LITEON
OPTOELECTRONICS

Photointerrupter

Product Data Sheet

LTH-301-32

Spec No.: DS-55-96-0005

Effective Date: 07/23/2011

Revision: C

LITE-ON DCC

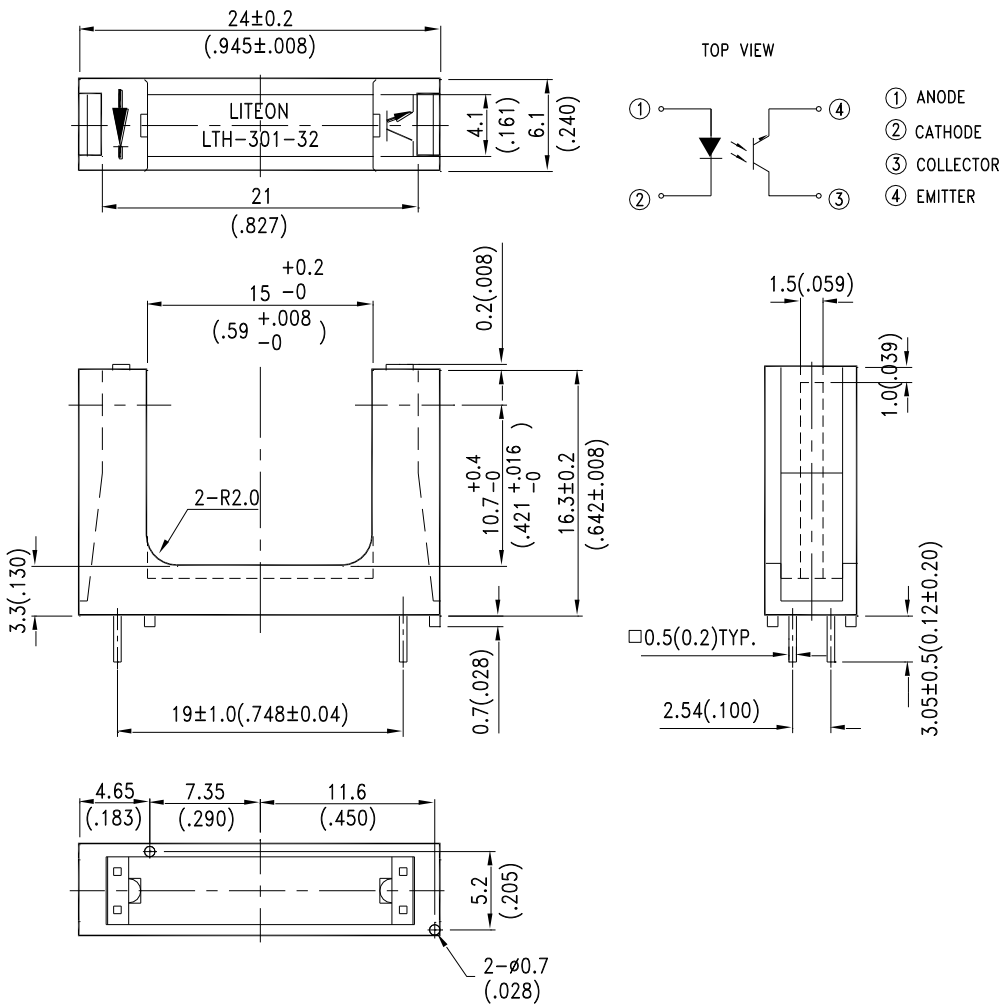
RELEASE

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 ±0.25mm(.010") unless otherwise noted.

ABSOLUTE MAXIMUM RATINGS AT TA=25℃

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 μS, 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℃ to + 85℃	
Storage Temperature Range	-40℃ to + 100℃	
Lead Soldering Temperature [1.6mm(.063") From Case]	260℃ for 5 Seconds	

ELECTRICAL OPTICAL CHARACTERISTICS AT T_A=25℃

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
INPUT LED							
Forward Voltage		VF		1.2	1.6	V	I_F = 20mA
Reverse Current		IR			100	μA	VR=5V
OUTPUT PHOTOTRANSISTOR							
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	30			V	IC=1mA
Emitter-Collector Breakdown Voltage		$V_{(BR)ECO}$	5			V	IE=100 μA
Collector-Emitter Dark Current		ICEO			100	nA	VCE=10V
COUPLER							
Collector-Emitter Saturation Voltage		VCE(SAT)			0.4	V	IC=0.2mA IF=20mA
On State Collector Current		Ic(ON)	0.6			mA	VCE=5V IF=20mA
Response Time	Rise Time	tr		3	15	μS	V_{CE}=5V,Ic=2mA R_L=100Ω
	Fall Time	tf		4	20		

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25℃ Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

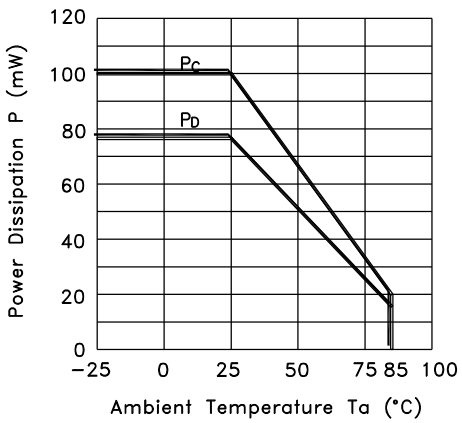


Fig.2 Forward Current vs. Forward Voltage

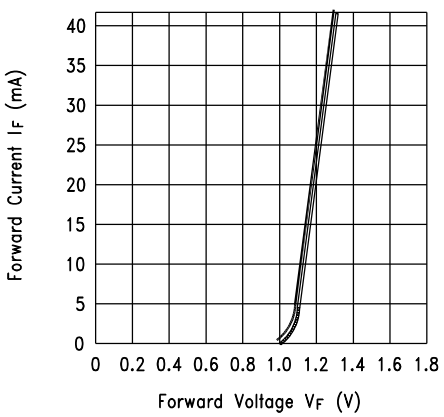


Fig.3 Cllector Current vs. Collector−emitter Voltage

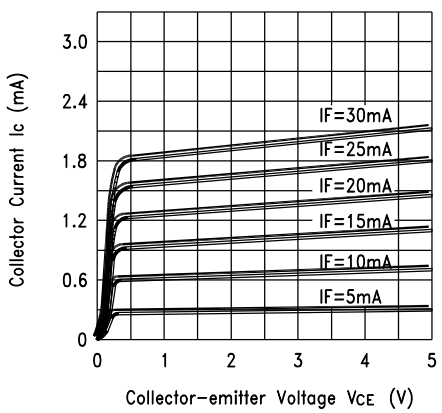
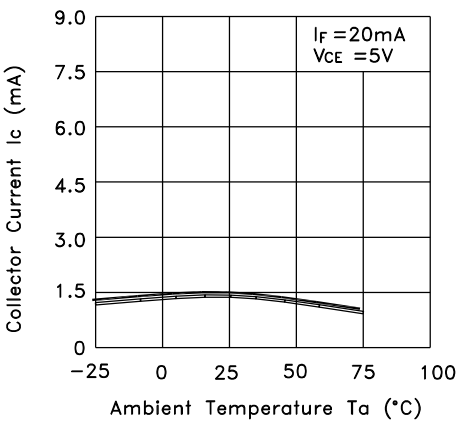


Fig.4 Collector Current vs. Ambient Temperature



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25℃ Ambient Temperature Unless Otherwise Noted)

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

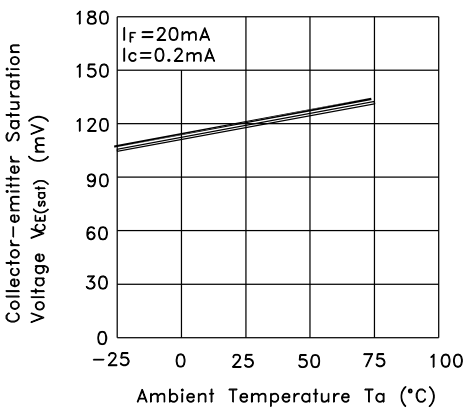
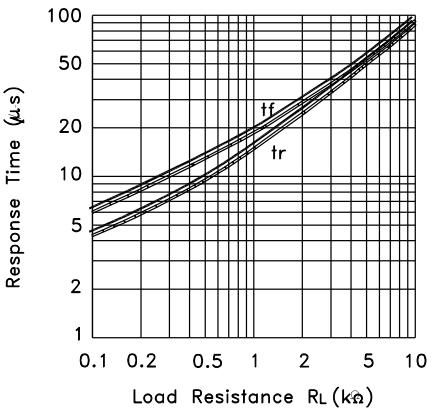
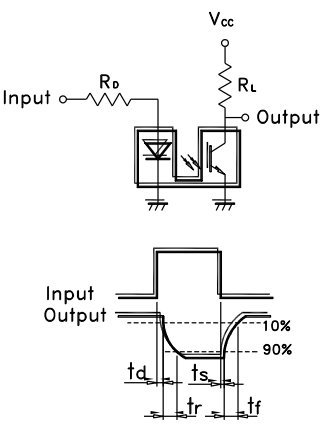


Fig.6 Response Time vs. Load Resistance



Test Circuit for Response Time