



# Photointerrupter Product Data Sheet LTH-306-04M

Spec No.: DS-55-98-0008

Effective Date: 06/29/2000

Revision: -

**LITE-ON DCC**

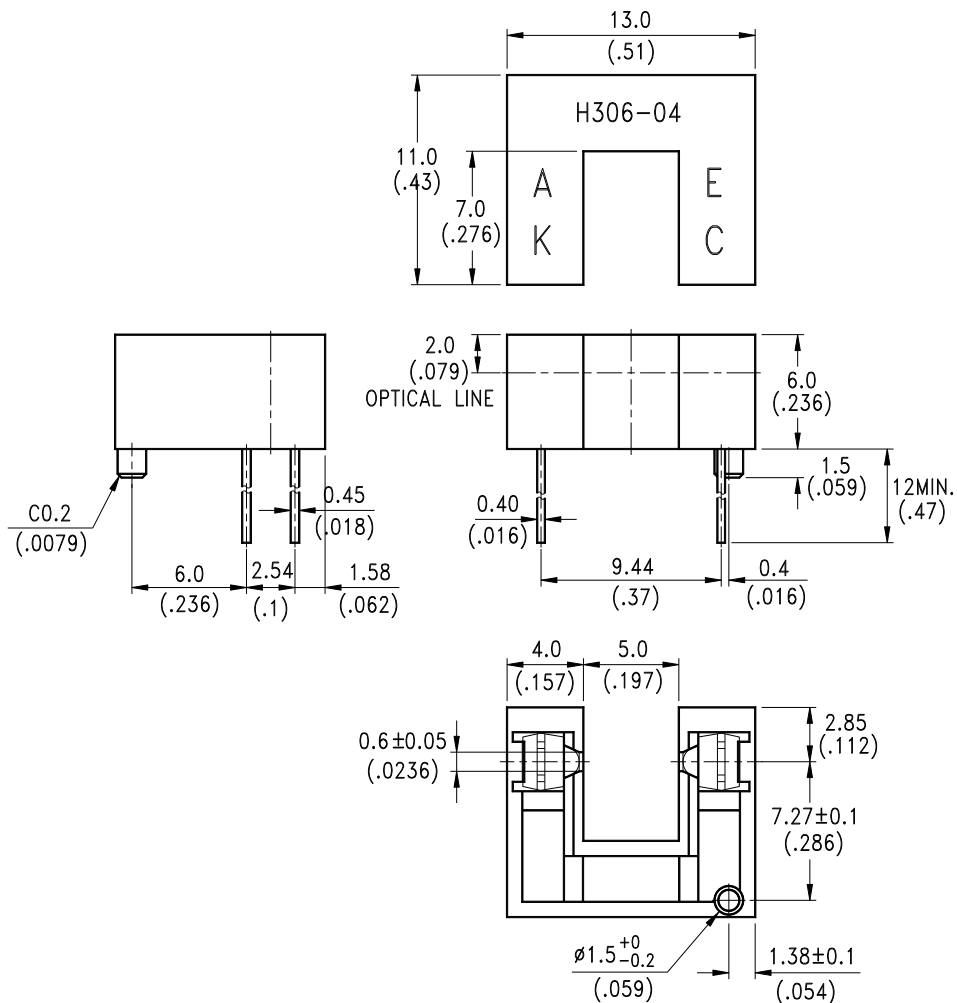
**RELEASE**

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.

# LITEON LITE-ON TECHNOLOGY CORPORATION

Property of Lite-On Only

## ABSOLUTE MAXIMUM RATINGS AT T<sub>A</sub>=25°C

| PARAMETER   | MAXIMUM RATING      | UNIT |
|---|---------------------|------|
| INPUT LED   |                     |      |
| Power Dissipation   | 75                  | mW   |
| Peak Forward Current ( 300 pps , 10 $\mu$ 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<br>[ 1.6mm (.063") Form Case ] | 260°C for 5 Seconds |      |

## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

| PARAMETER                            |           | SYMBOL        | MIN. | TYP. | MAX. | UNIT          | TEST CONDITION  |
|--------------------------------------|-----------|---------------|------|------|------|---------------|---|
| <b>INPUT LED</b>                     |           |               |      |      |      |               |   |
| Forward Voltage                      |           | $V_F$         |      | 1.2  | 1.6  | V             | $I_F = 20\text{mA}$   |
| Reverse Current                      |           | $I_R$         |      |      | 100  | $\mu\text{A}$ | $V_R = 5\text{V}$   |
| <b>OUTPUT PHOTOTRANSISTOR</b>        |           |               |      |      |      |               |   |
| Collector-Emitter Dark Current       |           | $I_{CEO}$     |      |      | 100  | nA            | $V_{CE} = 10\text{V}$   |
| <b>COUPLER</b>                       |           |               |      |      |      |               |   |
| Collector-Emitter Saturation Voltage |           | $V_{CE(SAT)}$ |      |      | 0.4  | V             | $I_C = 0.25\text{mA}$<br>$I_F = 20\text{mA}$                  |
| On State Collector Current           |           | $I_{C(ON)}$   | 1    |      | 10   | mA            | $V_{CE} = 5\text{V}$<br>$I_F = 20\text{mA}$                   |
| Response Time                        | Rise Time | $T_R$         |      | 3    | 15   | $\mu\text{S}$ | $V_{CE} = 5\text{V}, I_C = 2\text{mA}$<br>$R_L = 100\ \Omega$ |
|                                      | 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

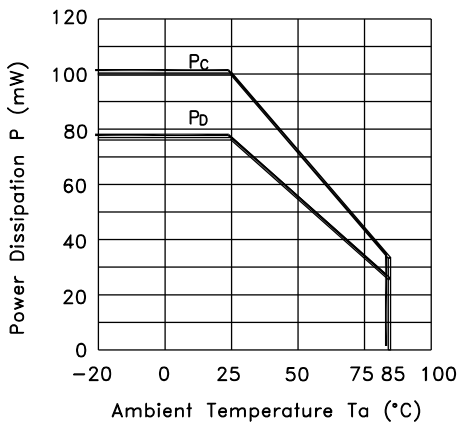


Fig.2 Forward Current vs. Forward Voltage

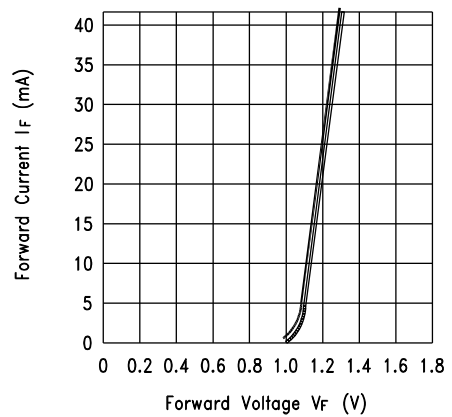


Fig.3 Collector Current vs. Forward Voltage

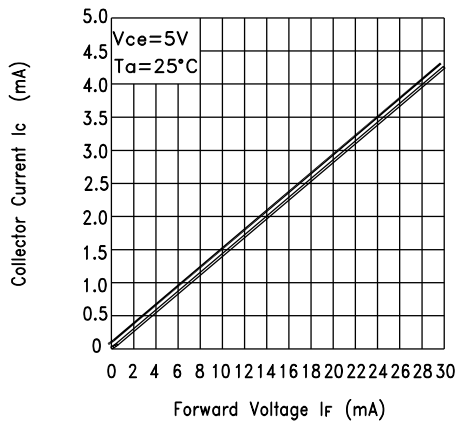
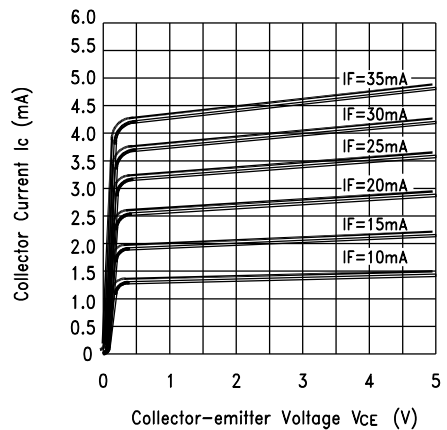


Fig.4 Collector Current vs. Collector-emitter Voltage



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

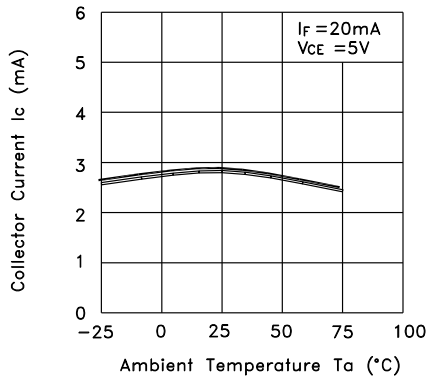


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

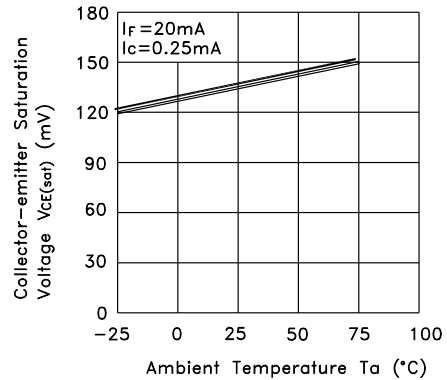
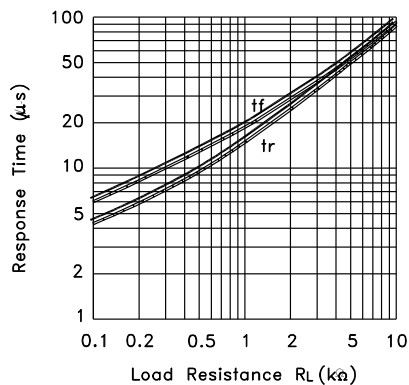


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

