



Photointerrupter Product Data Sheet

LTH-306-01

Spec No.: DS-55-93-0002

Effective Date: 06/29/2000

Revision: -

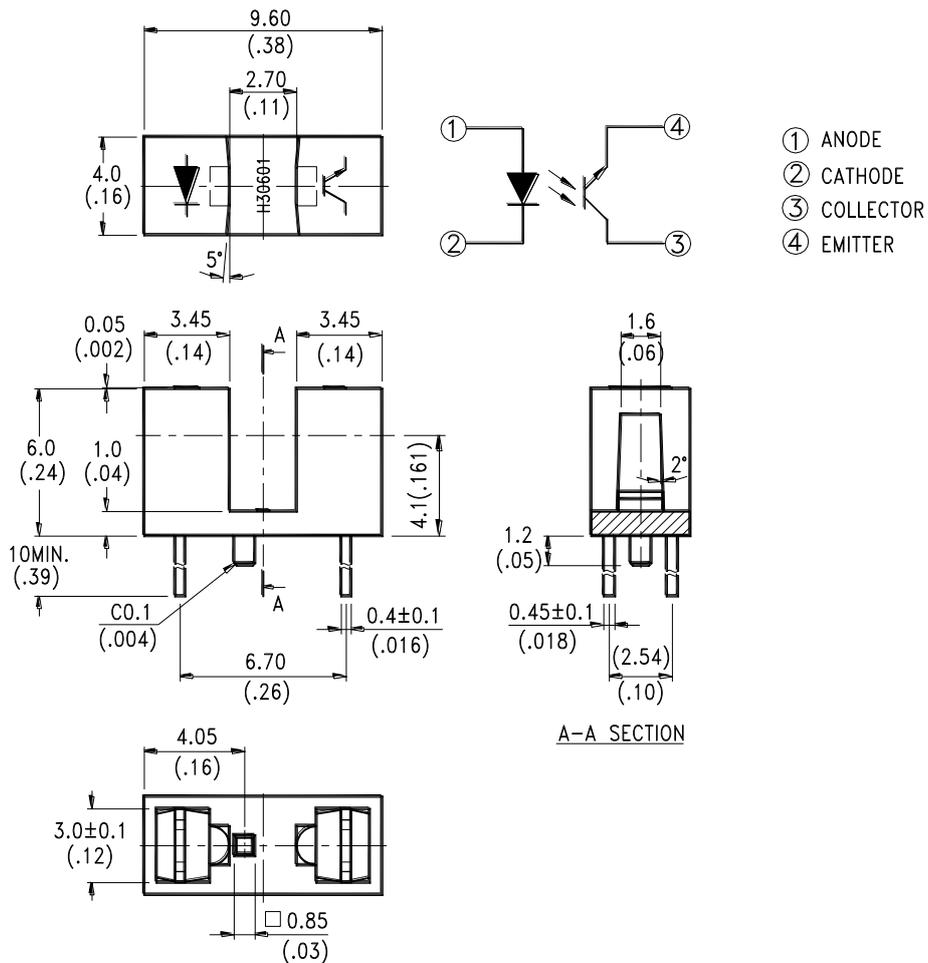
LITE-ON DCC

RELEASE

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°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 =2.5mA I _F =20mA |
| On State Collector Current | I _{c(ON)} | 5.0 | | | 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

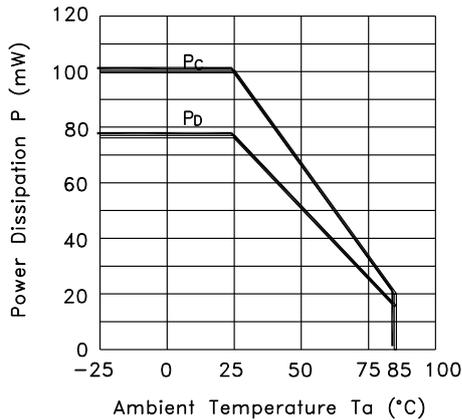


Fig.2 Forward Current vs. Forward Voltage

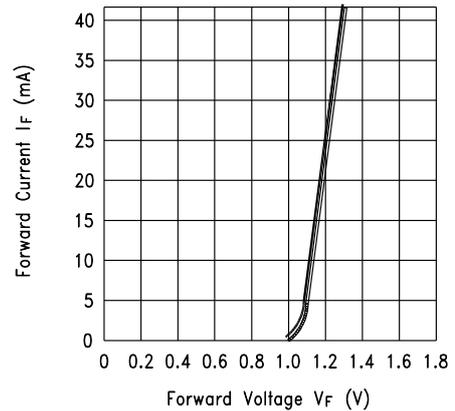


Fig.3 Collector Current vs. Collector-emitter Voltage

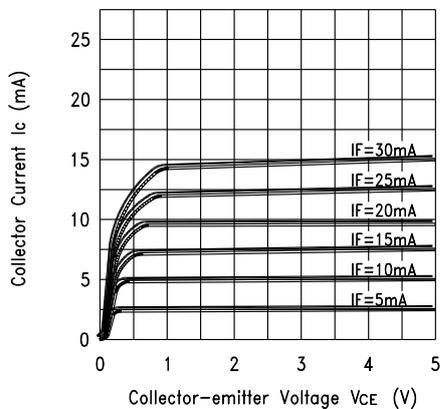
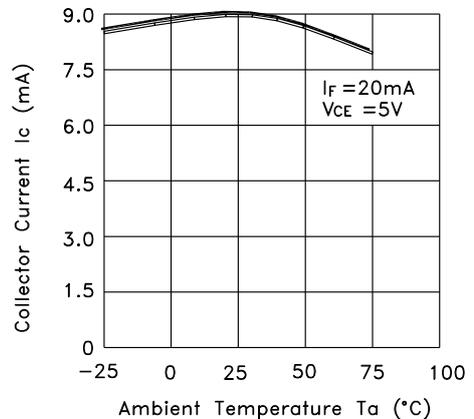


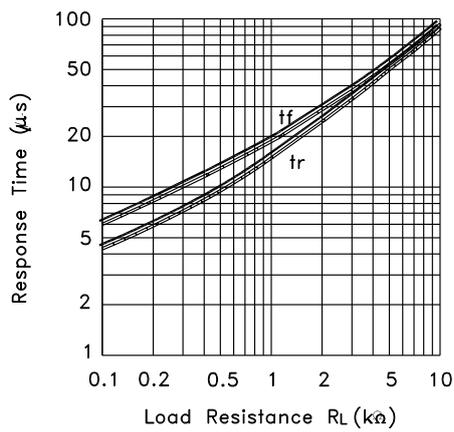
Fig.4 Collector Current vs. Ambient Temperature



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Response Time vs. Load Resistance



Test Circuit for Response Time

