

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

| INPUT CHARACTERISTICS                                    | PVI Series | Units                    |
|----------------------------------------------------------|------------|--------------------------|
| Input Current Range (see figure 4)                       | 2.0 to 50  | mA (DC)                  |
| Maximum Forward Voltage Drop @ 10mA, 25°C (see figure 5) | 1.4        | V (DC)                   |
| Maximum Reverse Voltage                                  | 6.0        | V(DC)                    |
| Maximum Reverse Current @ -6.0V (DC), 25°C               | 100        | $\mu\text{A}(\text{DC})$ |
| Maximum Pulsed Input Current @ 25°C (see figure 6)       | 1.0        | A(peak)                  |

| OUTPUT CHARACTERISTICS                     | PVI Series      | Units                    |
|--------------------------------------------|-----------------|--------------------------|
| Maximum Forward Voltage @ 10 $\mu\text{A}$ | 8.0 per channel | V(DC)                    |
| Maximum Reverse Current @ -10VDC           | 10              | $\mu\text{A}(\text{DC})$ |

| COUPLED CHARACTERISTICS                                                                                                                                                      | PVI5050N | PVI5080N | PVI1050N                    | Units                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------------------------|--------------------------|
| Minimum Open Circuit Voltage @ ILED = 10mA, 25°C, $R_L = >10\text{M}\Omega$ (see figures 1 to 2)                                                                             | 5.0      |          | 5.0/channel<br>10 series    | V (DC)                   |
| Minimum Short Circuit Current @ ILED = 10mA, 25°C (see figures 1 to 2)                                                                                                       | 5.0      | 8.0      | 5.0 /channel<br>10 parallel | $\mu\text{A}(\text{DC})$ |
| Maximum Capacitance (Input/Output)                                                                                                                                           | 1.0      |          | 2.0                         | pF                       |
| Maximum Ton Time @ ILED=10mA, CLOAD=10pF (See Figure7)<br><div>RL&gt;20M<math>\Omega</math></div> <div>RL=10M<math>\Omega</math></div> <div>RL=4.7M<math>\Omega</math></div> | 300      |          |                             | $\mu\text{S}$            |
|                                                                                                                                                                              | 160      |          |                             | $\mu\text{S}$            |
|                                                                                                                                                                              | 90       |          |                             | $\mu\text{S}$            |
| Maximum Toff Time @ ILED=10mA, CLOAD=10pF (See Figure7)                                                                                                                      | 220      |          |                             | $\mu\text{S}$            |

| GENERAL CHARACTERISTICS                                                                                  | PVI5050N/5080N | PVI1050N | Units              |
|----------------------------------------------------------------------------------------------------------|----------------|----------|--------------------|
| Min. Dielectric Strength, Input-Output                                                                   | 4000           | 2500     | $V_{\text{RMS}}$   |
| Min. Dielectric Strength, Output-to-Output                                                               | 1200           |          | $V_{\text{DC}}$    |
| Min. Insulation Resistance, Input-to-Output<br>@ $T_A = +25^{\circ}\text{C}$ , 50%RH, 100V <sub>DC</sub> | $10^{12}$      |          | $\Omega$           |
| Max. Pin Soldering Temperature (10 seconds max.)                                                         | +260           |          | $^{\circ}\text{C}$ |
| Ambient Temperature Range:    Operating                                                                  | -40 to +85     |          | $^{\circ}\text{C}$ |
|                                                                                                          | Storage        |          | $^{\circ}\text{C}$ |

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.

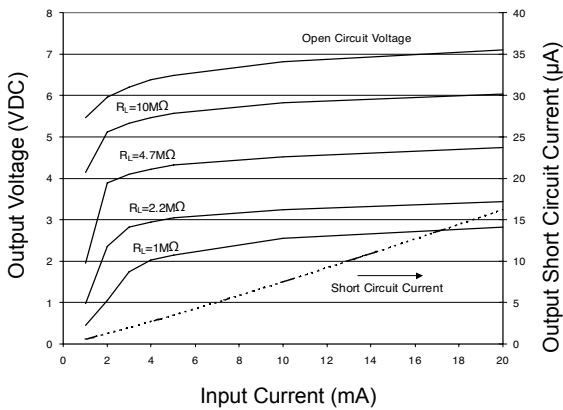


Figure 1. PVI5050N, PVI1050N Typical Output Characteristics

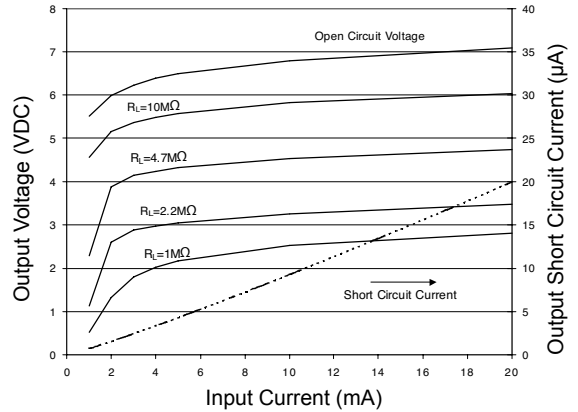


Figure 2. PVI5080N Typical Output Characteristics

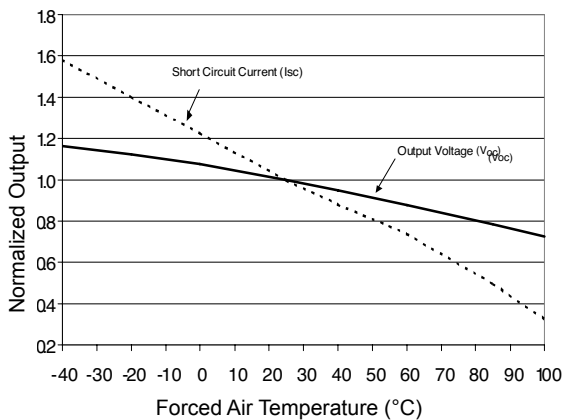


Figure 3. Typical Variation of Output

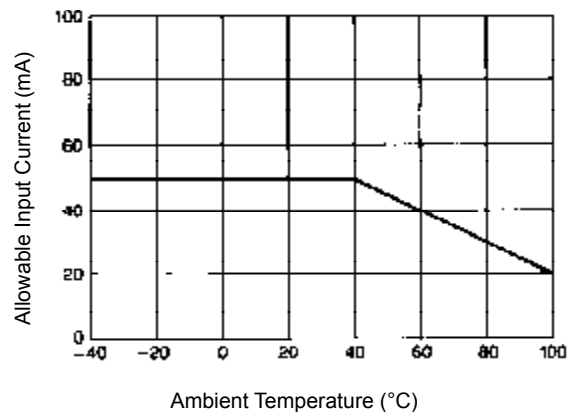


Figure 4. Input Current Derating

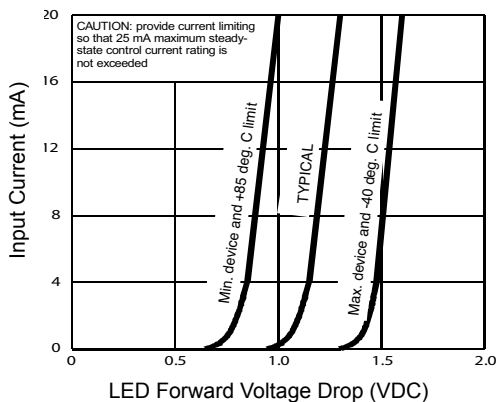


Figure 5. Input Characteristics

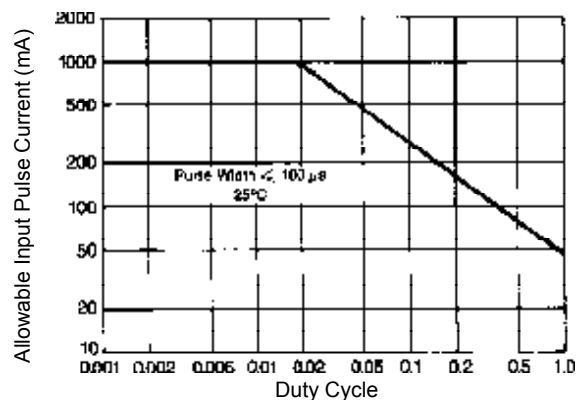
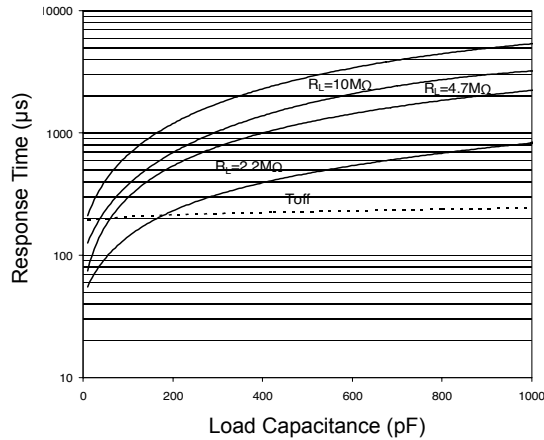
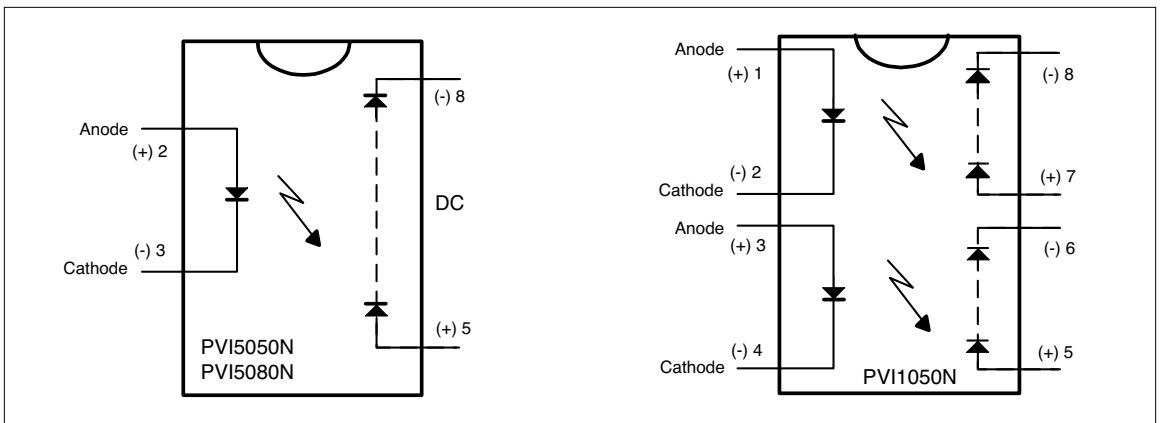


Figure 6. Input Pulse Capability



**Figure 7. Typical Response Time**

## Wiring Diagram

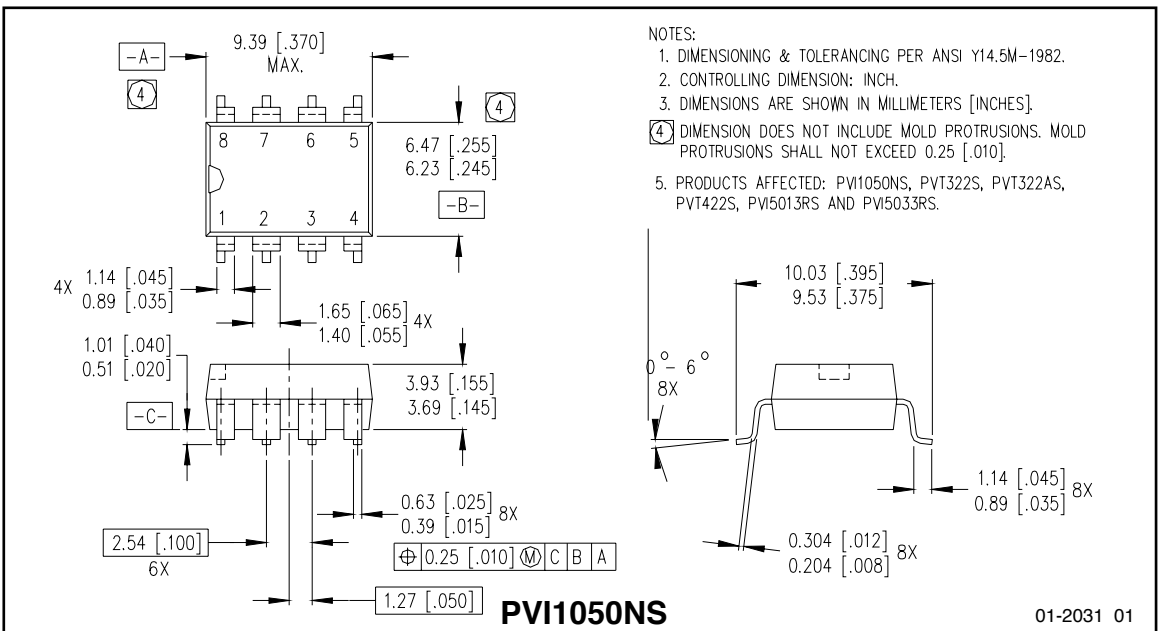
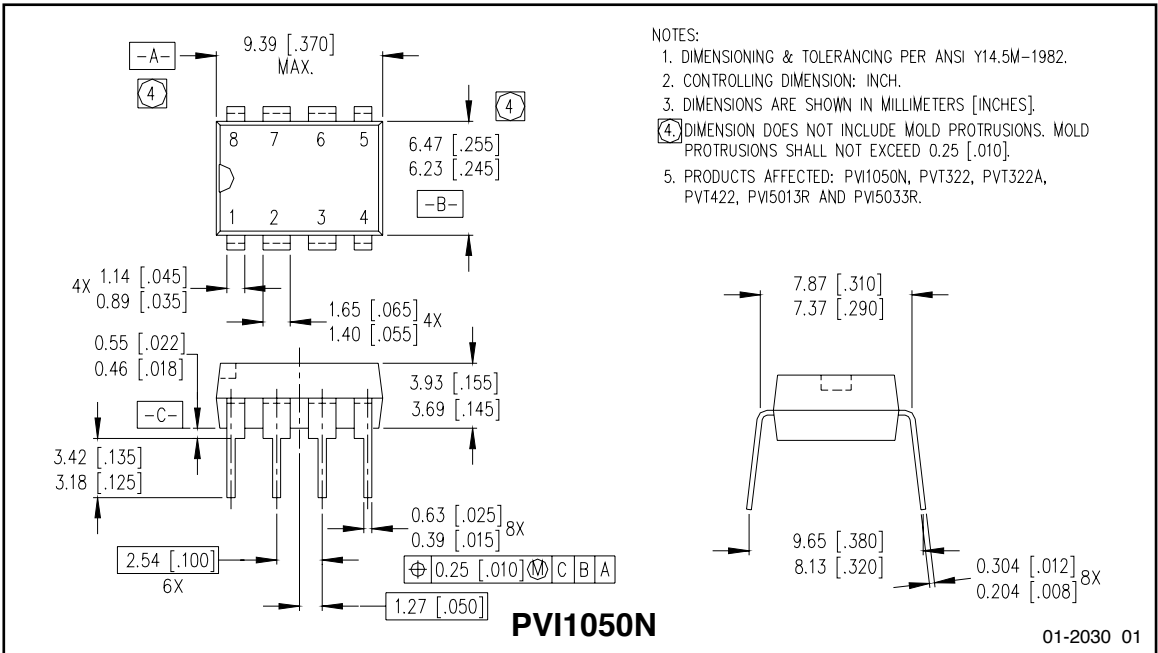


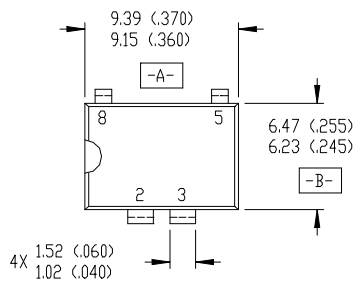
## Application Note:

The outputs of the PVI1050N (pins 5-6 and 7-8) may be placed in series connection to produce a 10-volt output with a 5μA minimum short circuit current. Alternatively, the two outputs of the PVI1050 may be connected in parallel to produce a 5.0-volt output with a 10μA minimum short circuit current.

The two outputs of the PVI1050N may be applied separately with a maximum 1200VDC between the outputs. Input-to-output isolation to either output is 2500V (RMS).

## Case Outlines

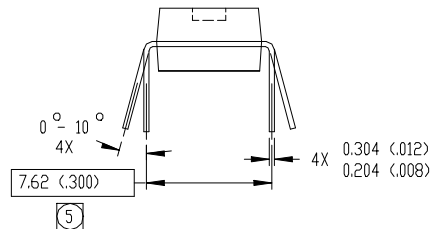
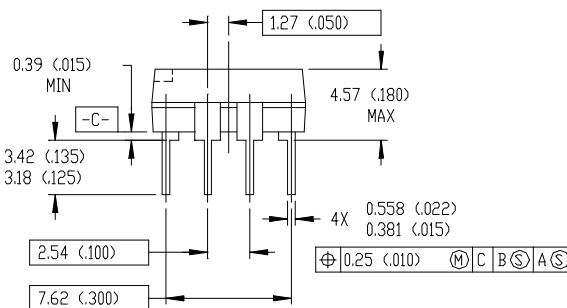




NOTES:

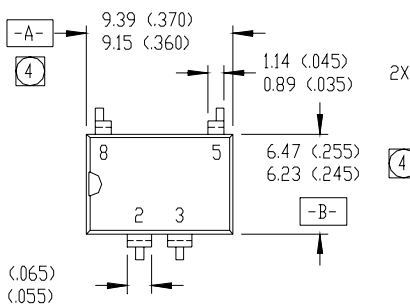
1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M-1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
4. OUTLINE CONFORMS TO JEDEC OUTLINE MS-001AB.

⑤ MEASURED WITH THE LEADS CONSTRAINED TO BE PERPENDICULAR TO DATUM PLANE C.



PVI5050N/PVI5080N

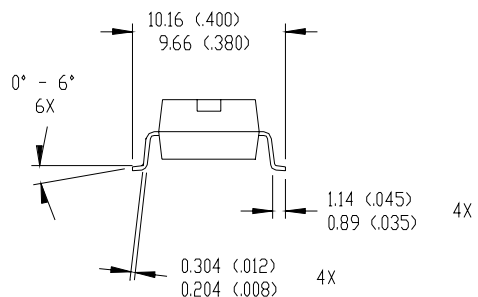
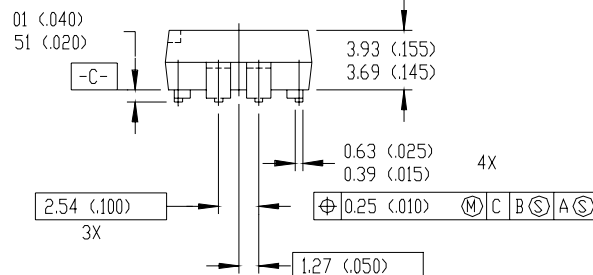
01-2013 00 (MS-001AB)



NOTES:

1. DIMENSIONING & TOLERANCING PER ANSI Y14.5M-1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).

④ DIMENSION DOES NOT INCLUDE MOLD PROTUSIONS. MOLD PROTUSIONS SHALL NOT EXCEED 0.25 (.010).



PVI5050NS/PVI5080NS

01-2019 00

Data and specifications subject to change without notice. 2/2008