



IR Emitter and Detector Product Data Sheet

LTR-516AD

Spec No.: DS-50-93-0021

Effective Date: 06/10/2010

Revision: B

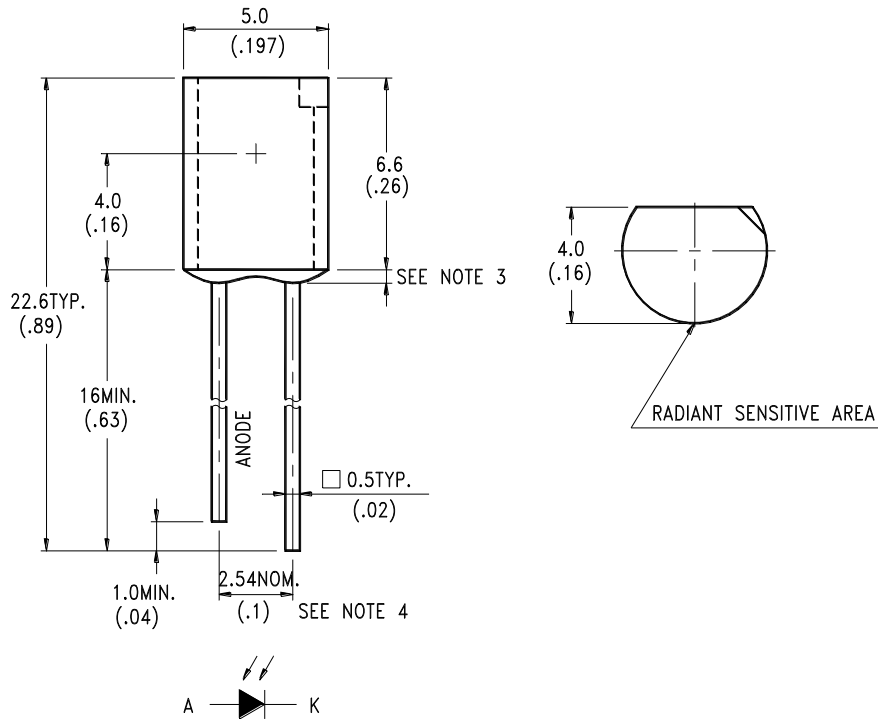
LITE-ON DCC

RELEASE

FEATURES

- * HIGH PHOTO SENSITIVITY
- * SUITABLE FOR INFRARED RADIATION
- * LOW JUNCTION CAPACITANCE
- * HIGH CUT-OFF FREQUENCY
- * FAST SWITCHING TIME
- * THE LTR-516AD 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
Reverse 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	$V_R = 10V$ $E_e = 0mW/cm^2$
Open Circuit Voltage	V_{OC}		350		mV	$\lambda = 940nm$ $E_e = 0.5mW/cm^2$
Rise Time	T_r		50		nsec	$V_R = 10V$ $\lambda = 940nm$ $R_L = 1K\Omega$
Fall Time	T_f		50		nsec	
Short Circuit Current	I_s	1.7	2		μA	$V_R = 5V$ $\lambda = 940nm$ $E_e = 0.1mW/cm^2$
Total Capacitance	C_T		25		P	$V_R = 3V$ $f = 1MHZ$ $E_e = 0mW/cm^2$
Wavelength of the Max Sensitivity	λ_{SMAX}		900		nm	

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

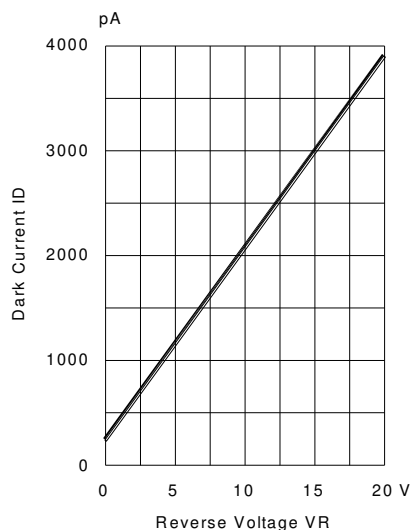


Fig.1 DARK CURRENT VS. REVERSE VOLTAGE
TA=25° C, Ee=0 mW/cm²

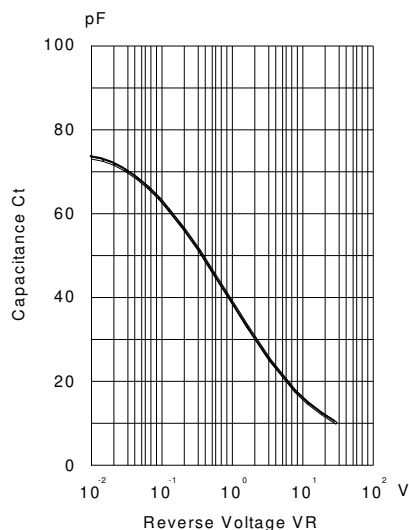


Fig.2 CAPACITANCE VS. REVERSE VOLTAGE
F=1MHZ; Ee=0mW/cm²

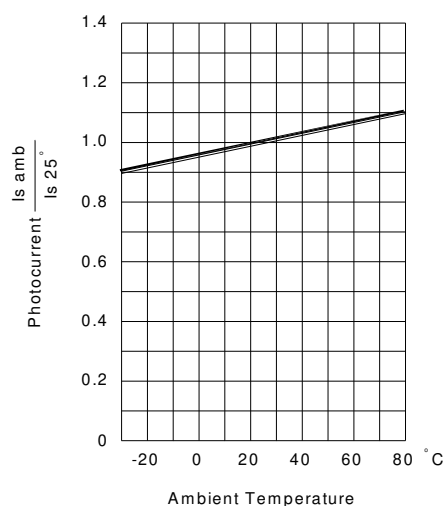


Fig.3 PHOTOCURRENT VS. AMBIENT TEMPERATURE

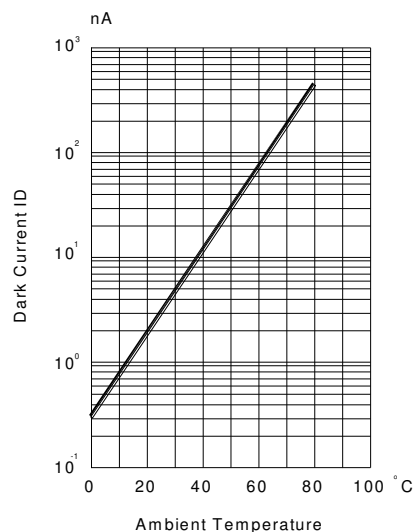


Fig.4 DARK CURRENT AMBIENT TEMPERATURE
VR=10, Ee=0mW/cm²

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

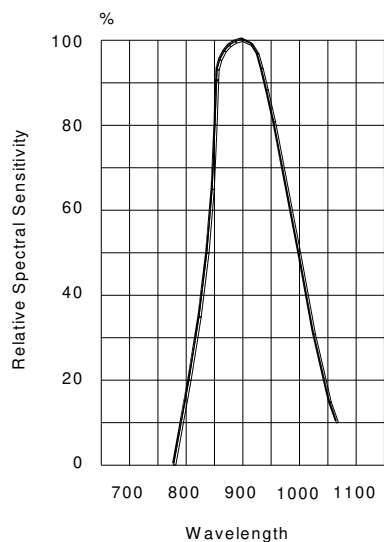


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS WAVELENGTH

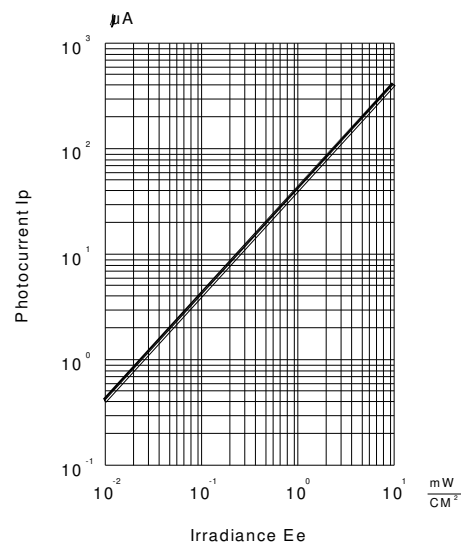


Fig.6 PHOTOCURRENT VS IRRADIANCE $\lambda = 940$ nm

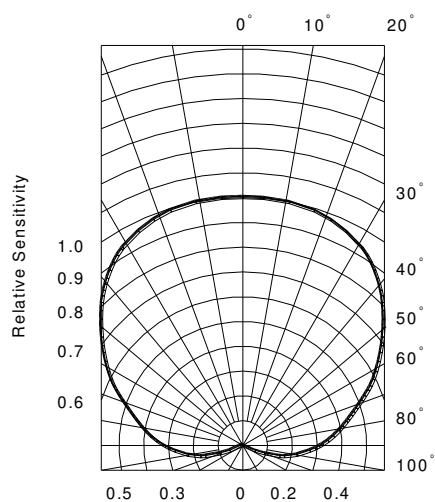


Fig.7 SENSITIVITY DIAGRAM

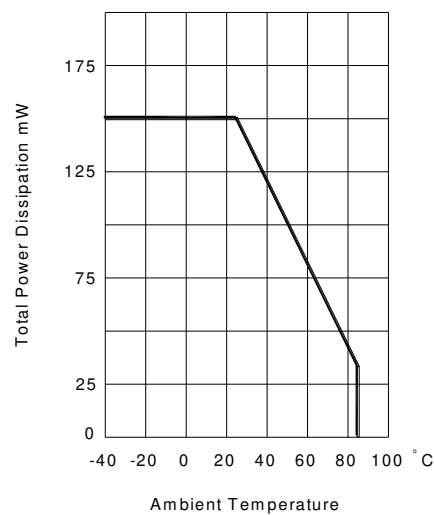


Fig.8 TOTAL POWER DISSIPATION VS AMBIENT TEMPERATURE