



Photointerrupter

Product Data Sheet

LTH-301-07

Spec No.: DS-55-92-0003

Effective Date: 06/29/2000

Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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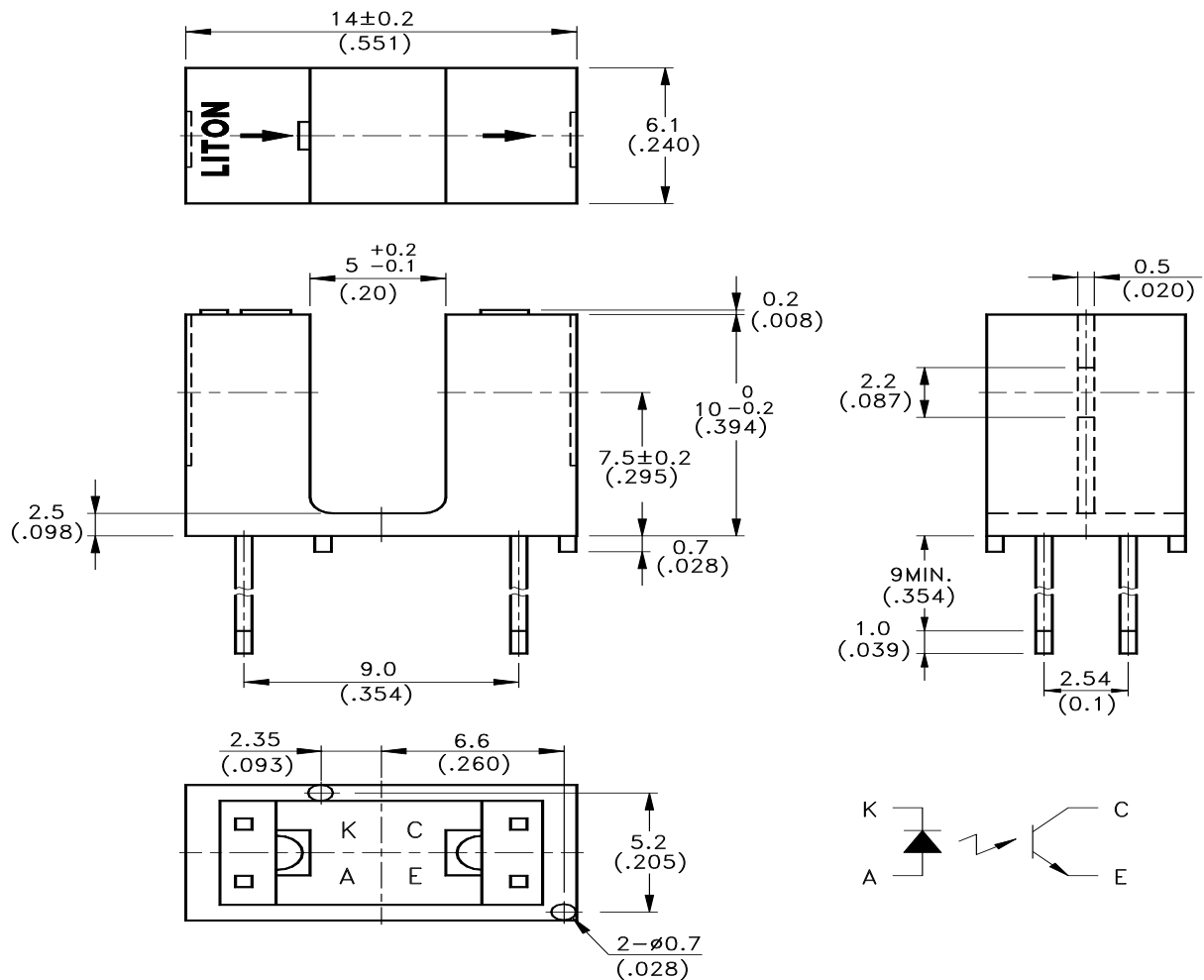
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<http://www.liteon.com/opto>

FEATURES

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

PACKAGE DIMENSIONS



NOTES:

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

ABSOLUTE MAXIMUM RATINGS AT T_A=25°C

PARAMETER	MAXIMUM RATING	UNIT
IR Diode Continuous Forward Current	60	mA
IR Diode Reverse Voltage	5	V
Transistor Collector Current	20	mA
Transistor Power Dissipation	75	mW
IR Diode Peak Forward Current (Pulse Wide = 10 μ S, 300 pps)	1	A
Diode Power Dissipation	100	mW
Phototransistor Collector-Emitter Voltage	30	V
Phototransistor Emitter-Collector Voltage	5	V
Operating Temperature Range	-25°C to + 85°C	
Storage Temperature Range	-40°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Case]	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 = 20mA
Reverse Current		I _R			100	μA	V _R =5V
OUTPUT PHOTOTRANSISTOR							
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	30			V	I _C =1mA
Emitter-Collector Breakdown Voltage		V _{(BR)ECO}	5			V	I _E =100 μA
Collector-Emitter Dark Current		I _{CEO}			100	nA	V _{CE} =10V
COUPLER							
Collector-Emitter Saturation Voltage		V _{CE(SAT)}			0.4	V	I _C =0.25mA I _F =20mA
On State Collector Current		I _{C(ON)}	0.6			mA	V _{CE} =5V I _F =20mA
Response Time	Rise Time	t _r		3	15	μS	V _{CE} =5V, I _C =2mA R _L =100Ω
	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

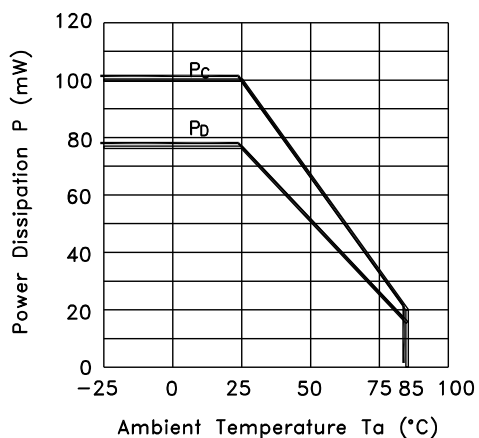


Fig.2 Forward Current vs. Forward Voltage

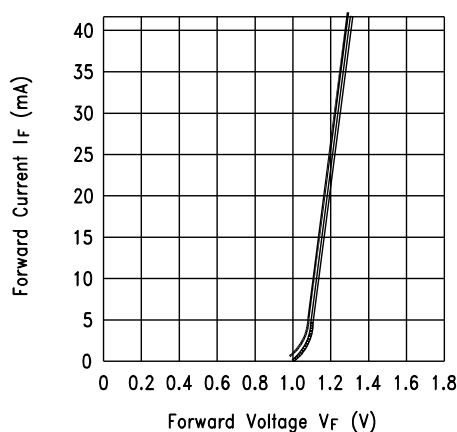


Fig.3 Collector Current vs. Forward Voltage

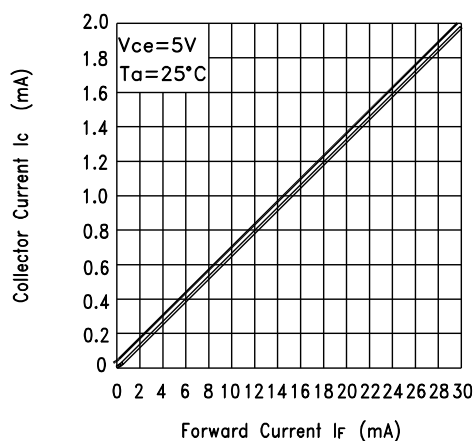
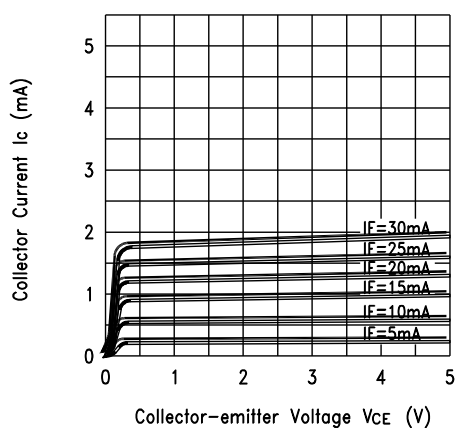


Fig.4 Collector Current vs. Collector-emitter Voltage



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

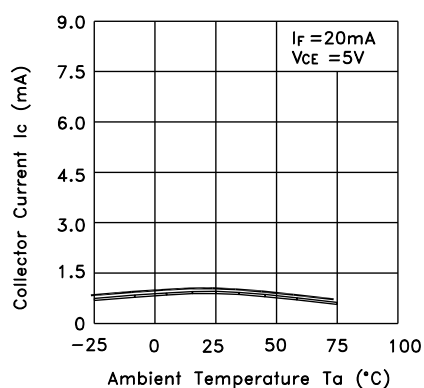


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

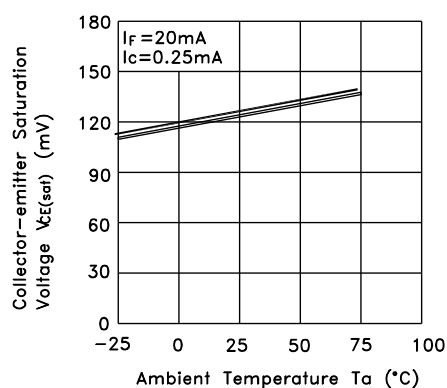
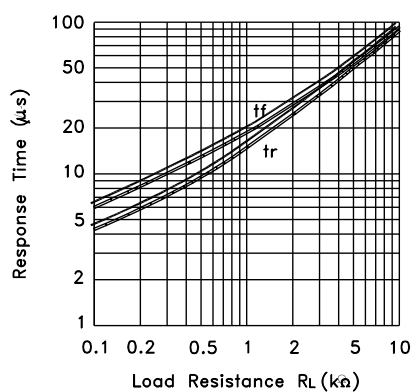
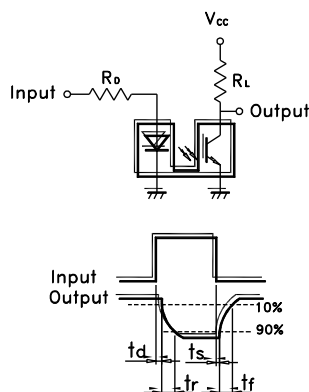


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time



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