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

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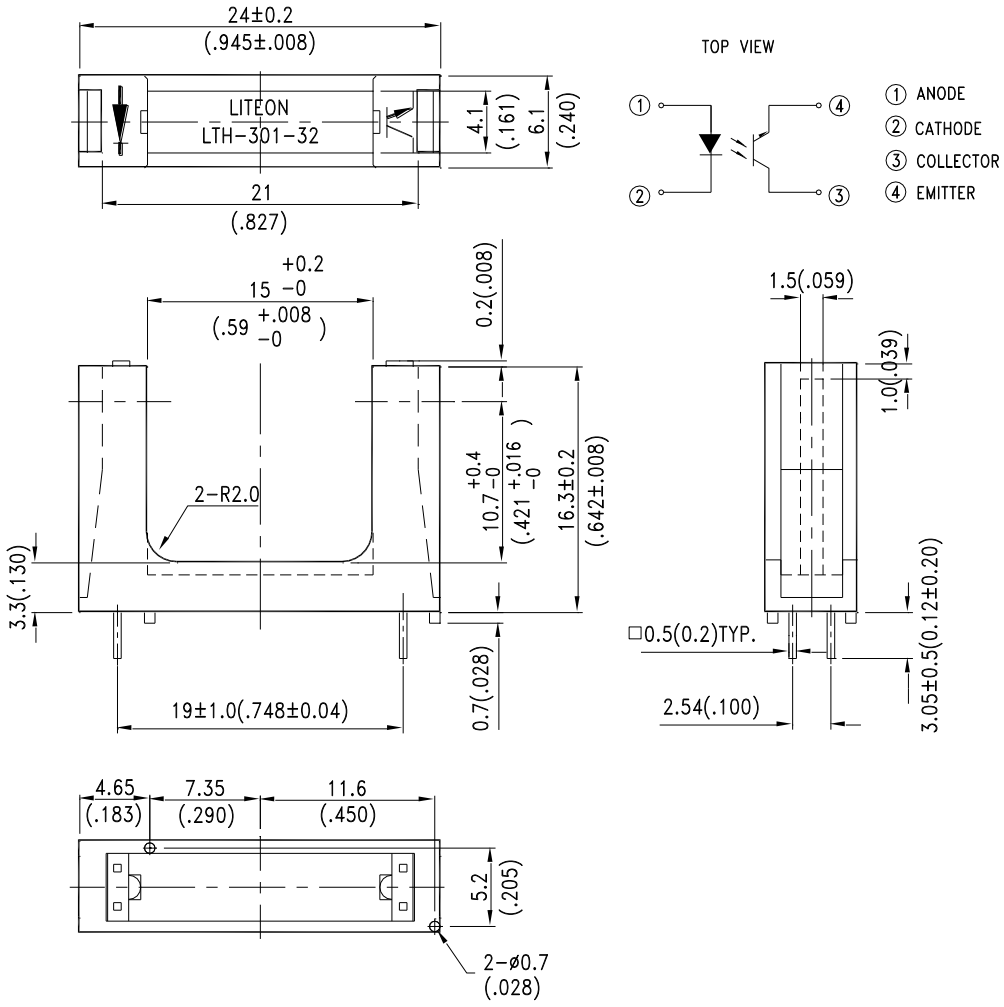
## FEATURES

* 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 $T_A$=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

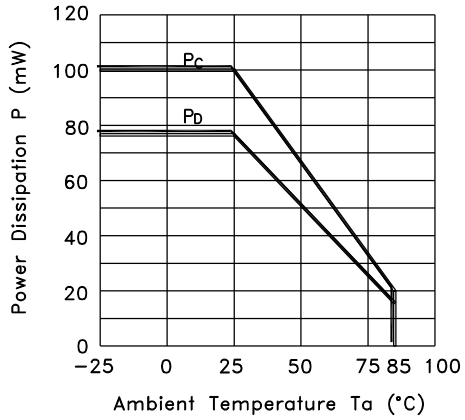



Fig.2 Forward Current vs. Forward Voltage

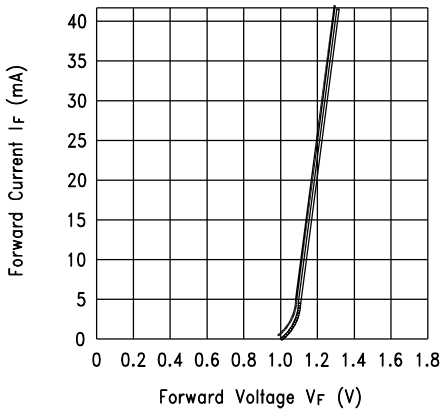



Fig.3 CIlector Current vs. Collector−emitter Voltage

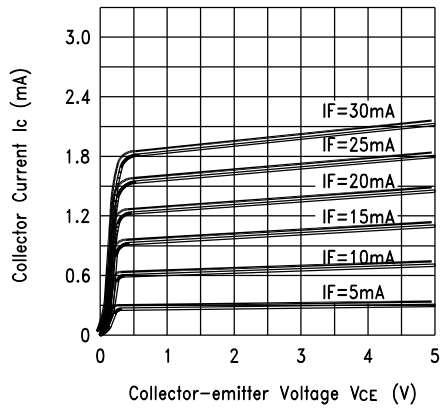
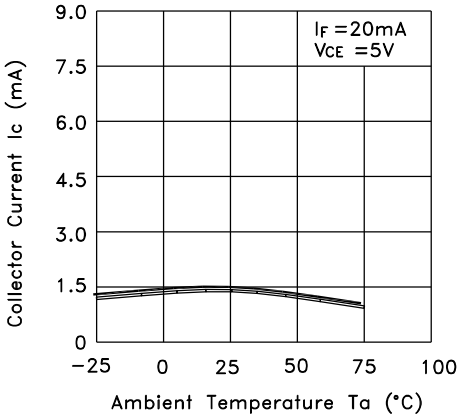



Fig.4 Collector Current vs. Ambient Temperature



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25℃ Ambient Temperature Unless Otherwise Noted)

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

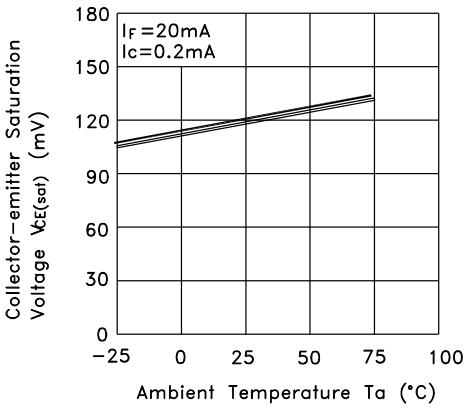
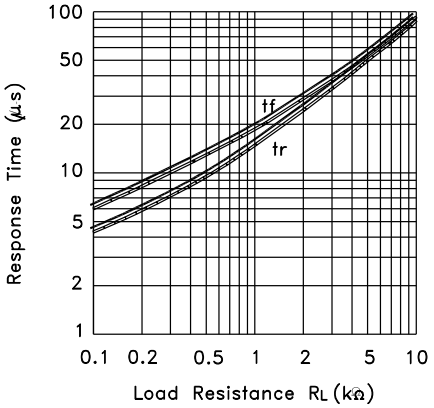
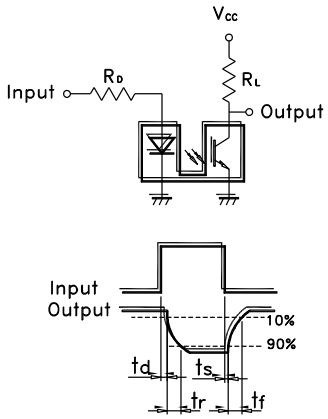



Fig.6 Response Time vs. Load Resistance




Test Circuit for Response Time



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Components Supply Platform

## Authorized Distribution Brand :


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