



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

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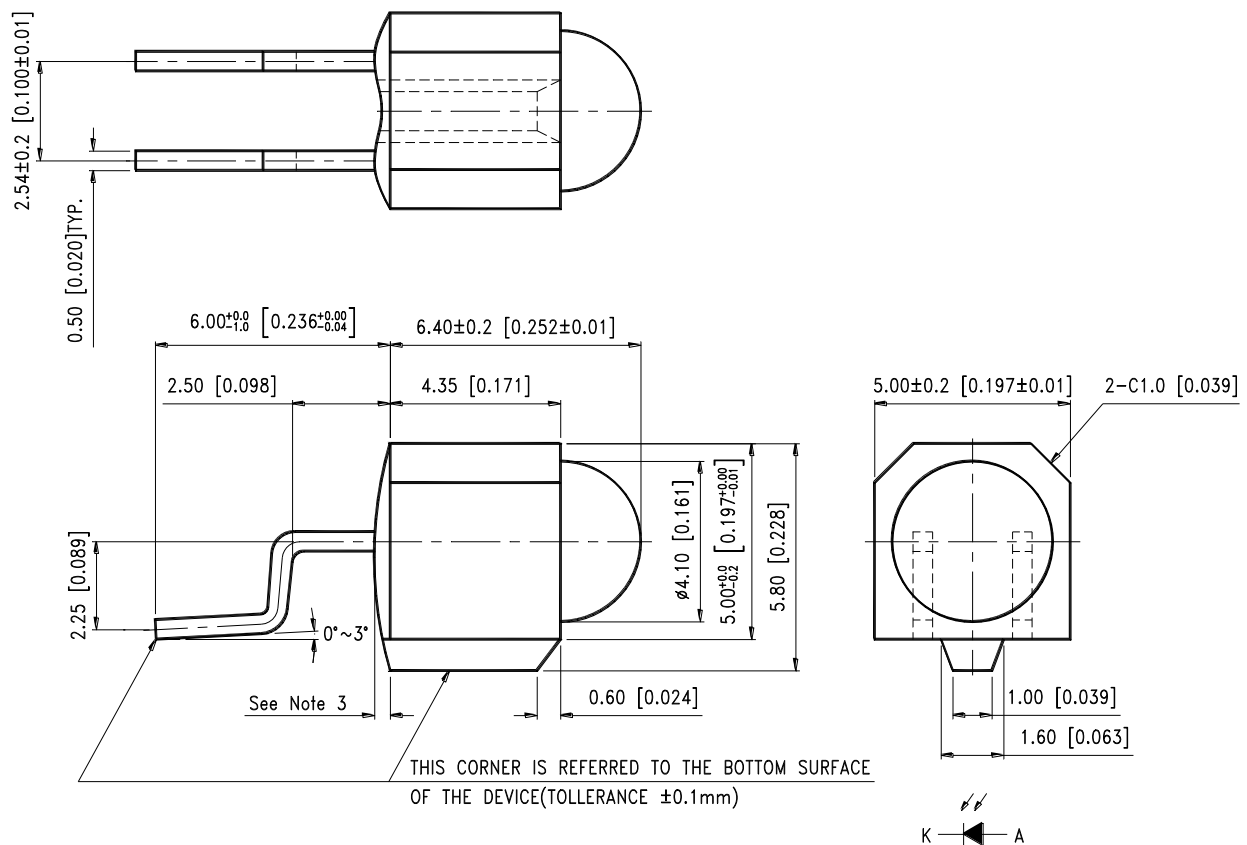
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<http://www.liteon.com/opto>

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 1.5mm (.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	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	$ID(R)$			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	μA	$V_R = 0V$ $\lambda = 880nm$ $E_e = 0.1mW/cm^2$
Total Capacitance	C_T		25		pF	$V_R = 3V$ $f = 1MHZ$ $E_e = 0mW/cm^2$
Wavelength of the Max Sensitivity	λ_{SMAX}		880		nm	

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

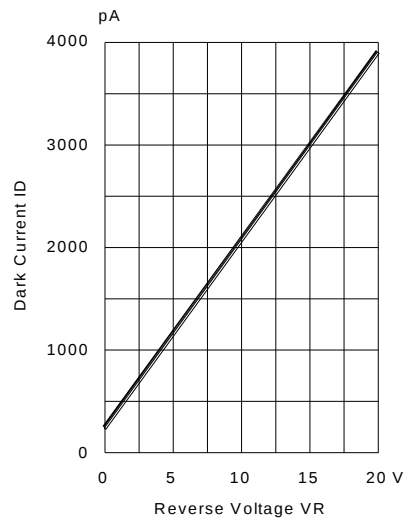


Fig.1 DARK CURRENT VS.
REVERSE VOLTAGE
TA=25° C, Ee=0 mW/cm²

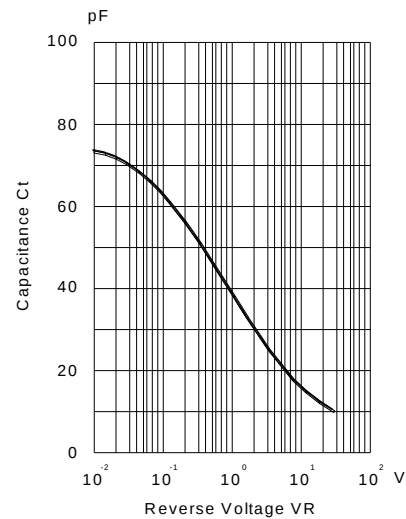


Fig.2 CAPACITANCE VS.
REVERSE VOLTAGE
F=1MHZ; Ee=0mW/cm²

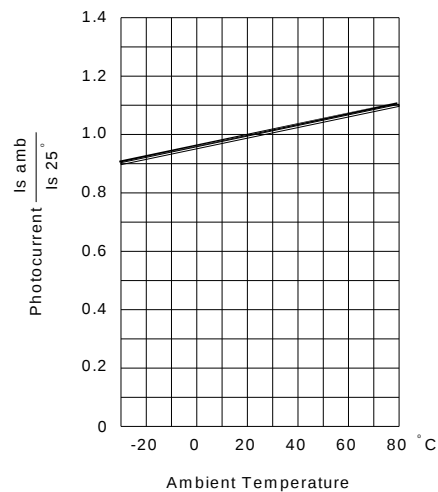


Fig.3 PHOTOCURRENT VS.
AMBIENT TEMPERATURE

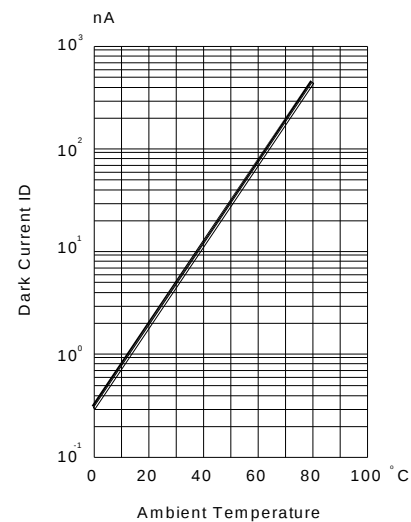


Fig.4 DARK CURRENT
AMBIENT TEMPERATURE
VR=10, Ee=0mW/cm²

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

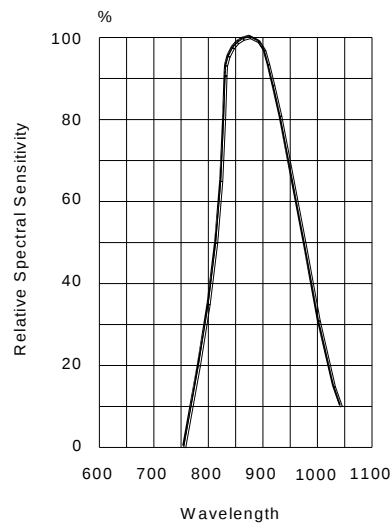


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS WAVELENGTH

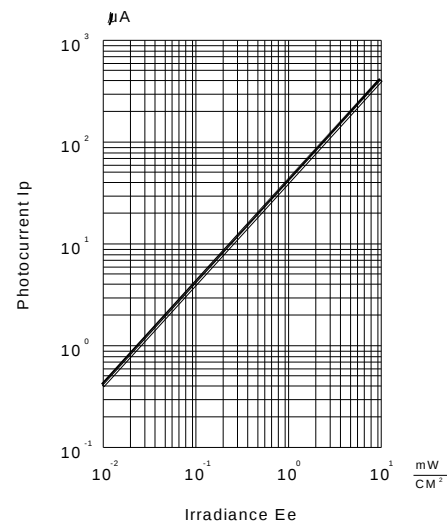


Fig.6 PHOTOCURRENT VS IRRADIANCE $\lambda_p = 950 \text{ nm}$

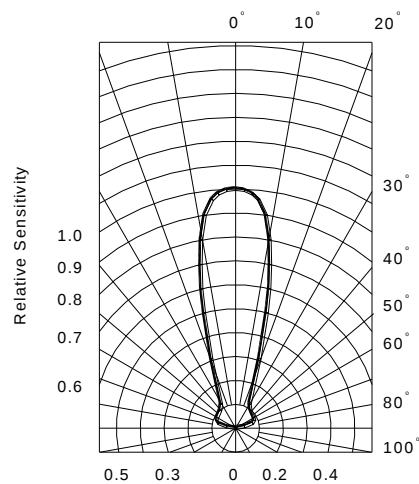


Fig.7 SENSITIVITY DIAGRAM

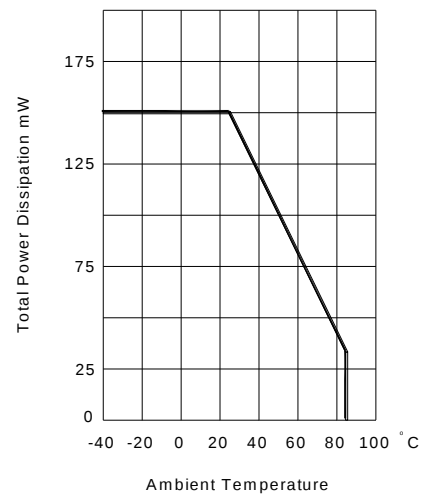
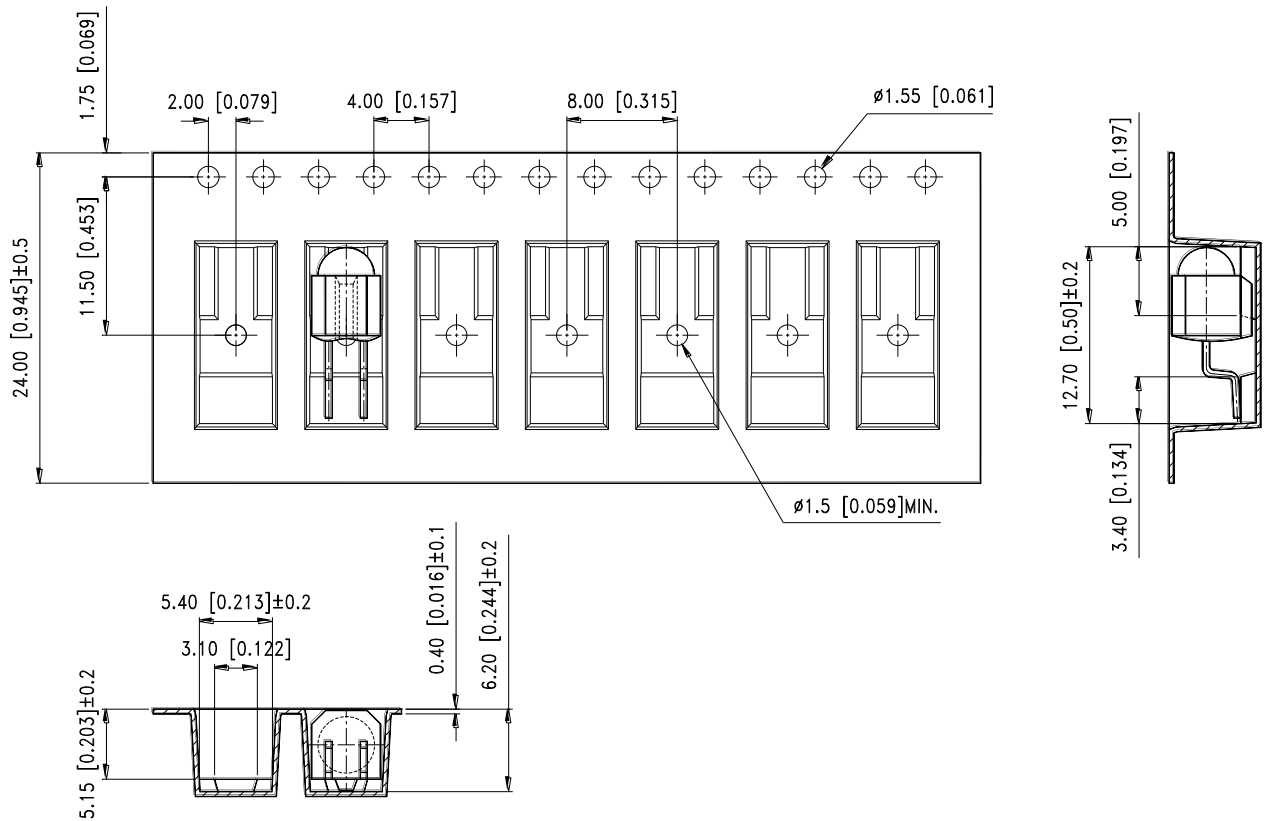


Fig.8 TOTAL POWER DISSIPATION VS AMBIENT TEMPERATURE

Packing



Package Dimensions of Reel

