



IR Emitter and Detector Product Data Sheet

LTR-309

Spec No.: DS-50-95-0027

Effective Date: 05/06/2000

Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4



LITE-ON ELECTRONICS, INC.

Property of Lite-On Only

ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	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	BIN NO.
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_C = 1mA$ $E_e = 0mW/cm^2$	
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	$I_E = 100 \mu A$ $E_e = 0mW/cm^2$	
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	$I_C = 100 \mu A$ $E_e = 1mW/cm^2$	
Rise Time	T_r		10		μs	$V_R = 30V$ $I_C = 800 \mu A$ $R_L = 1K \Omega$	
Fall Time	T_f		15		μs		
Collector Dark Current	I_{CEO}			100	nA	$V_{CE} = 10V$ $E_e = 0mW/cm^2$	
On State Collector Current	$I_{C(ON)}$	0.2		0.6	mA	$V_{CE} = 5V$ $E_e = 1mW/cm^2$ $\lambda = 940nm$	BIN A
		0.4		1.2			BIN B
		0.8		1.8			BIN C
		1.2		2.4			BIN D
		1.6		4.8			BIN E

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

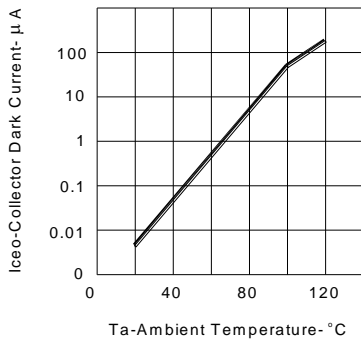


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

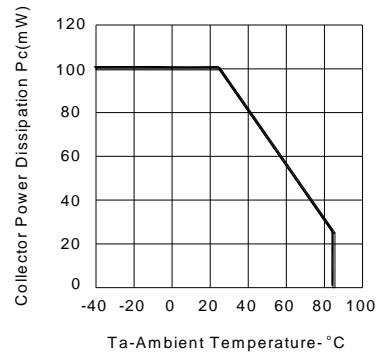


FIG.2 COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE

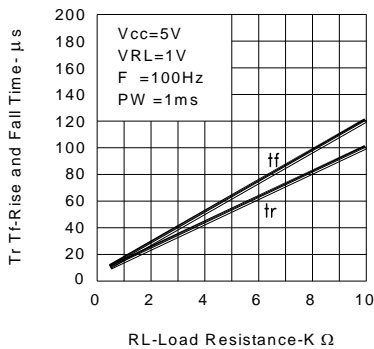


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

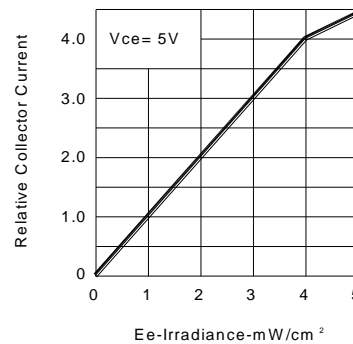


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

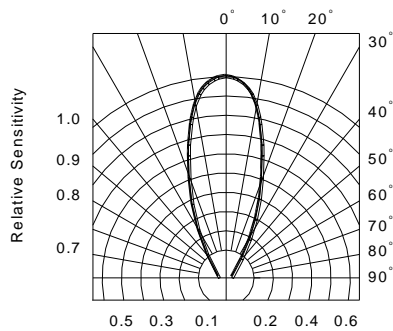


FIG.5 SENSITIVITY DIAGRAM