

## Electrical Specifications (-40°C ≤ T<sub>A</sub> ≤ +85°C unless otherwise specified)

| INPUT CHARACTERISTICS                                                | Limits    | Units |
|----------------------------------------------------------------------|-----------|-------|
| Minimum Input Current (see figure 1)                                 | 5.0       | mA    |
| Input Current Range (see figure 1)                                   | 3.0 to 25 | mA    |
| Maximum Continuous Input Current @ T <sub>A</sub> =+25°C             | 40        | mA    |
| LED Forward Voltage Drop @ 5mA, T <sub>A</sub> =+25°C (see figure 3) | 1.4       | V     |
| Maximum Reverse Voltage                                              | 6.0       | V     |
| Maximum Reverse Current @ -6V <sub>DC</sub> , T <sub>A</sub> =+25°C  | 10        | μA    |

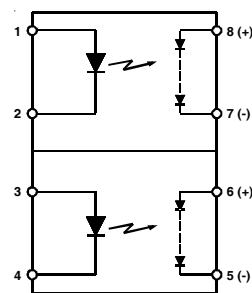
| OUTPUT CHARACTERISTICS  | Limits | Units            |
|-------------------------|--------|------------------|
| Minimum Forward Voltage | 8.0    | V <sub>DC</sub>  |
| Maximum Reverse Current | 10     | μA <sub>DC</sub> |

| COUPLED CHARACTERISTICS                                                                                                        | Limits | Units |
|--------------------------------------------------------------------------------------------------------------------------------|--------|-------|
| Minimum Output Voltage @ I <sub>LED</sub> = 5mA, R <sub>L</sub> = 10MΩ<br>@ T <sub>A</sub> =0°C to +70°C (see figures 1 and 2) | 3      | V     |
| Maximum Output Voltage @ I <sub>LED</sub> = 5mA, R <sub>L</sub> = 10MΩ<br>@ T <sub>A</sub> =0°C to +70°C (see figures 1 and 2) | 8      | V     |
| Maximum Voltage Differential Between Outputs<br>@ I <sub>LED</sub> = 5mA, R <sub>L</sub> = 10MΩ                                | 1.0    | V     |
| Typical Output Short-Circuit Current<br>@ I <sub>LED</sub> = 5mA, @ T <sub>A</sub> =+25°C (see figures 1 and 2)                | 1.0    | μA    |
| Maximum Turn-On Time @ I <sub>LED</sub> = 5mA, C <sub>LOAD</sub> = 200pF (see figure 4)                                        | 5      | ms    |
| Max. Turn-Off Time @ I <sub>LED</sub> = 5mA, C <sub>LOAD</sub> = 200pF (see figure 4)                                          | 0.25   | ms    |
| Off-State Clamping Resistance:                                                                                                 |        |       |
| minimum                                                                                                                        | 100    | Ω     |
| maximum                                                                                                                        | 3300   | Ω     |

| GENERAL CHARACTERISTICS                                                                              | Limits           | Units            |
|------------------------------------------------------------------------------------------------------|------------------|------------------|
| Minimum Dielectric Strength, Input-Output                                                            | 3750             | V <sub>RMS</sub> |
| Minimum Dielectric Strength, Output-to-Output                                                        | 1200             | V <sub>DC</sub>  |
| Minimum Insulation Resistance, Input-to-Output<br>@ T <sub>A</sub> =+25°C, 50%RH, 100V <sub>DC</sub> | 10 <sup>12</sup> | Ω                |
| Maximum Capacitance, Input-Output                                                                    | 5.0              | pF               |
| Maximum Pin Soldering Temperature (10 seconds maximum)                                               | +260             | °C               |
| Ambient Temperature Range:                                                                           |                  |                  |
| Operating                                                                                            | -40 to +85       | °C               |
| Storage                                                                                              | -40 to +125      | °C               |

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



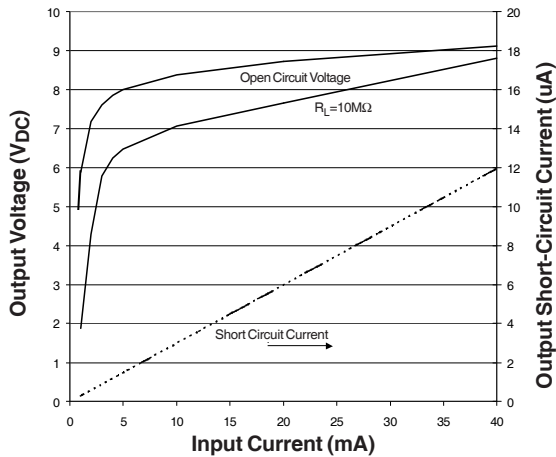


Figure 1. Typical Output Characteristics

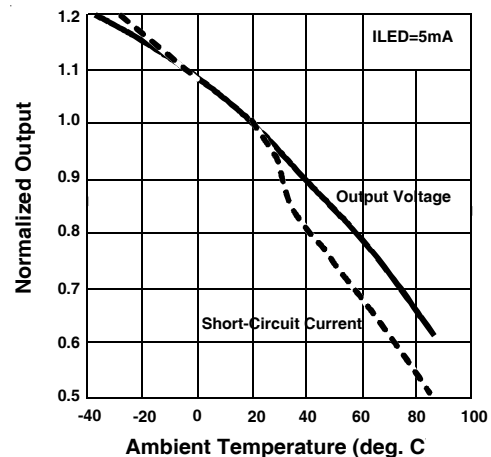


Figure 2. Typical Variation of Output

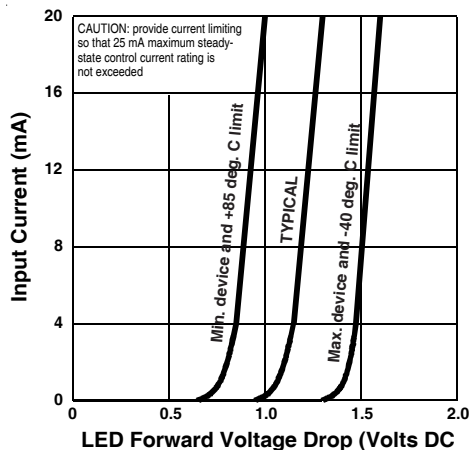


Figure 3. Input Characteristics (Current Controlled)

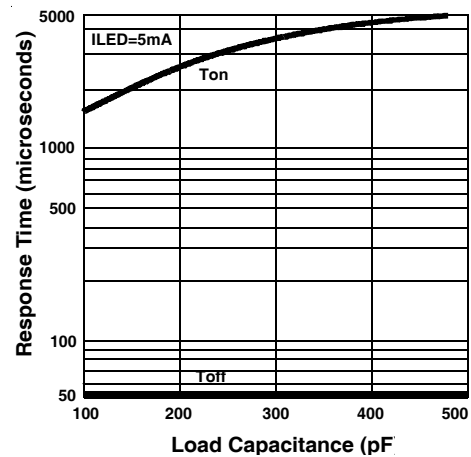
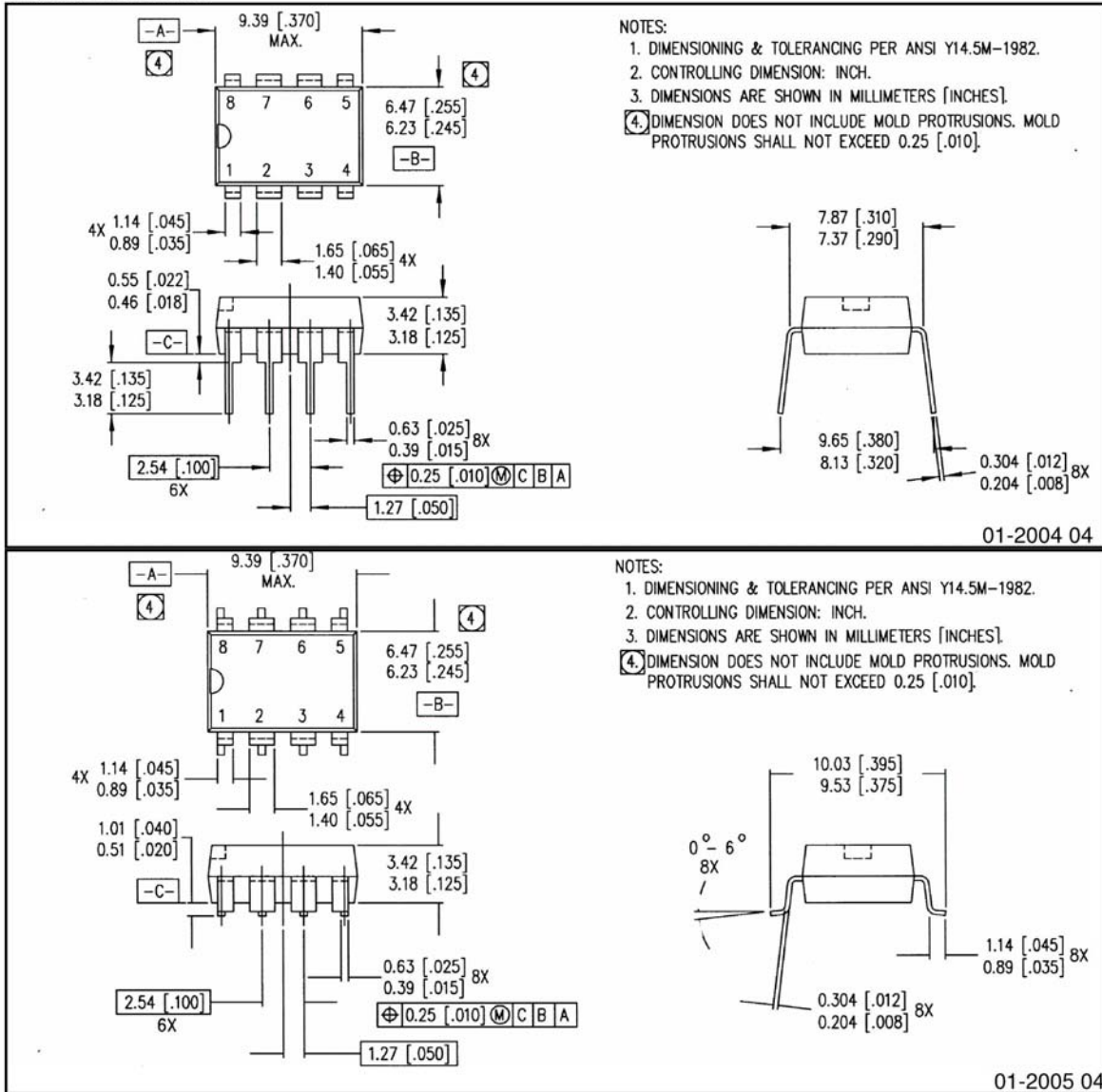


Figure 4. Typical Response Time

## Case Outlines



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

**Qualification information<sup>†</sup>**

|                            |                                                          |                                                          |
|----------------------------|----------------------------------------------------------|----------------------------------------------------------|
| Qualification level        | Indusrid<br>(per JEDEC JESD47I <sup>††</sup> guidelines) |                                                          |
| Moisture Sensitivity Level | PVI5013RPbF                                              | N/A                                                      |
|                            | PVI5013RSPbF                                             | MSL4                                                     |
|                            | PVI5013RS-TPbF                                           | (per JEDEC J-STD-020E & JEDEC J-STD-033C <sup>††</sup> ) |
| 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      | Comment                                                                                                                                                     |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4/24/2015 | <ul style="list-style-type: none"> <li>Added Qualification Information table on page 5.</li> <li>Updated data sheet based on corporate template.</li> </ul> |

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