



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# Photointerrupter Product Data Sheet

LTH-209-01

Spec No.: DS-55-92-0007

Effective Date: 06/15/2000

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

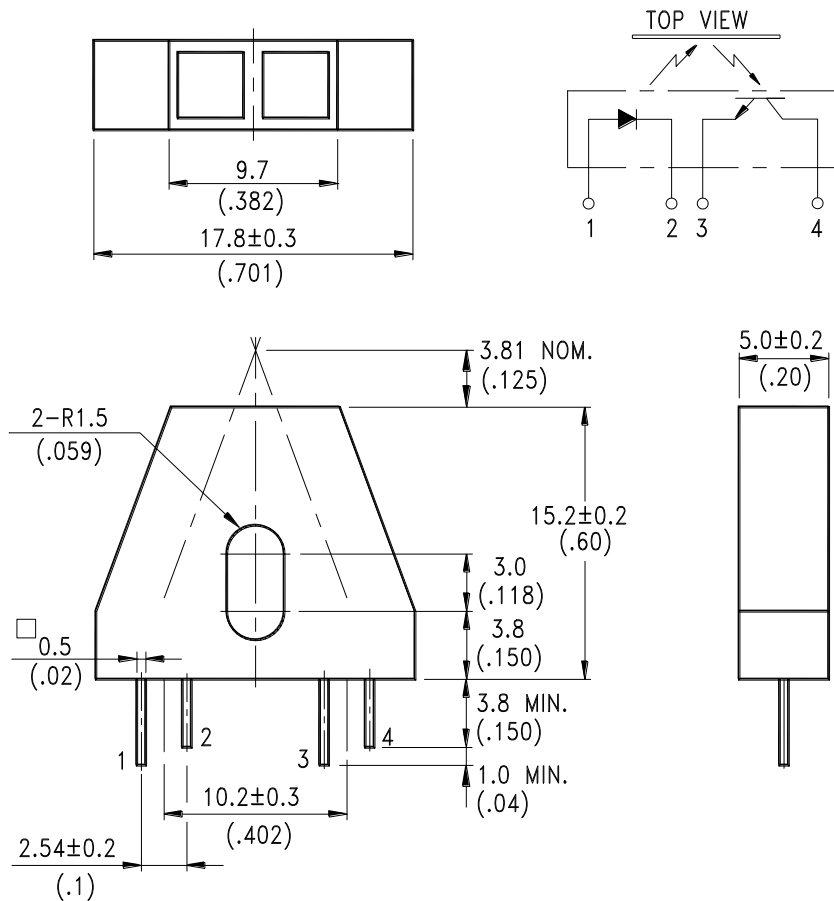
# LITEON LITE-ON TECHNOLOGY CORPORATION

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## FEATURES

- \* NON-CONTACT SWITCHING.
- \* FOR DIRECT PC BOARD OR DUAL-IN-LINE SOCKET MOUNTING.
- \* FAST SWITCHING SPEED.
- \* REFLECTIVE OBJECT SENSOR.

## PACKAGE DIMENSIONS



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$ mm ( $.010$ " ) unless otherwise noted.
3. Specification are subject to change without notice.

## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
IR Diode Continuous Forward Current	50	mA
IR Diode Reverse Voltage	5	V
Transistor Collector Current	20	mA
Transistor Power Dissipation	100	mW (Note 1)
IR Diode Peak Power Current (Pulse Wide = 10 $\mu$ S, 300 pps)	3	A
Diode Power Dissipation	75	mW (Note 1)
Phototransistor Collector-Emitter Voltage	30	V
Phototransistor Emitter-Collector Voltage	5	V
Operating Temperature Range	-35°C to + 65°C	
Storage Temperature Range	-40°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Case]	260°C for 5 Seconds	

Note 1: Derate Linearly 1.33 mW /°C from 25°C

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## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
<b>INPUT LED</b>						
Forward Voltage	VF		1.2	1.6	V	IF = 20mA
Reverse Current	IR			100	μA	VR=5V
<b>OUTPUT PHOTOTRANSISTOR</b>						
Collector-Emitter Breakdown Voltage	V(BR)CEO	30			V	IC=1mA
Emitter-Collector Breakdown Voltage	V(BR)ECO	5			V	IE=0.1mA
Collector-Emitter Dark Current	ICEO			100	nA	VCE=10V
<b>COUPLER</b>						
Collector-Emitter Saturation Voltage	VCE(SAT)			0.4	V	IC=0.08mA IF=20mA
On State Collector Current (Note 1)	Ic(ON)	0.16			mA	VCE=5V IF=20mA

Note 1: Reflective surface is Eastman Kodak (or Equivalent) neutral white paper with 90% diffused reflectance placed 3.81 mm (0.15 inch) from read head.

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## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

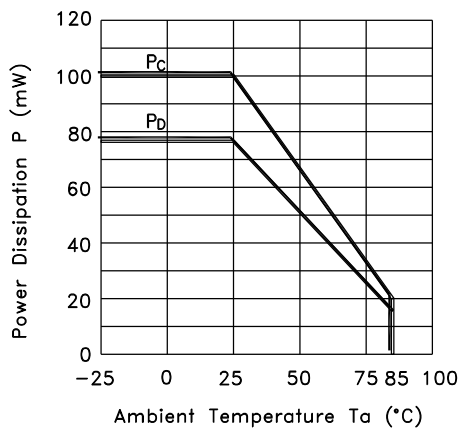


Fig.2 Forward Current vs. Forward Voltage

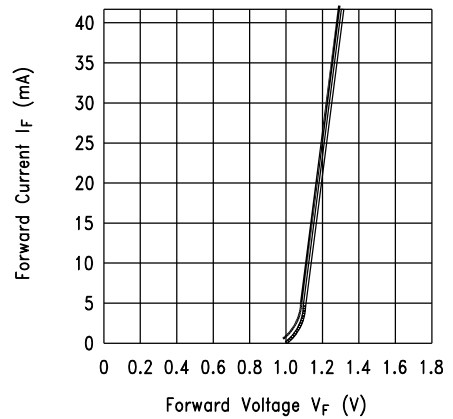


Fig.3 Collector Current vs. Collector-emitter Voltage

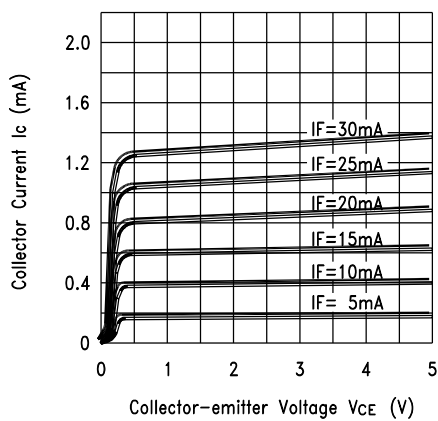
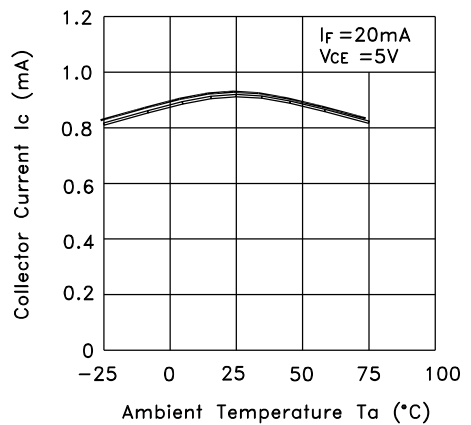


Fig.4 Collector Current vs. Ambient Temperature



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## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

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

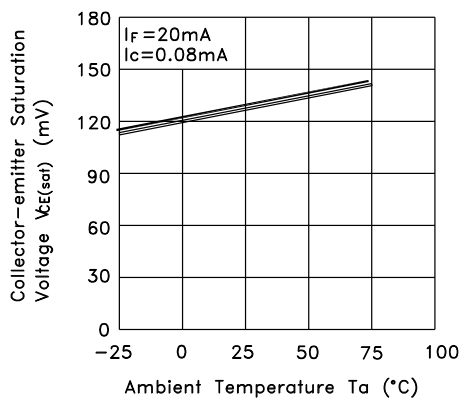


Fig.6 Relative Collector Current vs. Object Distance

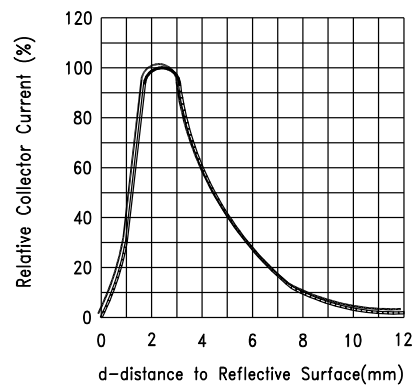
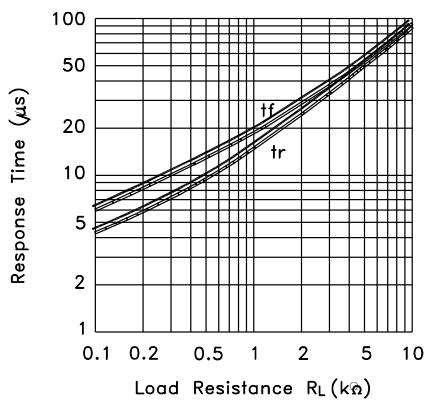


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

