



Photointerrupter Product Data Sheet

LTH-309-08

Spec No.: DS-55-98-0002

Effective Date: 06/01/2000

Revision: -

LITE-ON DCC

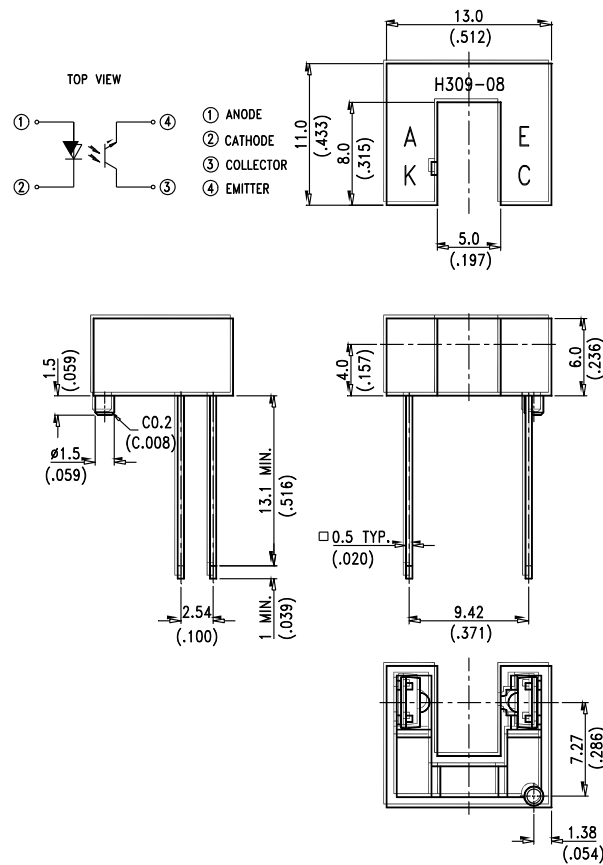
RELEASE

BNS-OD-FC001/A4

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 $\pm 0.25\text{mm}(.010\text{'})$ unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.



ABSOLUTE MAXIMUM RATINGS AT T_A=25°C

PARAMETER	MAXIMUM RATING	UNIT
INPUT LED		
Power Dissipation	75	mW
Peak Forward Current (300 pps , 10 μ S pulse)	1	A
Continuous Forward Current	50	mA
Reverse Voltage	5	V
OUTPUT PHOTOTRANSISTOR		
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Collector Current	20	mA
Operating Temperature Range	-25°C to + 85°C	
Storage Temperature Range	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm (.063") Form Case]	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	$I_F=20\text{mA}$
Reverse Current	I_R			100	μA	$V_R=5\text{V}$
OUTPUT PHOTOTRANSISTOR						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_C=1\text{mA}$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	$I_E=100\mu\text{A}$
Collector-Emitter Dark Current	I_{CEO}			100	nA	$V_{CE}=10\text{V}$
COUPLER						
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	$I_C=0.25\text{mA}$ $I_F=20\text{mA}$
On State Collector Current	$I_{C(ON)}$	0.5			mA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
Response Time	Rise Time	T_R	3	15	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

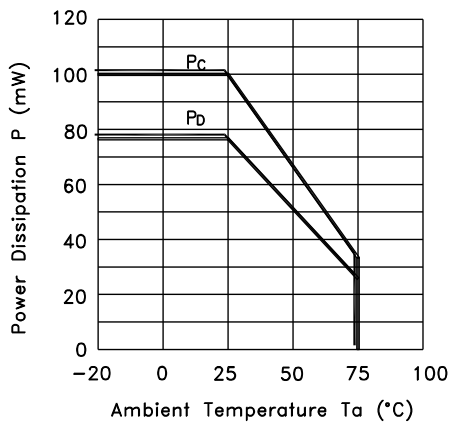


Fig.2 Forward Current vs. Forward Voltage

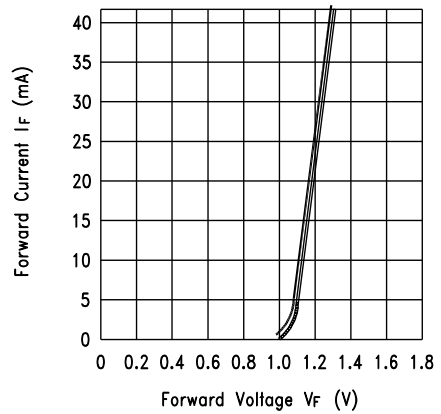


Fig.3 Collector Current vs. Forward Voltage

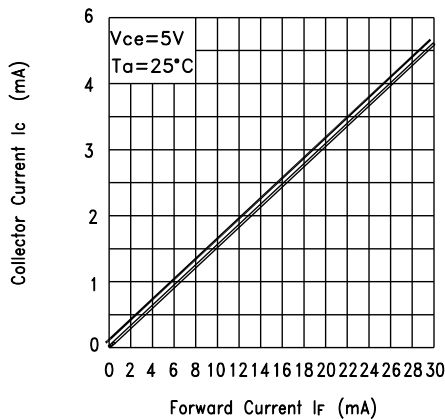
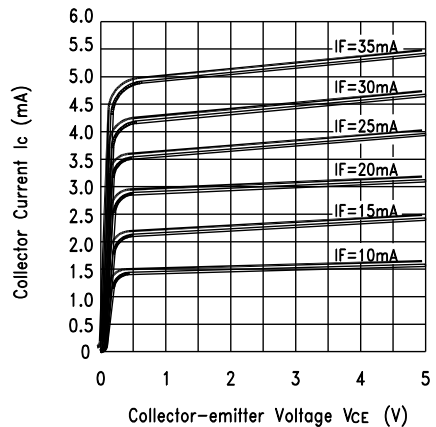


Fig.4 Collector Current vs. Collector-emitter Voltage



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

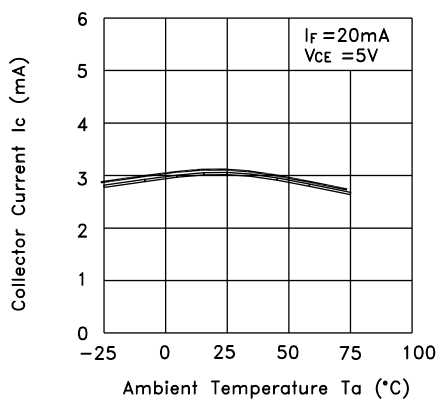


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

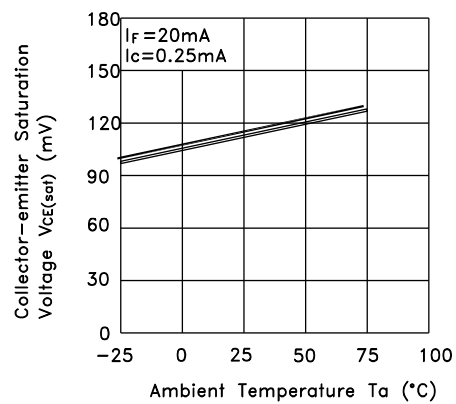
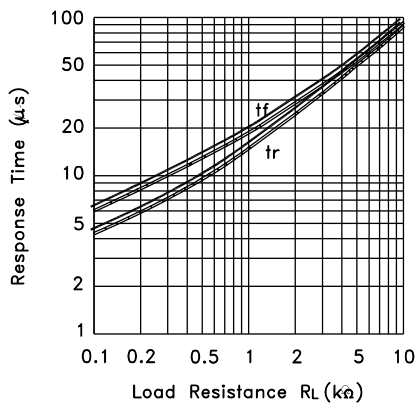


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

