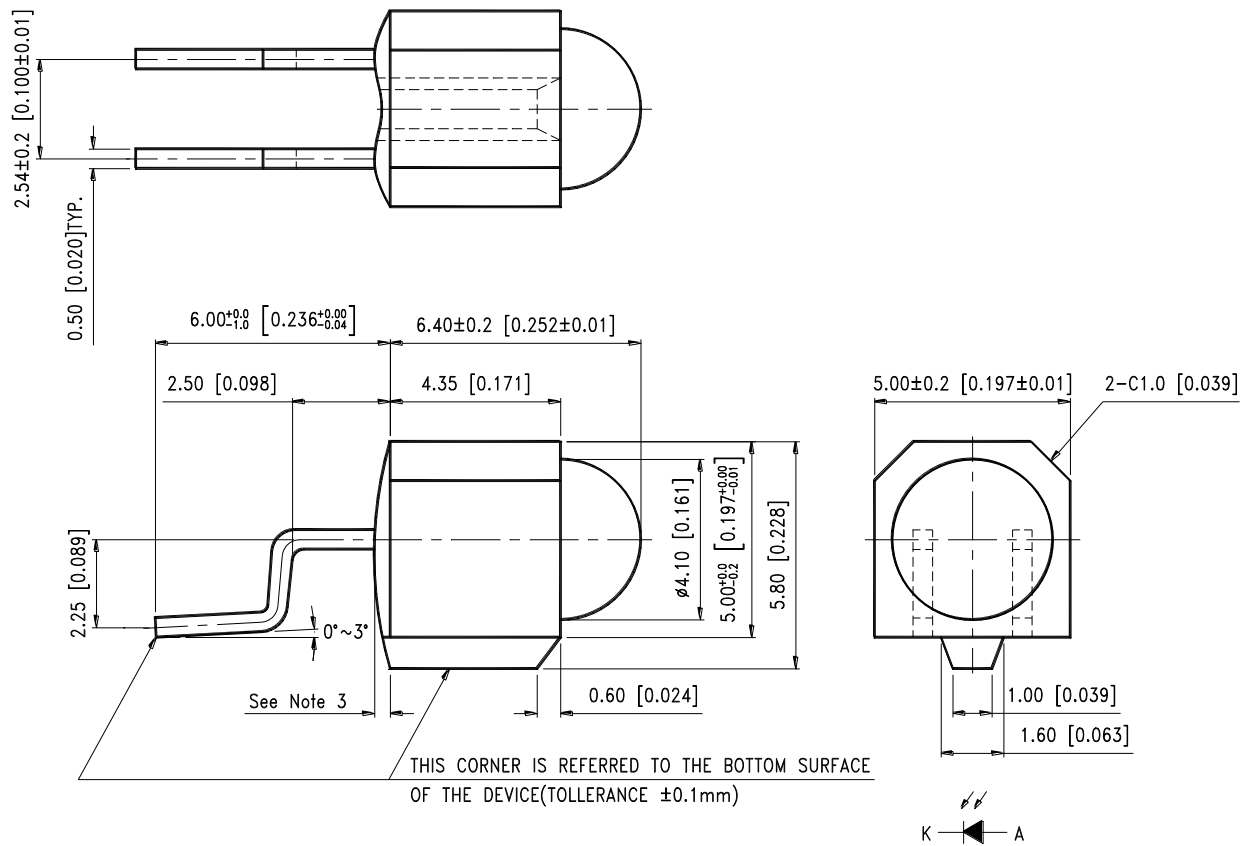
**RELEASE**

BNS-OD-FC001/A4

## FEATURES

- \* HIGH PHOTO SENSITIVITY
- \* SUITABLE FOR INFRARED RADIATION
- \* LOW JUNCTION CAPACITANCE
- \* HIGH CUT-OFF FREQUENCY
- \* FAST SWITCHING TIME
- \* THE LTR-743DBM1-TA IS A SPECIAL DARK GREEN PLASTIC PACKAGE THAT CUT THE VISIBLE LIGHT AND SUITABLE FOR THE DETECTORS OF INFRARED APPLICATIONS

## 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.

**ABSOLUTE MAXIMUM RATINGS AT TA=25°C**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation	150	mW
Collector-Emitter Voltage	30	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
Reverse Break Down Voltage	$V_{(BR)R}$	30			V	$I_R = 100 \mu A$ $E_e = 0mW/cm^2$
Reverse Dark Current Voltage	$I_{D(R)}$			30	nA	$V_R = 10V$ $E_e = 0mW/cm^2$
Rise Time	$T_r$		5		nsec	$V_R = 10V$ $R_L = 1K\Omega$
Fall Time	$T_f$		5		nsec	
Short Circuit Current	$I_s$	5		10	$\mu A$	$V_R = 0V$ $\lambda = 880nm$ $E_e = 0.1mW/cm^2$
Total Capacitance	$C_T$		25		pF	$V_R = 3V$ $f = 1MHZ$ $E_e = 0mW/cm^2$
Wavelength of the Max Sensitivity	$\lambda_{SMAX}$		880		nm	

**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)

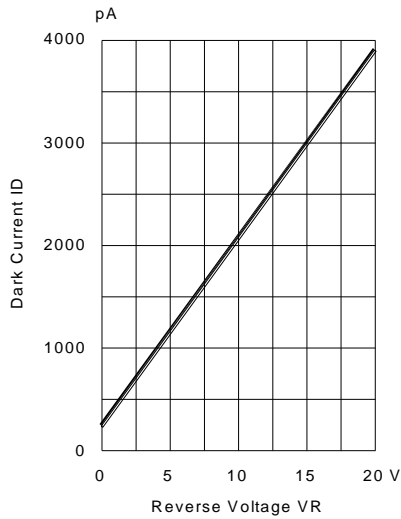


Fig.1 DARK CURRENT VS. REVERSE VOLTAGE  
TA=25° C, Ee=0 mW/cm<sup>2</sup>

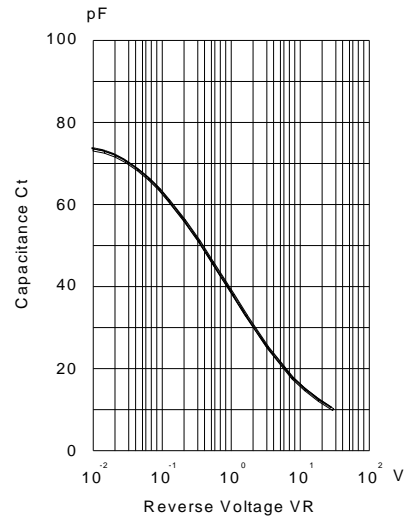


Fig.2 CAPACITANCE VS. REVERSE VOLTAGE  
F=1MHZ; Ee=0mW/cm<sup>2</sup>

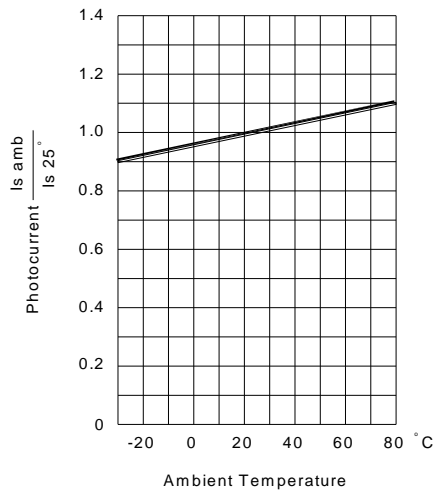


Fig.3 PHOTOCURRENT VS. AMBIENT TEMPERATURE

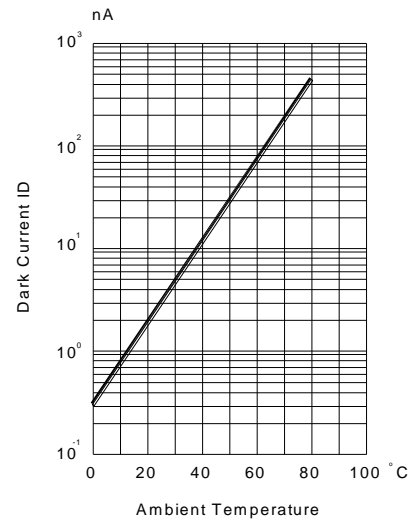


Fig.4 DARK CURRENT AMBIENT TEMPERATURE  
VR=10, Ee=0mW/cm<sup>2</sup>

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

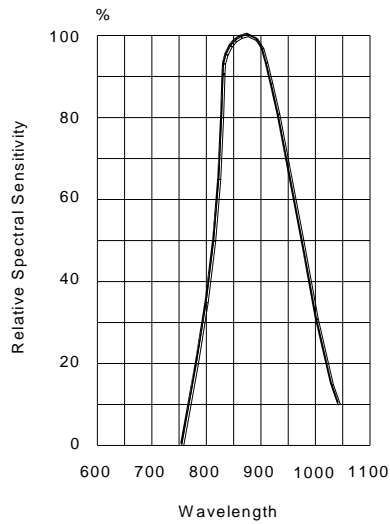


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS WAVELENGTH

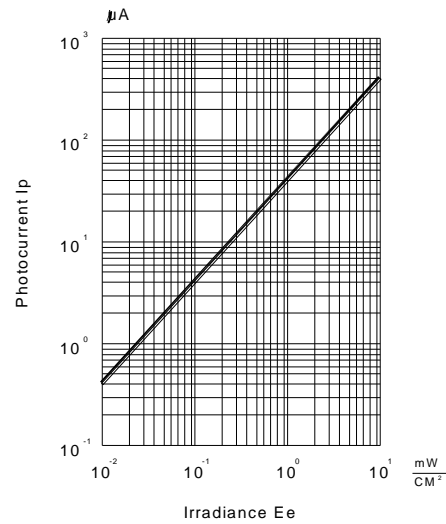


Fig.6 PHOTOCURRENT VS IRRADIANCE  $\lambda_p=950\text{ nm}$

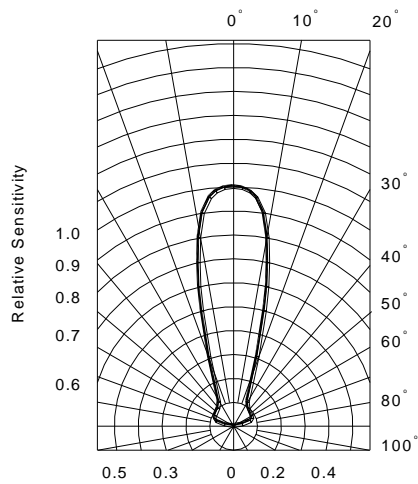


Fig.7 SENSITIVITY DIAGRAM

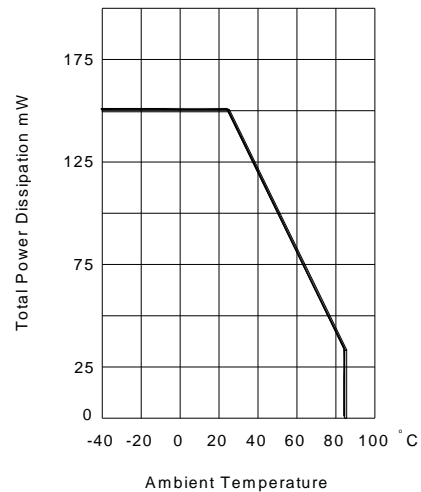
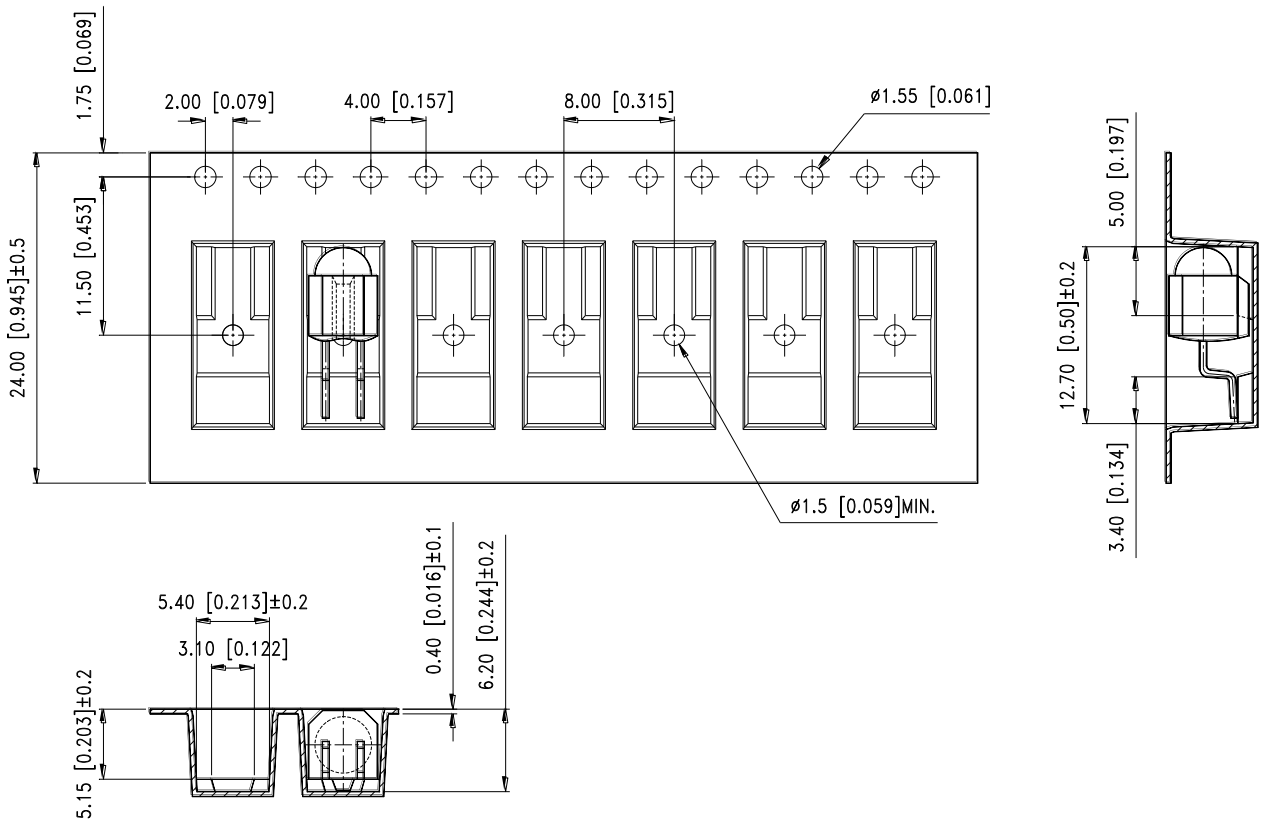
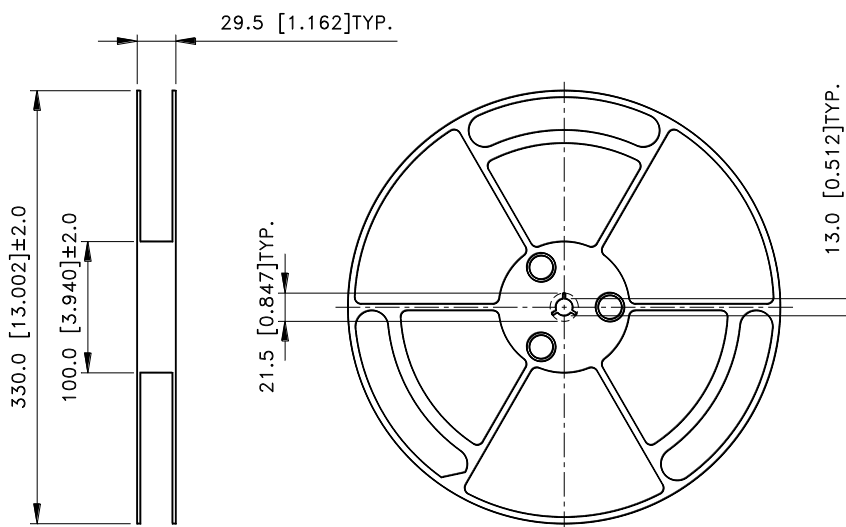


Fig.8 TOTAL POWER DISSIPATION VS AMBIENT TEMPERATURE

## Packing



## Package Dimensions of Reel



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