

**Electrical Specifications** ( $-40^{\circ}\text{C} \leq T_A \leq +85^{\circ}\text{C}$  unless otherwise specified)**RELAY**

| INPUT CHARACTERISTICS                                                                                            | Limits         | Units             |
|------------------------------------------------------------------------------------------------------------------|----------------|-------------------|
| Min. Control Current (See Fig.1)                                                                                 | 5.0            | mA                |
| Max. Control Current for Off-State Resistance @ $T_A = +25^{\circ}\text{C}$                                      | 0.4            | mA                |
| Control Current Range (Caution: current limit input LED, see Fig.6)                                              | 5.0 to 25      | mA                |
| Max. Reverse Voltage                                                                                             | 6.0            | V                 |
| OUTPUT CHARACTERISTICS                                                                                           | Limits         | Units             |
| Operating Voltage Range                                                                                          | 0 to $\pm 400$ | V (DC or AC peak) |
| Max. Load Current @ $T_A = +40^{\circ}\text{C}$<br>5mA Control (See Fig.1)                                       | 150            | mA                |
| Max. On-State Resistance @ $T_A = +25^{\circ}\text{C}$<br>For 50mA Pulsed Load, 5mA Control (See Fig.4)          | 22             | $\Omega$          |
| Max. Off-State Leakage @ $T_A = +25^{\circ}\text{C}$ , $\pm 400\text{V}$ (See Fig.5)                             | 1.0            | $\mu\text{A}$     |
| Max. Turn-On Time @ $T_A = +25^{\circ}\text{C}$ (See Fig. 7)<br>For 50mA, 100 V <sub>DC</sub> Load, 5mA Control  | 1.0            | ms                |
| Max. Turn-Off Time @ $T_A = +25^{\circ}\text{C}$ (See Fig. 7)<br>For 50mA, 100 V <sub>DC</sub> Load, 5mA Control | 0.5            | ms                |
| Max. Output Capacitance @ 50V <sub>DC</sub>                                                                      | 12             | pF                |

**DETECTOR**

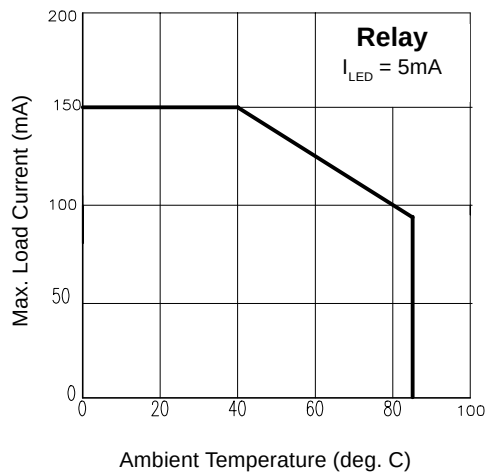
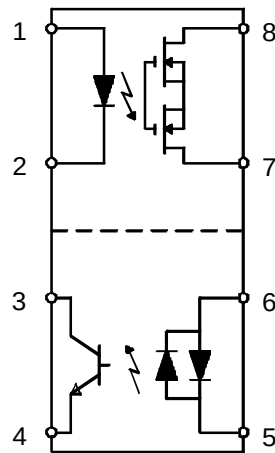
| INPUT CHARACTERISTICS                                                                                                | Limits    | Units           |
|----------------------------------------------------------------------------------------------------------------------|-----------|-----------------|
| Min. Control Current @ $I_C = 2\text{mA}$ , $V_{CE} = 0.5\text{V}$                                                   | 5.0       | mA              |
| Max. Control Current for Off-State Leakage $I_C = 1\mu\text{A}$ , $V_{CE} = 5\text{V}$ @ $T_A = +25^{\circ}\text{C}$ | 5         | $\mu\text{A}$   |
| Control Current Range (Caution: current limit input LED, see Fig.6)                                                  | 5.0 to 25 | mA              |
| OUTPUT CHARACTERISTICS                                                                                               | Limits    | Units           |
| Min. Collector-Emitter Breakdown Voltage @ $I_C = 10\mu\text{A}$                                                     | 20        | V <sub>DC</sub> |
| Min. Current Transfer Ratio @ $I_{LED} = 6\text{mA}$ , $V_{CE} = 5\text{V}$ (see Fig. 9)                             | 33        | %               |
| Max. Saturation Voltage @ $I_{LED} = 16\text{mA}$ , $I_C = 2\text{mA}$                                               | 0.5       | V               |
| Max. Leakage Current @ $I_{LED} = 0\text{mA}$ , $V_{CE} = 5\text{V}$                                                 | 500       | nA              |
| Max. Power Dissipation @ $T_A = +25^{\circ}\text{C}$ (derate linearly 2.0mW/ $^{\circ}\text{C}$ )                    | 150       | mW              |

**COMBINED**

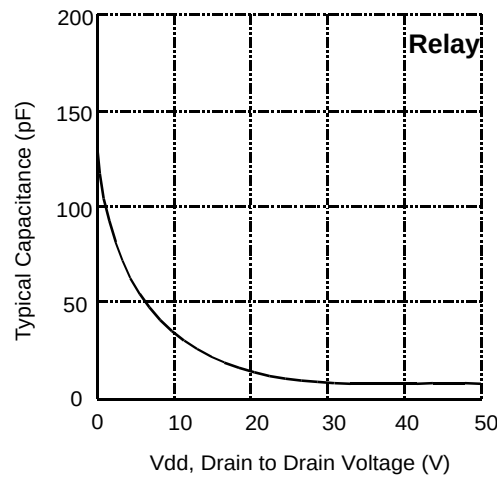
| GENERAL CHARACTERISTICS                                                                               | Limits                    | Units              |
|-------------------------------------------------------------------------------------------------------|---------------------------|--------------------|
| Min. Dielectric Strength, Input-Output                                                                | 3750                      | V <sub>RMS</sub>   |
| Min. Dielectric Strength, Relay-Detector                                                              | 1000                      | V <sub>DC</sub>    |
| Min. Insulation Resistance, Input-Output<br>@ $T_A = +25^{\circ}\text{C}$ , 50%RH, 100V <sub>DC</sub> | $10^{12}$                 | $\Omega$           |
| Max. Capacitance, Input-Output                                                                        | 3.0                       | pF                 |
| Max. Pin Soldering Temperature (10 seconds max.)                                                      | +260                      | $^{\circ}\text{C}$ |
| Ambient Temperature Range: Operating<br>Storage                                                       | -40 to +85<br>-40 to +100 |                    |

International Rectifier does not recommend the use of this product in aerospace, avionics, military or life support applications. Users of this International Rectifier product in such applications assume all risks of such use and indemnify International Rectifier against all damages resulting from such use.

### Connection Diagram



**Figure 1. Current Derating Curve**



**Figure 2. Typical Output Capacitance**

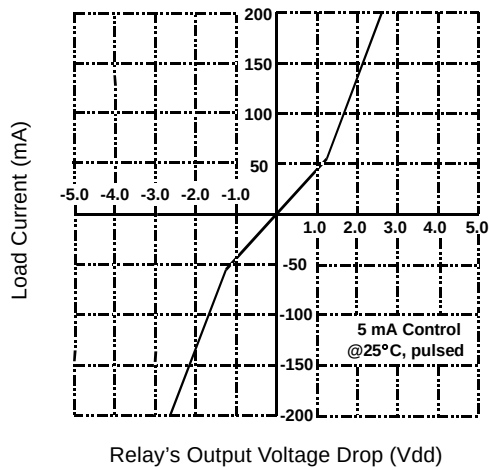


Figure 3. Linearity Characteristics

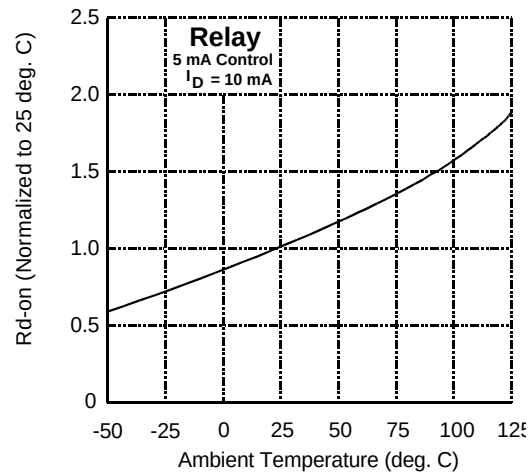


Figure 4. Typical Normalized On-Resistance

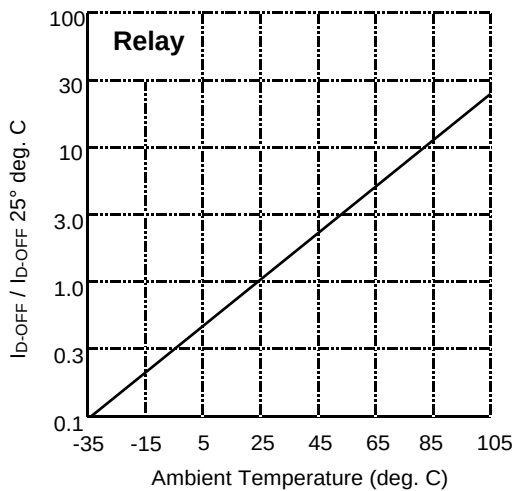


Figure 5. Typical Normalized Off-State Leakage

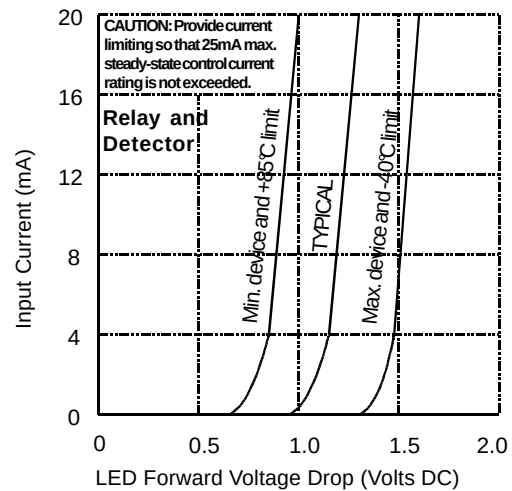
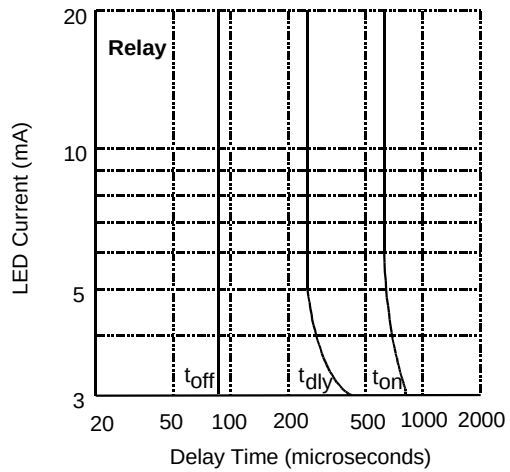
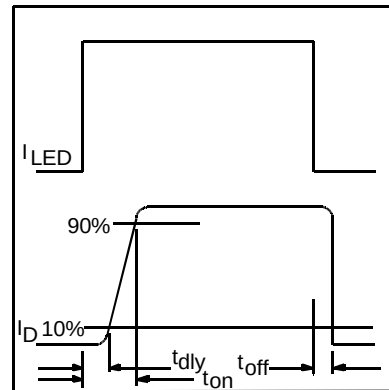


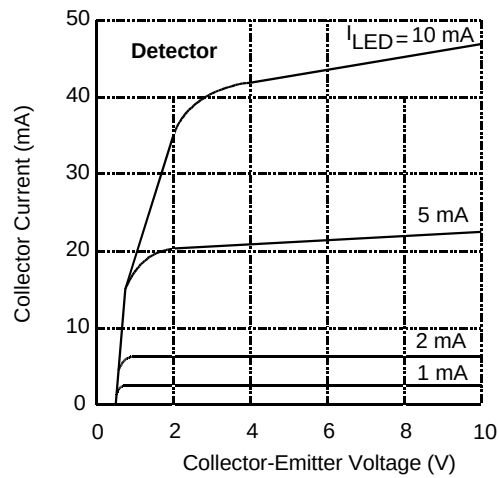
Figure 6. Input Characteristics (Current Controlled)



**Figure 7. Typical Delay Times**



**Figure 8. Delay Time Definitions**



**Figure 9. Typical Transfer Characteristics**

**Case Outline**