



Photointerrupter Product Data Sheet

LTH-1650-01

Spec No.: DS-55-95-0009

Effective Date: 01/06/2001

Revision: B

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

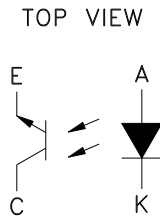
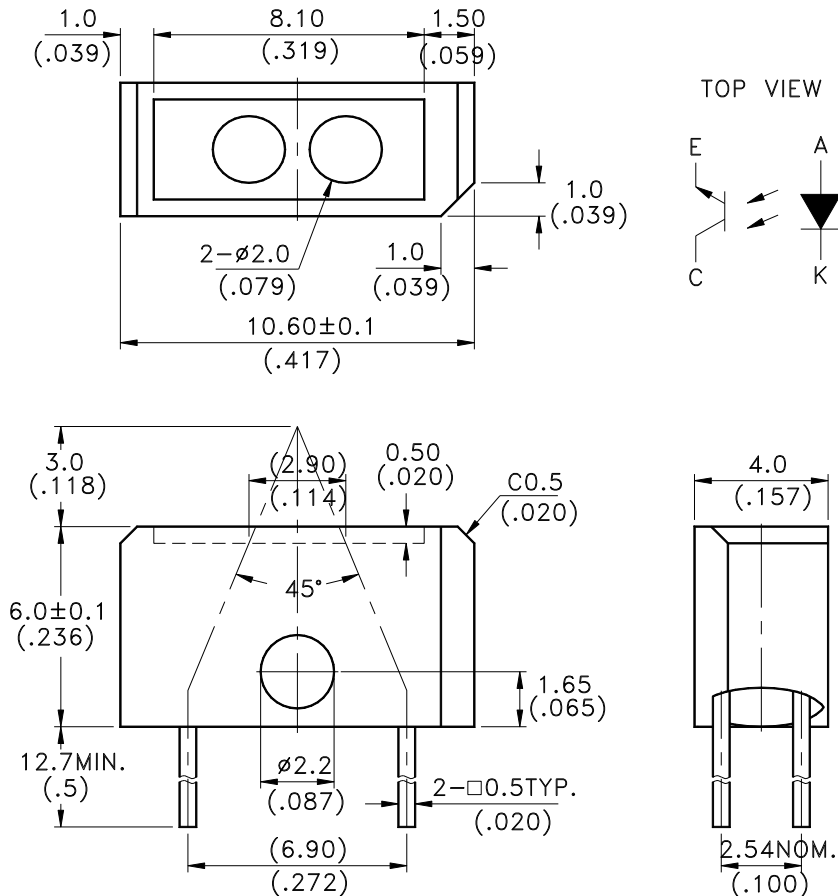
FEATURES

- * FOCAL DISTANCE: 3 mm.
- * INFRARED RAY CUT-OFF TYPE.

APPLICATION

- * PRINTER
- * FAX
- * OPTOELECTRONIC SWITCHES

PACKAGE DIMENSIONS



NOTES:

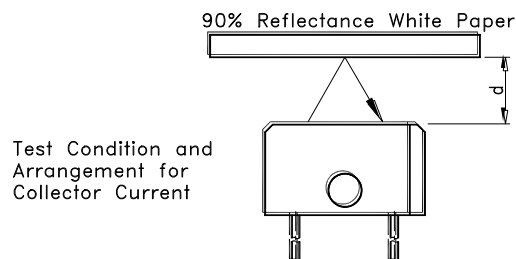
1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm ($.010$ ") unless otherwise noted.

ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
INPUT LED			
Power Dissipation	P_D	75	mW
Peak Forward Current (300 pps , 10 μ S pulse)	I_{CP}	1	A
Continuous Forward Current	I_F	60	mA
Reverse Voltage	V_R	5	V
OUTPUT PHOTOTRANSISTOR			
Power Dissipation	P_C	100	mW
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Current	I_C	20	mA
Operating Temperature Range	T_{opr}	-25°C to + 85°C	
Storage Temperature Range	T_{stg}	-40°C to + 100°C	
Lead Soldering Temperature [1.6mm (.063") Form Case]	T_S	260°C for 5 Seconds	

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	
INPUT LED							
Forward Voltage	V_F		1.2	1.6	V	$I_F = 20\text{mA}$	
Reverse Current	I_R			100	μA	$V_R = 5\text{V}$	
OUTPUT PHOTOTRANSISTOR							
Collector-Emitter Dark Current	I_{CEO}			100	nA	$V_{CE} = 10\text{V}$	
COUPLER							
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	$I_C = 0.05\text{mA}$ $I_F = 20\text{mA}$	
On State Collector Current	$I_{C(ON)}$	100		300	μA	$V_{CE} = 5\text{V}$ $I_F = 20\text{mA}$ $d = 3.0\text{mm}$	BIN A
		260		650		BIN B	
		400		1200		BIN C	
Response Time	Rise Time	T_R		3	μS	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$ $R_L = 100\ \Omega$	
	Fall Time	T_F		4			20



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

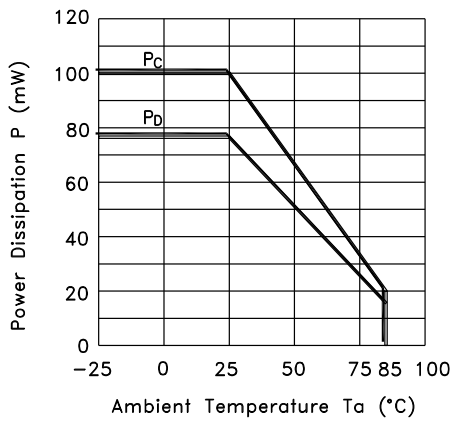


Fig.2 Forward Current vs. Forward Voltage

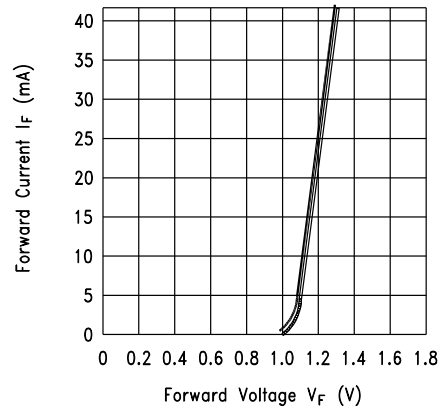


Fig.3 Collector Current vs. Collector-emitter Voltage

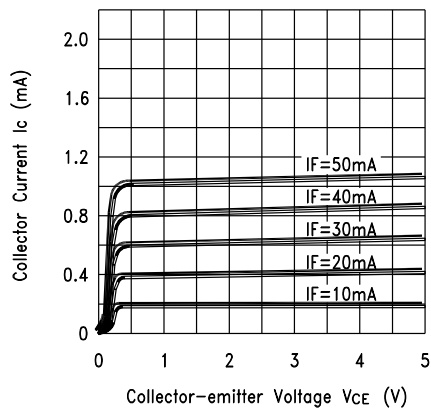
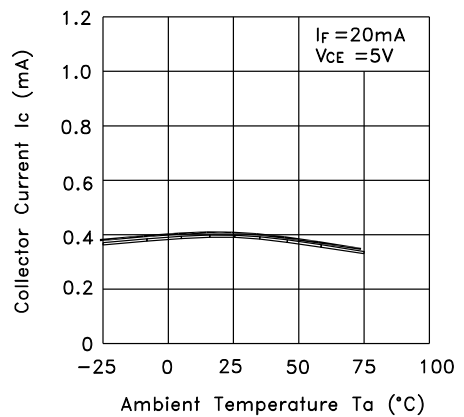


Fig.4 Collector Current vs. Ambient Temperature



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector-emitter Saturation vs. Voltage Ambient Temperature

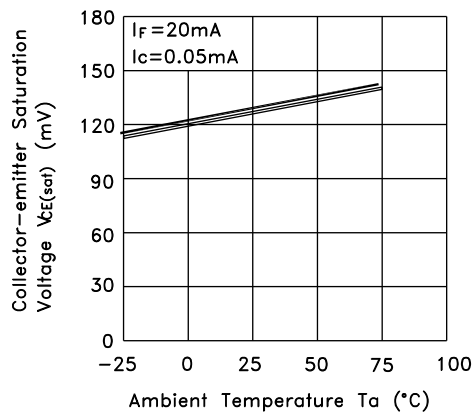


Fig.6 Relative Collector Current vs. Object Distance

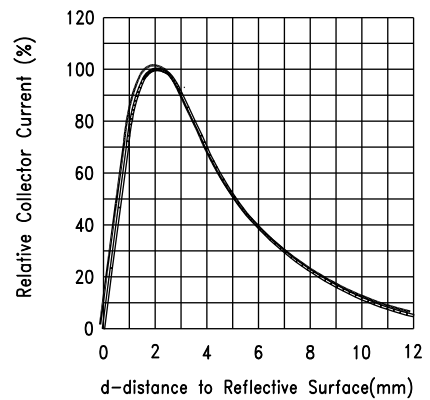
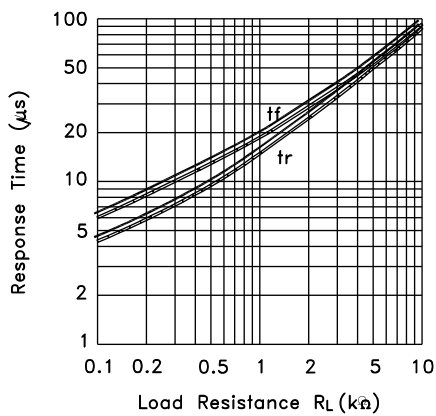
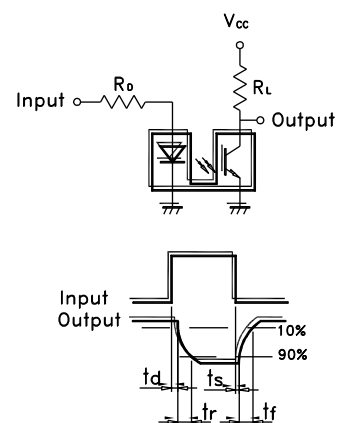


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time



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