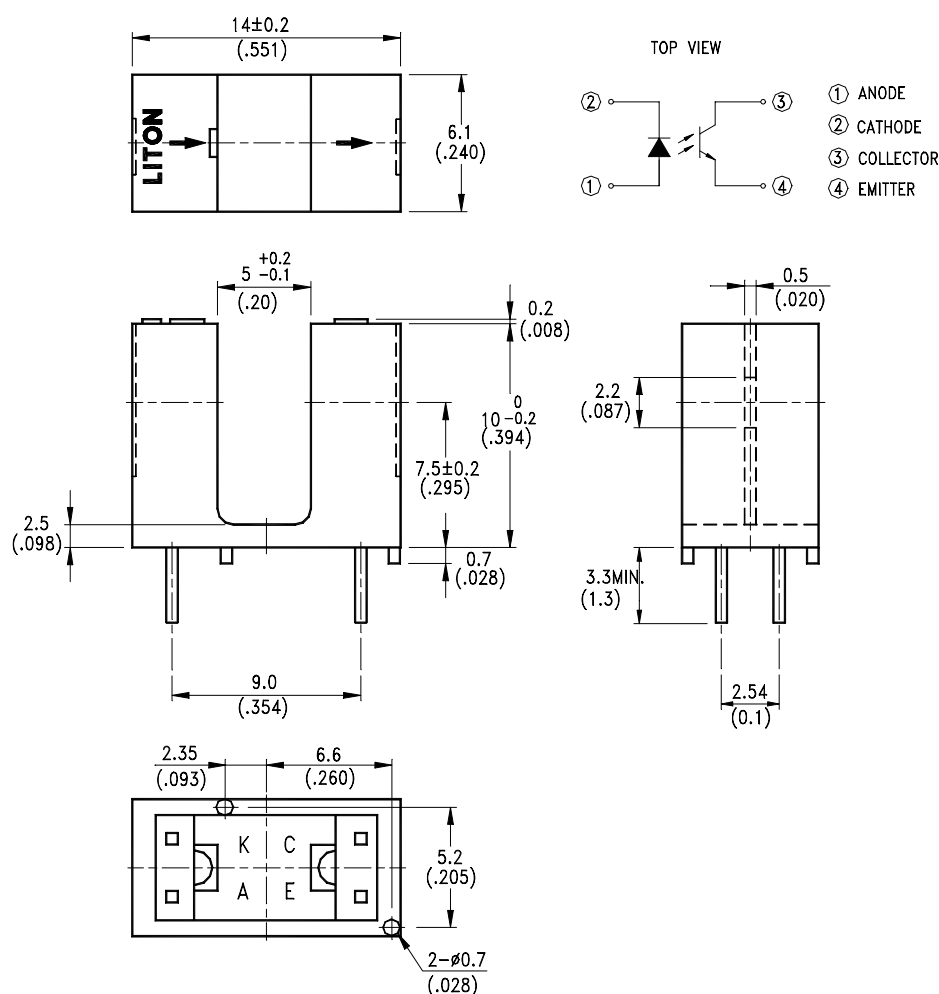


## FEATURES

- \* 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.
3. Lead spacing is measured where the leads emerge from the package.

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

| PARAMETER                                                           | MAXIMUM RATING    | UNIT        |
|---------------------------------------------------------------------|-------------------|-------------|
| IR Diode Continuous Forward Current                                 | 50                | mA          |
| IR Diode Reverse Voltage                                            | 5                 | V           |
| Transistor Collector Current                                        | 20                | mA          |
| Transistor Power Dissipation                                        | 75                | mW (Note 1) |
| IR Diode Peak Forward Current<br>(Pulse Wide = 10 $\mu$ S, 300 pps) | 1                 | A           |
| Diode Power Dissipation                                             | 100               | mW (Note 1) |
| Phototransistor Collector-Emitter Voltage                           | 30                | V           |
| Phototransistor Emitter-Collector Voltage                           | 5                 | V           |
| Operating Temperature Range                                         | -55 to + 100      |             |
| Storage Temperature Range                                           | -55 to + 100      |             |
| Lead Soldering Temperature<br>[1.6mm(.063") From Case]              | 260 for 5 Seconds |             |

Note 1: Derate Linearly 1.33mW/ from 25

## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25

| PARAMETER                               | SYMBOL               | MIN. | TYP. | MAX. | UNIT | TEST CONDITION                                |
|-----------------------------------------|----------------------|------|------|------|------|-----------------------------------------------|
| INPUT LED                               |                      |      |      |      |      |                                               |
| Forward Voltage                         | V <sub>F</sub>       |      | 1.2  | 1.6  | V    | I <sub>F</sub> = 20mA                         |
| Reverse Current                         | I <sub>R</sub>       |      |      | 100  | μ A  | V <sub>R</sub> =5V                            |
| OUTPUT PHOTOTRANSISTOR                  |                      |      |      |      |      |                                               |
| Collector-Emitter<br>Breakdown Voltage  | V(BR) <sub>CEO</sub> | 30   |      |      | V    | I <sub>C</sub> =1mA                           |
| Emitter-Collector<br>Breakdown Voltage  | V(BR) <sub>ECO</sub> | 5    |      |      | V    | I <sub>E</sub> =100 μ A                       |
| Collector-Emitter<br>Dark Current       | I <sub>CEO</sub>     |      |      | 100  | nA   | V <sub>CE</sub> =10V                          |
| COUPLER                                 |                      |      |      |      |      |                                               |
| Collector-Emitter<br>Saturation Voltage | V <sub>CE(SAT)</sub> |      |      | 0.4  | V    | I <sub>C</sub> =0.2mA<br>I <sub>F</sub> =10mA |
| On State Collector Current              | I <sub>C(ON)</sub>   | 0.5  |      |      | mA   | V <sub>CE</sub> =2V<br>I <sub>F</sub> =10mA   |
| Current Transfer Ratio                  | CTR                  | 5    |      |      | %    | V <sub>CE</sub> =2V<br>I <sub>F</sub> =10mA   |

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25 Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

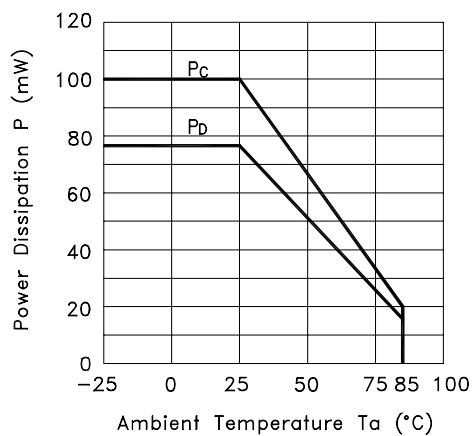


Fig.2 Forward Current vs. Forward Voltage

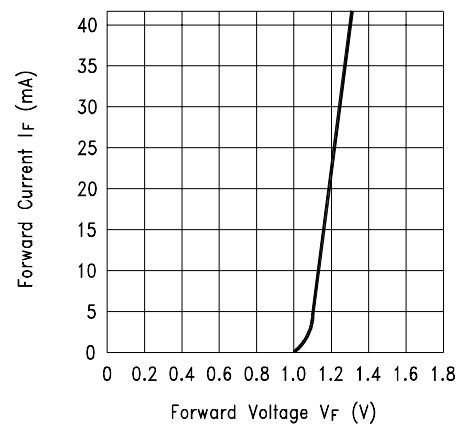
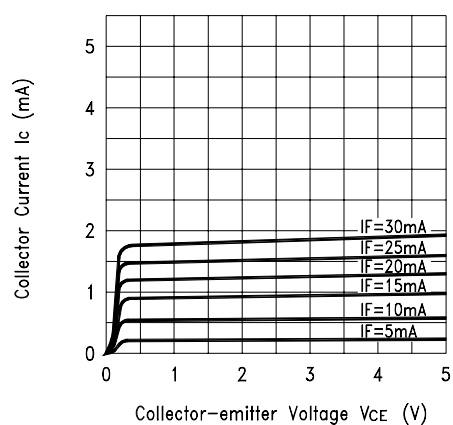


Fig.3 Collector Current vs. Collector-emitter Voltage



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25 Ambient Temperature Unless Otherwise Noted)

Fig.4 Collector Current vs. Ambient Temperature

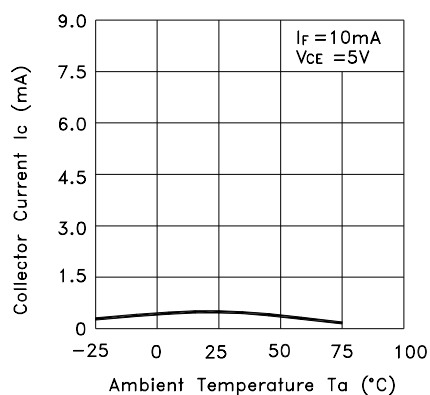


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

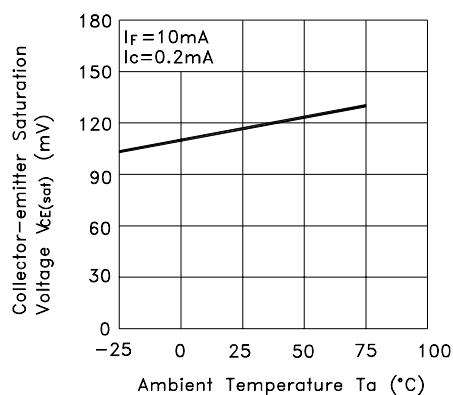
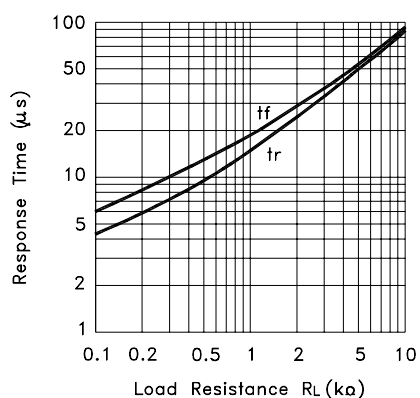


Fig.6 Response Time vs. Load Resistance



Test Circuit for Response Time

