



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

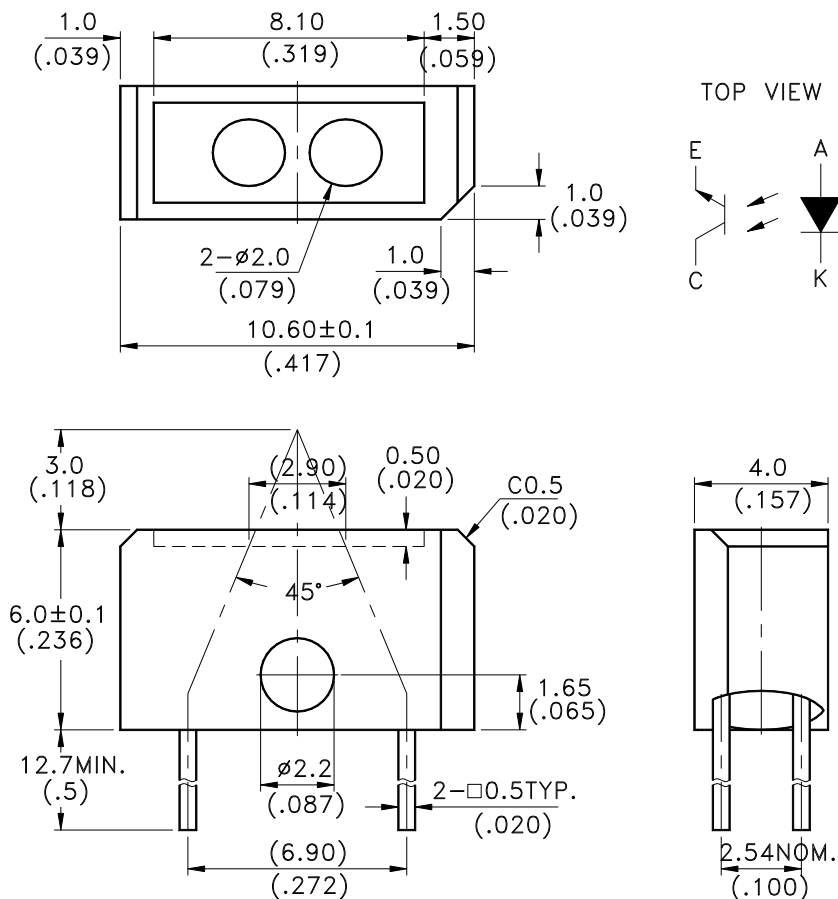
FEATURES

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

APPLICATION

- * PRINTER
- * FAX
- * OPTOELECTRONIC SWITCHES

PACKAGE DIMENSIONS



NOTES:

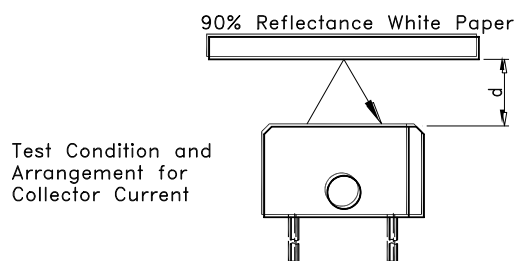
1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}(.010")$ unless otherwise noted.

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 $T_A=25^{\circ}\text{C}$

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	
INPUT LED								
Forward Voltage		V _F		1.2	1.6	V	I _F = 20mA	
Reverse Current		I _R			100	μ A	V _R =5V	
OUTPUT PHOTOTRANSISTOR								
Collector-Emitter Dark Current		I _{CEO}			100	nA	V _{CE} =10V	
COUPLER								
Collector-Emitter Saturation Voltage		V _{CE(SAT)}			0.4	V	I _C =0.05mA I _F =20mA	
On State Collector Current		I _{C(ON)}	100		300	μ A	V _{CE} =5V I _F =20mA d=3.0mm	BIN A
			260		650			BIN B
			400		1200			BIN C
Response Time	Rise Time	T _R		3	15	μ S	V _{CE} =5V, I _C =2mA R _L =100 Ω	
	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

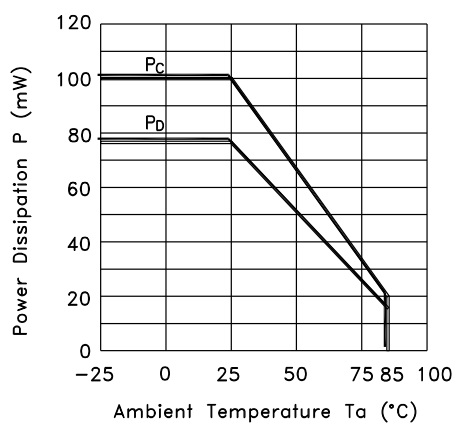


Fig.2 Forward Current vs. Forward Voltage

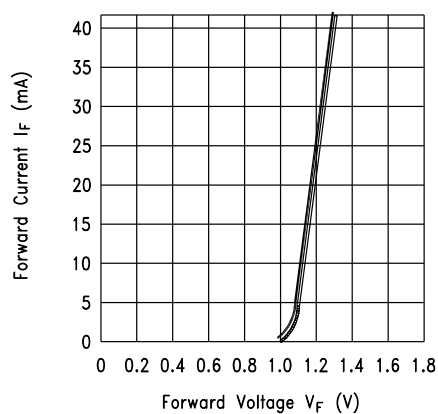


Fig.3 Collector Current vs. Collector-emitter Voltage

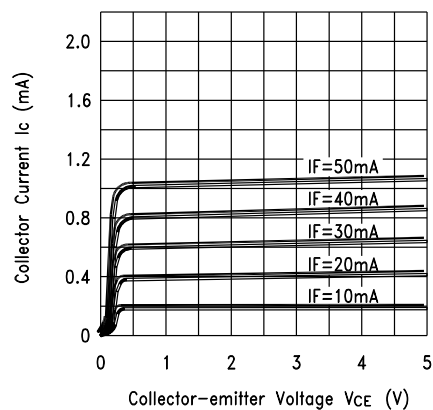
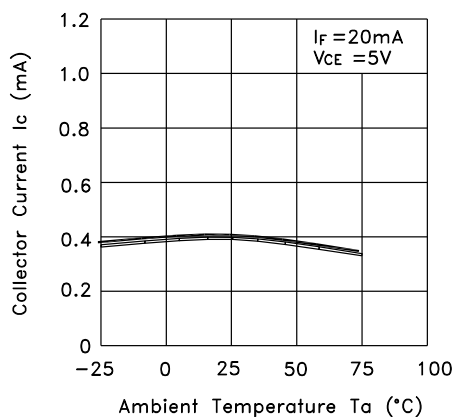


Fig.4 Collector Current vs. Ambient Temperature



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

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

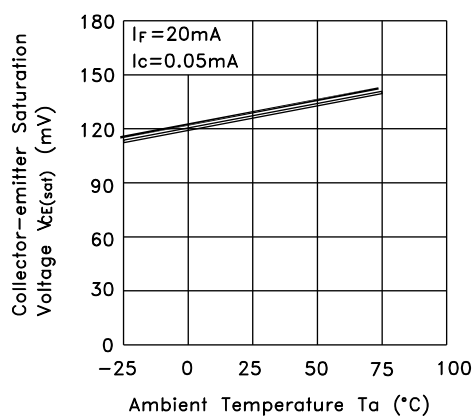


Fig.6 Relative Collector Current vs. Object Distance

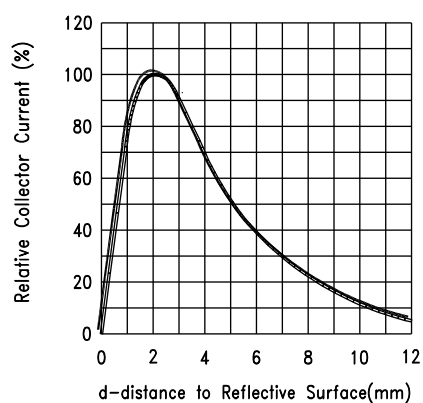
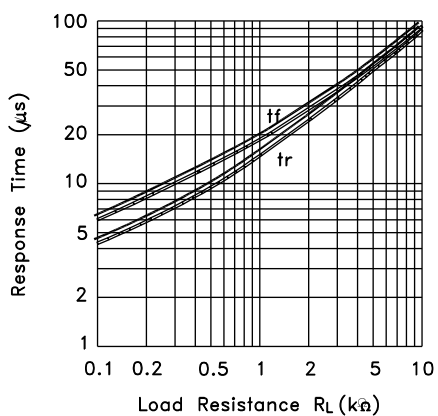
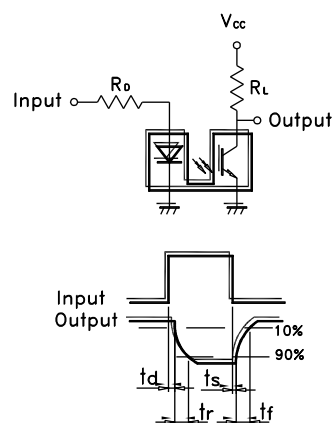


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time



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