



IR Emitter and Detector **Product Data Sheet**

LTR-546AD

Spec No.: DS-50-92-0091

Effective Date: 05/18/2010

Revision: B

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics

No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.

Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660

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



LITE-ON TECHNOLOGY CORPORATION.

Property of Lite-On Only

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		pF	$V_R = 3V$ $f = 1MHz$ $E_e = 0mW/cm^2$
Wavelength of the Max Sensitivity	λ_{SMAX}		900		nm	

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

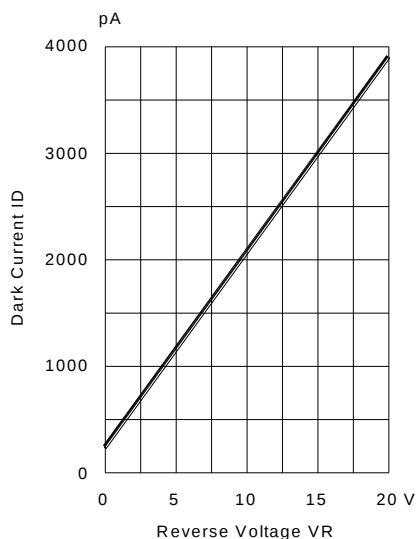


Fig.1 DARK CURRENT VS.
REVERSE VOLTAGE
TA=25° C, Ee=0 mW/cm²

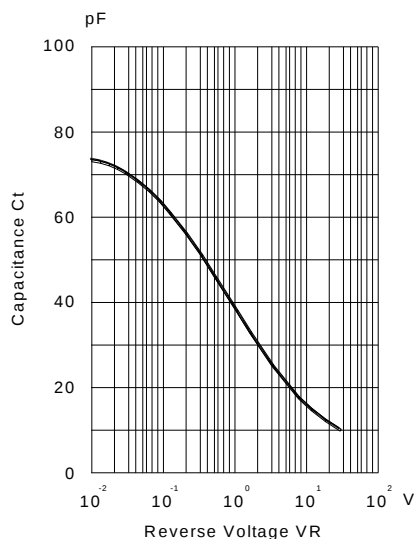


Fig.2 CAPACITANCE VS.
REVERSE VOLTAGE
F=1MHZ; Ee=0mW/cm²

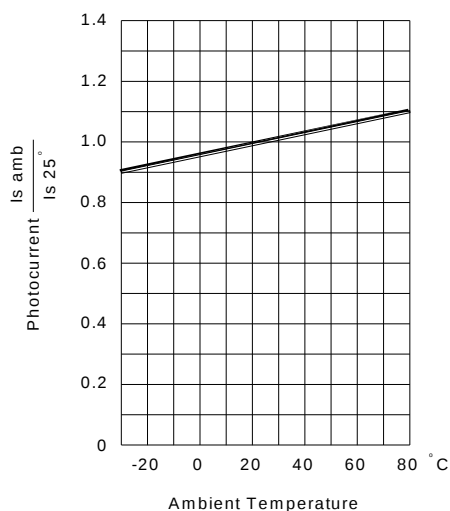


Fig.3 PHOTOCURRENT VS.
AMBIENT TEMPERATURE

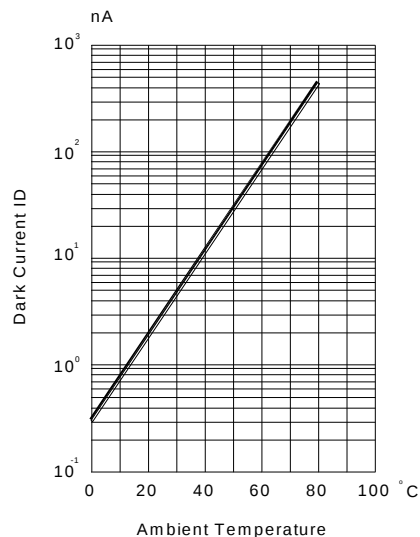


Fig.4 DARK CURRENT
AMBIENT TEMPERATURE
VR=10, Ee=0mW/cm²

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

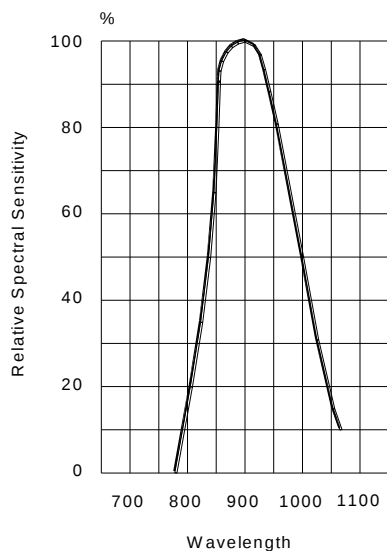


Fig.5 RELATIVE SPECTRAL SENSITIVITY
VS WAVELENGTH

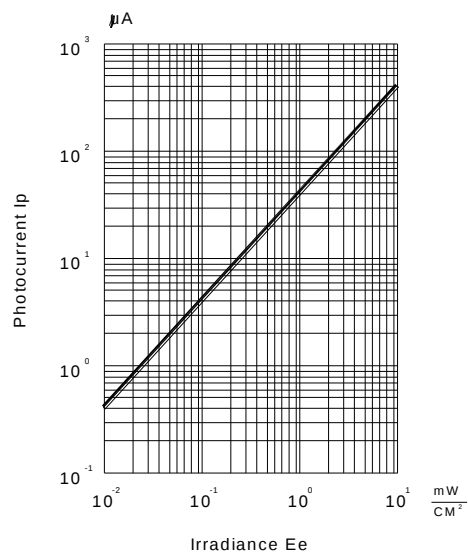


Fig.6 PHOTOCURRENT VS
IRRADIANCE $\lambda = 940 \text{ nm}$

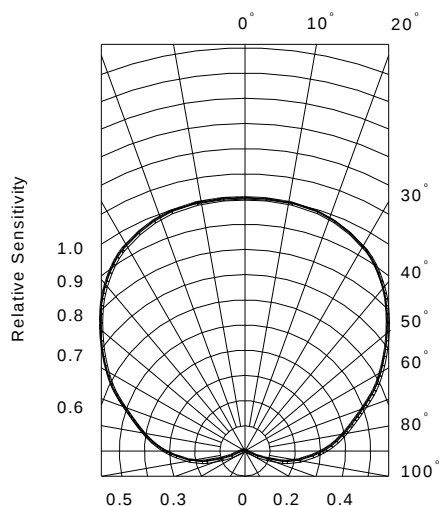


Fig.7 SENSITIVITY DIAGRAM

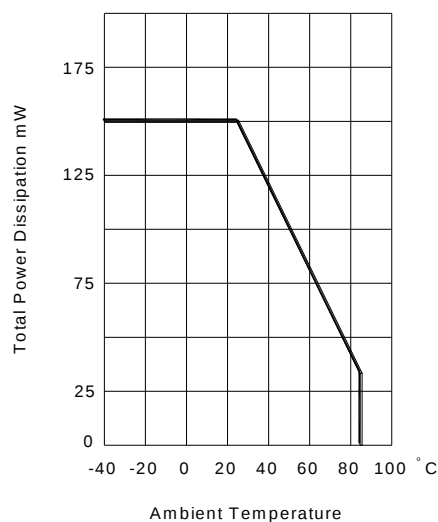


Fig.8 TOTAL POWER DISSIPATION VS
AMBIENT TEMPERATURE