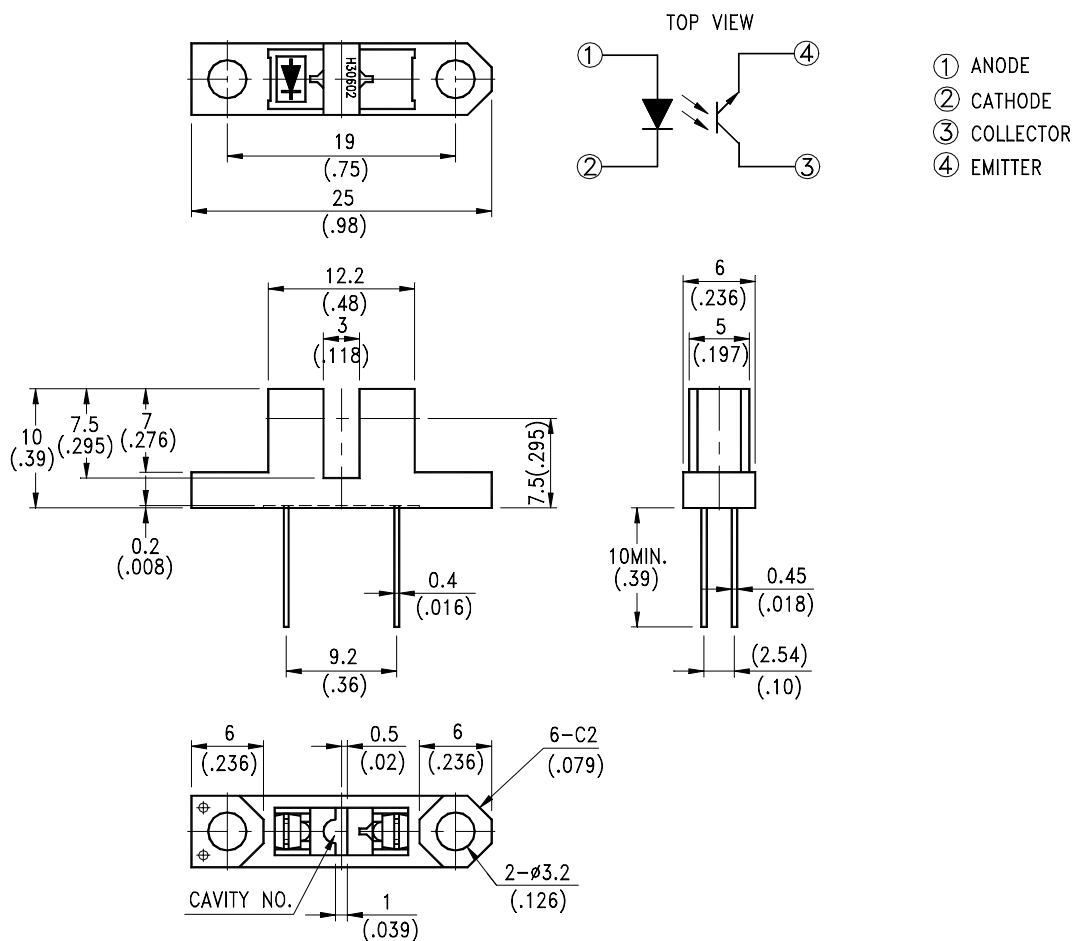


## FEATURES

- \* 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  $\pm 0.25\text{mm}(.010")$  unless otherwise noted.

**ABSOLUTE MAXIMUM RATINGS AT T<sub>A</sub>=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                                                     | 100                 | mW   |
| IR Diode Peak Forward Current<br>(Pulse Wide = 10 $\mu$ S, 300 pps)              | 1                   | A    |
| Diode Power Dissipation                                                          | 75                  | 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<br>[1.6mm(.063") From Body , Plastic Housing Exclude] | 260°C for 5 Seconds |      |

**ELECTRICAL OPTICAL CHARACTERISTICS AT  $T_A=25^{\circ}\text{C}$** 

| PARAMETER                               |           | SYMBOL        | MIN. | TYP. | MAX. | UNIT          | TEST CONDITION                                        |
|-----------------------------------------|-----------|---------------|------|------|------|---------------|-------------------------------------------------------|
| INPUT LED                               |           |               |      |      |      |               |                                                       |
| Forward Voltage                         |           | $V_F$         |      | 1.2  | 1.6  | V             | $I_F = 20\text{mA}$                                   |
| Reverse Current                         |           | $I_R$         |      |      | 100  | $\mu\text{A}$ | $V_R=5\text{V}$                                       |
| OUTPUT PHOTOTRANSISTOR                  |           |               |      |      |      |               |                                                       |
| Collector-Emitter<br>Breakdown Voltage  |           | $V_{(BR)CEO}$ | 30   |      |      | V             | $I_C=1\text{mA}$                                      |
| Emitter-Collector<br>Breakdown Voltage  |           | $V_{(BR)ECO}$ | 5    |      |      | V             | $I_E=100\mu\text{A}$                                  |
| Collector-Emitter<br>Dark Current       |           | $I_{CEO}$     |      |      | 100  | nA            | $V_{CE}=10\text{V}$                                   |
| COUPLER                                 |           |               |      |      |      |               |                                                       |
| Collector-Emitter<br>Saturation Voltage |           | $V_{CE(SAT)}$ |      |      | 0.4  | V             | $I_C=0.25\text{mA}$<br>$I_F=20\text{mA}$              |
| On State Collector Current              |           | $I_{c(ON)}$   | 0.5  |      |      | 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

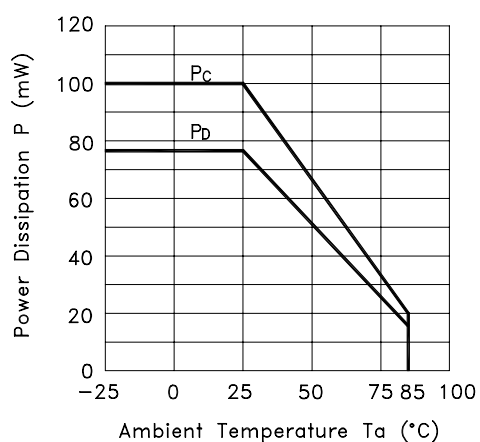


Fig.2 Forward Current vs. Forward Voltage

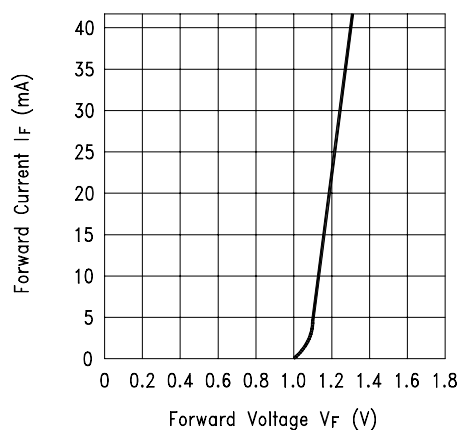


Fig.3 Collector Current vs. Forward Voltage

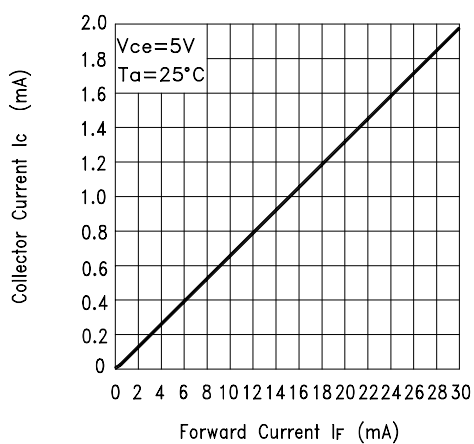
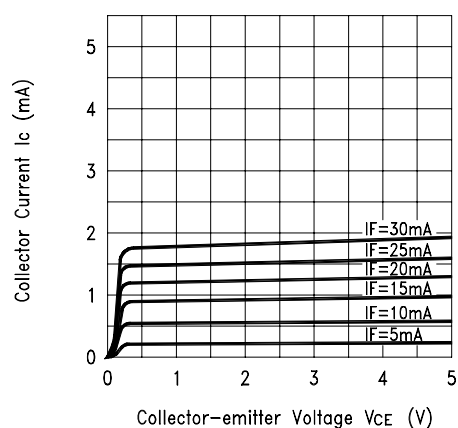


Fig.4 Collector Current vs. Collector-emitter Voltage



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

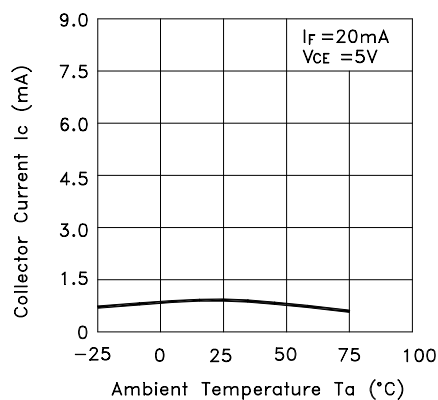


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

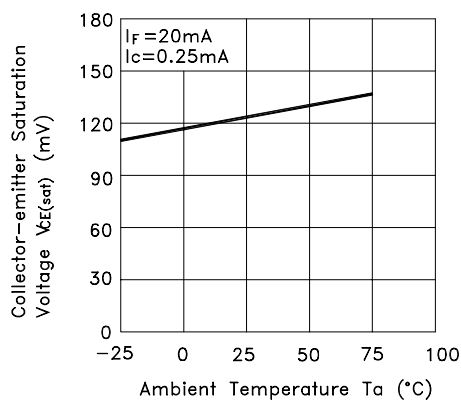
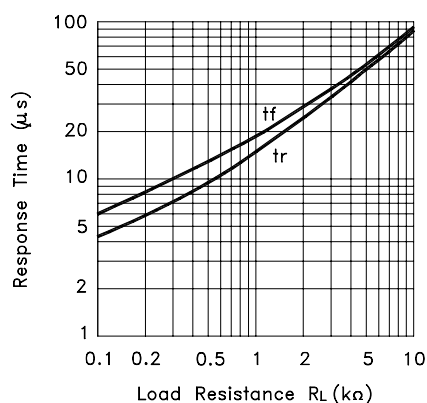


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

