**Electrical Specifications** (-40°C ≤ $T_A$ ≤ +85°C unless otherwise specified)

| INPUT CHARACTERISTICS | Limits | Units |
|---|---|---|
| Minimum Control Current (see figure 1) | 5.0 | mA |
| Maximum Control Current for Off-State Resistance @ $T_A$ = +25°C | 0.4 | mA |
| Control Current Range (Caution: current limit input LED, see figure 6) | 5.0 - 25 | mA |
| Maximum Reverse Voltage (1mA max.) | 6.0 | V |

| OUTPUT CHARACTERISTICS | | Limits | Units |
|---|---|---|---|
| Operating Voltage Range | | 0 to ±60 | $V_{(DC\ or\ AC\ peak)}$ |
| Maximum Continuous Load Current @ $T_A$ = +40°C, 10mA Control (see figure 1) | A Connection | 2.0 | A (AC or DC) |
| | B Connection | 2.5 | A (DC) |
| | C Connection | 4.0 | A (DC) |
| Maximum Pulsed Load Current @ $T_A$ =+25°C (100 ms @ 10% Duty Cycle) | A Connection | 7.5 | A (AC or DC) |
| | B Connection | 8.5 | A (DC) |
| | C Connection | 15.5 | A (DC) |
| Typical Thermal Resistance (Rthja, Junction-to-Ambient) | A Connection | 79.1 | (°C/W) |
| | B Connection | 112.2 | (°C/W) |
| | C Connection | 81.0 | (°C/W) |
| Maximum On-State Resistance @$T_A$ =+25°C For 1A pulsed load, 10mA Control (see figure 4) | A Connection | 100 | mΩ |
| | B Connection | 50 | mΩ |
| | C Connection | 35 | mΩ |
| Maximum Off-State Leakage @ 60V, $T_A$ =+25°C | | 1.0 | µA |
| Maximum Turn-On Time @$T_A$ =+25°C (see figures 7 & 8) For 500mA, $50V_{DC}$ load, 10mA Control, 10mS pulse width | | 3.5 | ms |
| Maximum Turn-Off Time @$T_A$ =+25°C (see figures 7 & 8) For 500mA, $50V_{DC}$ load, 10mA Control, 10mS pulse width | | 0.5 | ms |
| Typical Output Capacitance @ Vdd=50V, f=1MHz (see figure 2) | | 105 | pF |

| GENERAL CHARACTERISTICS | | Limits | Units |
|---|---|---|---|
| Minimum Dielectric Strength, Input-Output | | 4000 | $V_{RMS}$ |
| Minimum Insulation Resistance, Input-Output, @$T_A$ =+25°C, 50%RH, $100V_{DC}$ | | $10^{12}$ | Ω |
| Maximum Capacitance, Input-Output | | 1.0 | pF |
| Maximum Pin Soldering Temperature (10 seconds maximum) | | +260 | °C |
| Ambient Temperature Range: | Operating | -40 to +85 | |
| | Storage | -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.



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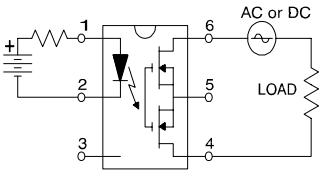
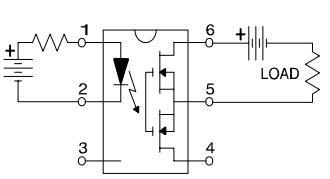
## Connection Diagrams

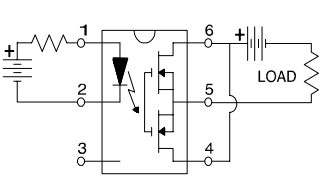
"A" Connection




"B" Connection




"C" Connection



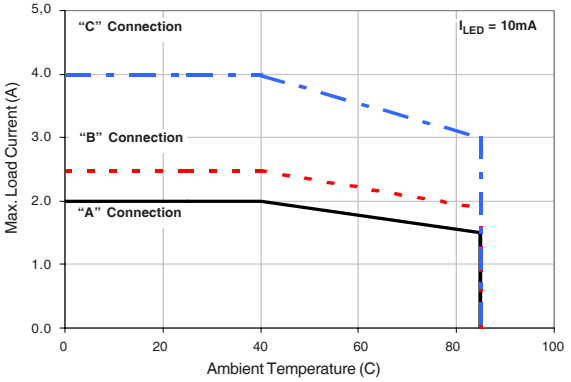




Figure 1. Current Derating Curves

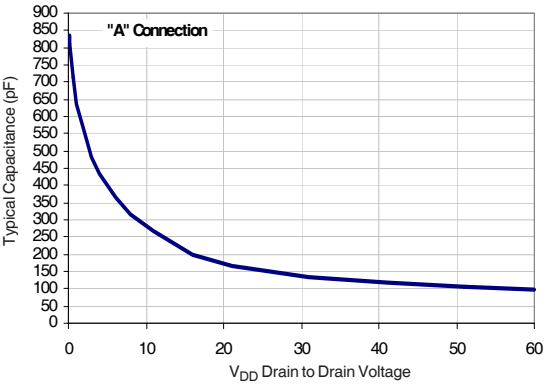



Figure 2. Typical Output Capacitance

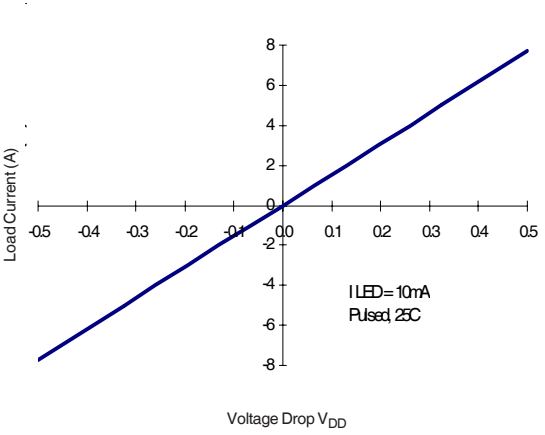



Figure 3. Typical Linearity Characteristics

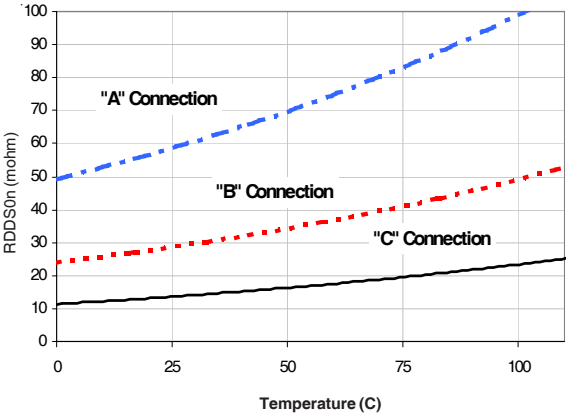



Figure 4. Typical Normalized On-Resistance



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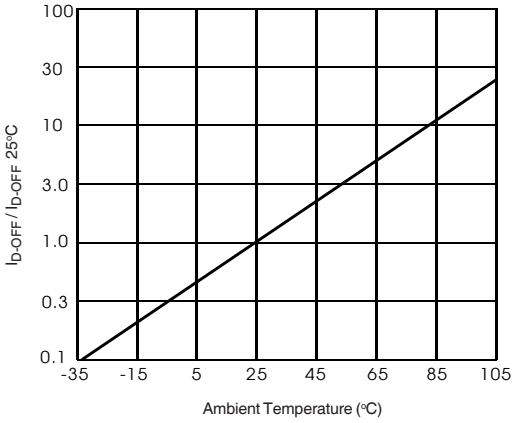


**Figure 5. Typical Normalized Off-State Leakage**

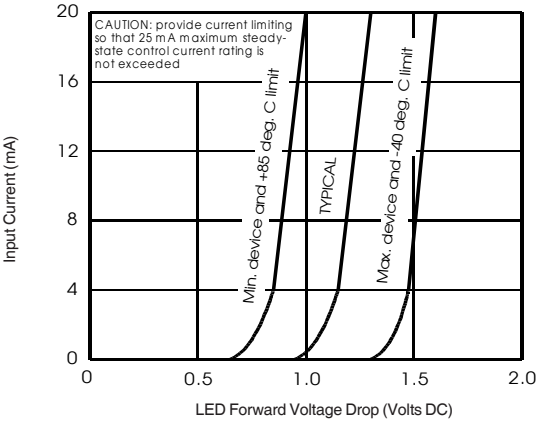


**Figure 6. Input Characteristics (Current Controlled)**

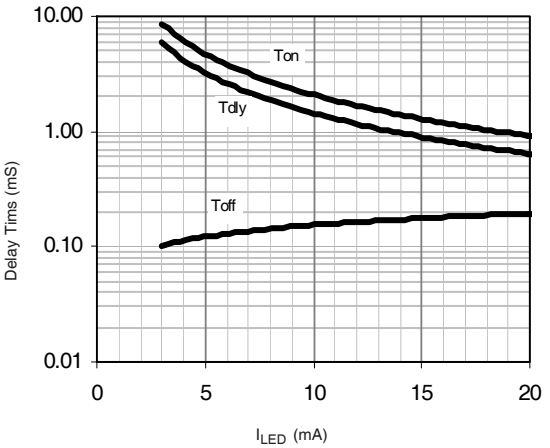


**Figure 7. Typical Delay Times**

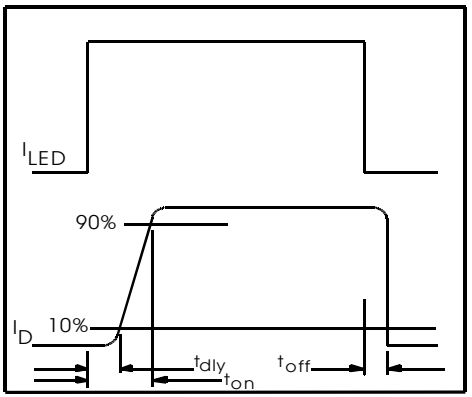


**Figure 8. Delay Time Definitions**



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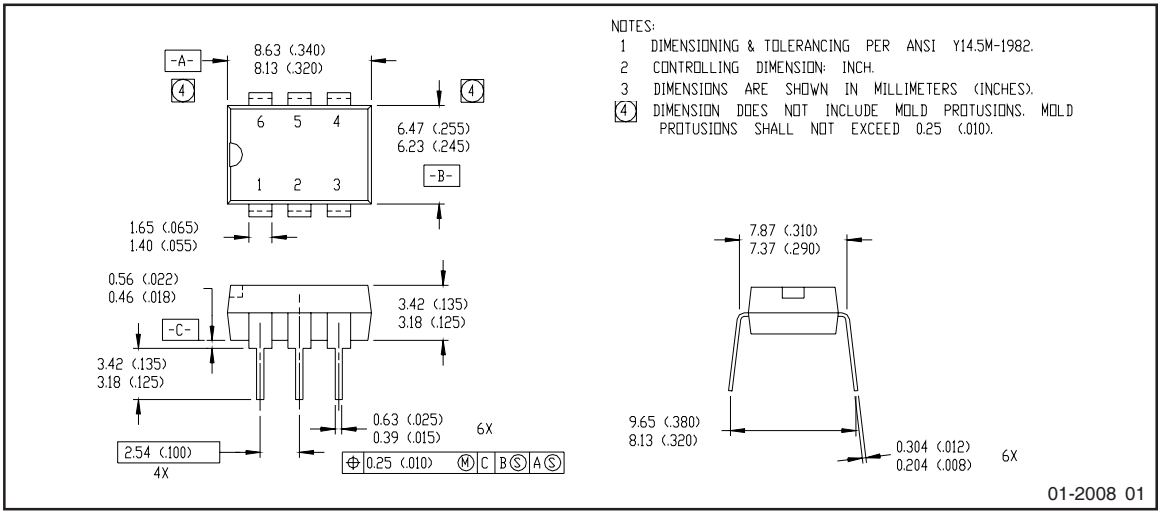
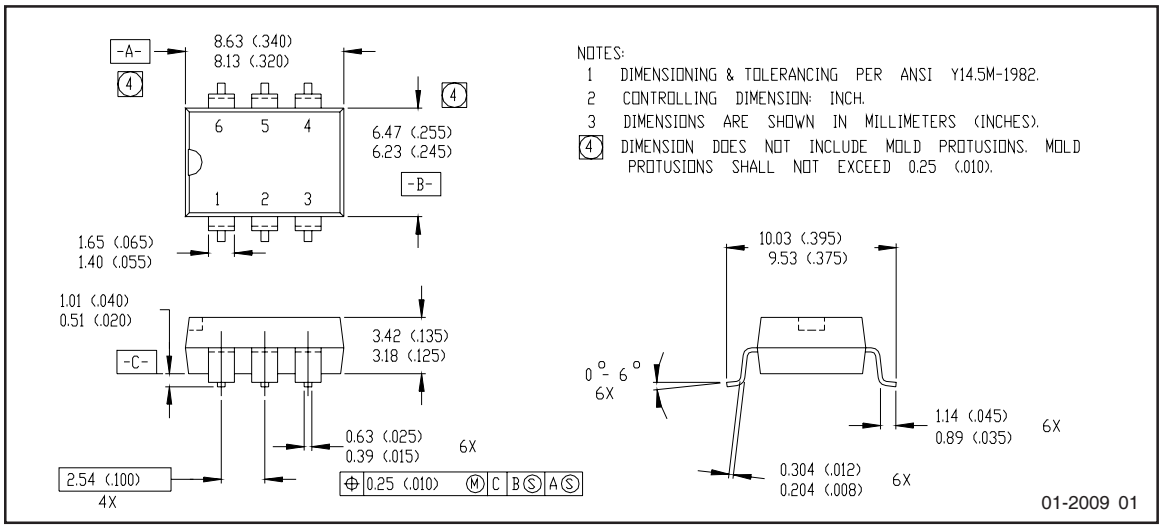
## Case Outlines




**Note: For the most current drawing please refer to IR website at:** http://www.irf.com/package/



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**Qualification information**†

| | | |
|---|---|---|
| Qualification level | Industrial (per JEDEC JESD47I †† guidelines) | |
| Moisture Sensitivity Level | PVG612APbF | N/A |
| | PVG612ASPbF | MSL4 (per JEDEC J-STD-020E & JEDEC J-STD-033C ††) |
| | PVG612AS-TPbF | |
| RoHS compliant | Yes | |

† Qualification standards can be found at International Rectifier's web site: http://www.irf.com/product-info/reliability
†† Applicable version of JEDEC standard at the time of product release

**Revision History**

| Date | Comments |
|---|---|
| 5/4/2015 | • Added Qualification Information Table on page 6<br>• Updated data sheet with new IR corporate template |

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