

Photovoltaic Isolator Solid-State Opto-Isolated MOSFET Gate Driver Dual-Channel, 5V, 5 μ A

General Description

The PVI5033R Photovoltaic Isolator is a dual-channel, opto-isolated driver capable of directly driving gates of power MOSFETs or IGBTs. It utilizes a monolithic integrated circuit photovoltaic generator of novel construction as its output. The output is controlled by radiation from a GaAlAs light emitting diode (LED) which is optically isolated from the photovoltaic generator.

The PVI5033R is ideally suited for applications requiring high-current and/or high voltage switching with optical isolation between the low-level driving circuitry and high-energy or high-voltage load circuits. It can be used for directly driving gates of power MOSFETs. The dual-channel configuration allows its outputs to drive independent discrete power MOSFETs, or be connected in parallel or in series to provide higher-current drive for power MOSFETs or higher-voltage drive for IGBTs. PVI5033R employs a fast turn-off circuitry.

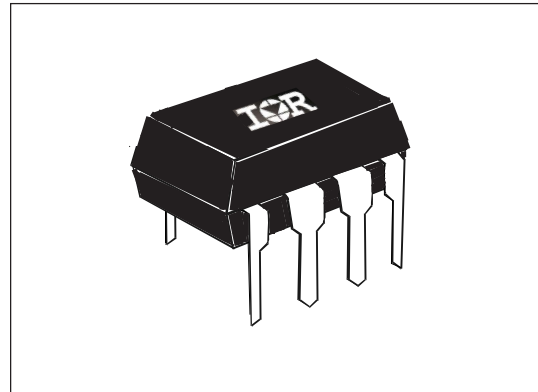
PVI5033R Photovoltaic Isolators are packaged in an 8-pin, molded DIP package with either thru-hole or "gull-wing" terminals. It is available in standard plastic shipping tubes or on tape-and-reel. Refer to Part Identification information.

Applications

- Telecommunications
- Load Distribution
- Industrial Controls
- Instrumentation and Measurement
- Electronic Ballast

Features

- Monolithic construction
- 3,750 V_{RMS} I/O isolation
- 1,200 V_{DC} output-to-output isolation
- Dual-Channel application flexibility
- Solid-State Reliability
- UL Recognized



Part Identification

PVI5033RPBFHKL A1	thru-hole
PVI5033RSPbF	SMT
PVI5033RSTPBFHUMA1	SMT, Tape and Reel

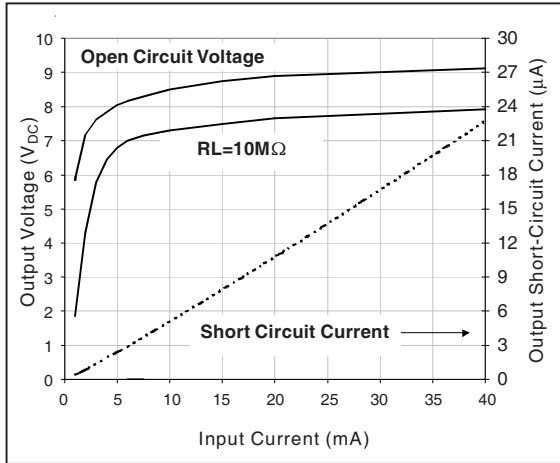


Figure 1. Typical Output Characteristics

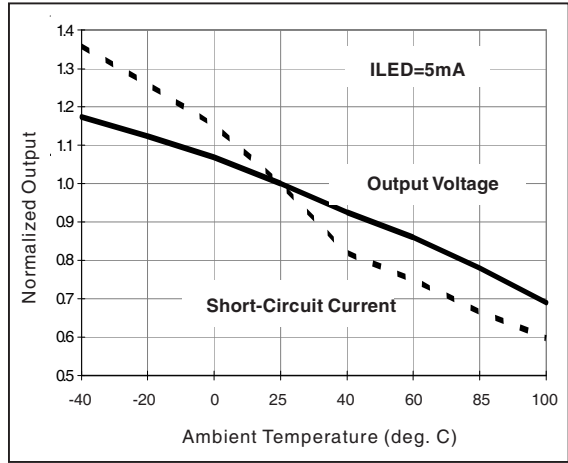


Figure 2. Typical Variation of Output

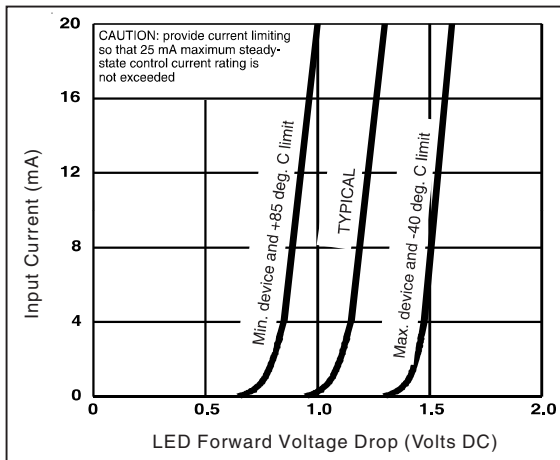


Figure 3. Input Characteristics (Current Controlled)

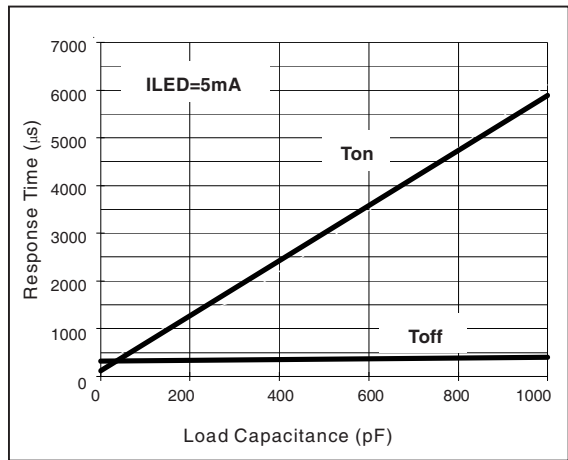
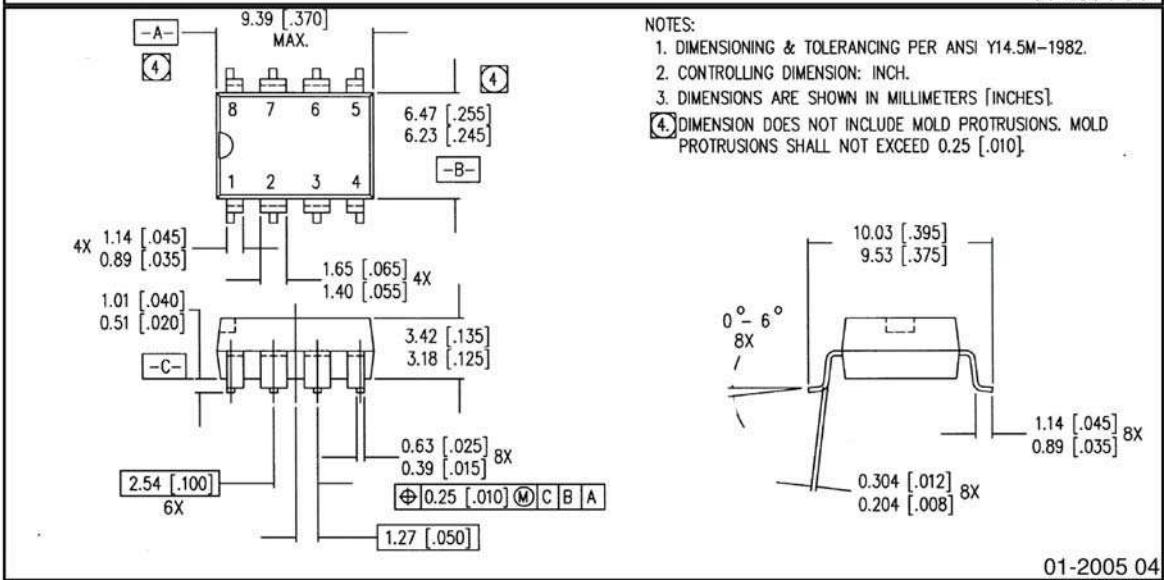
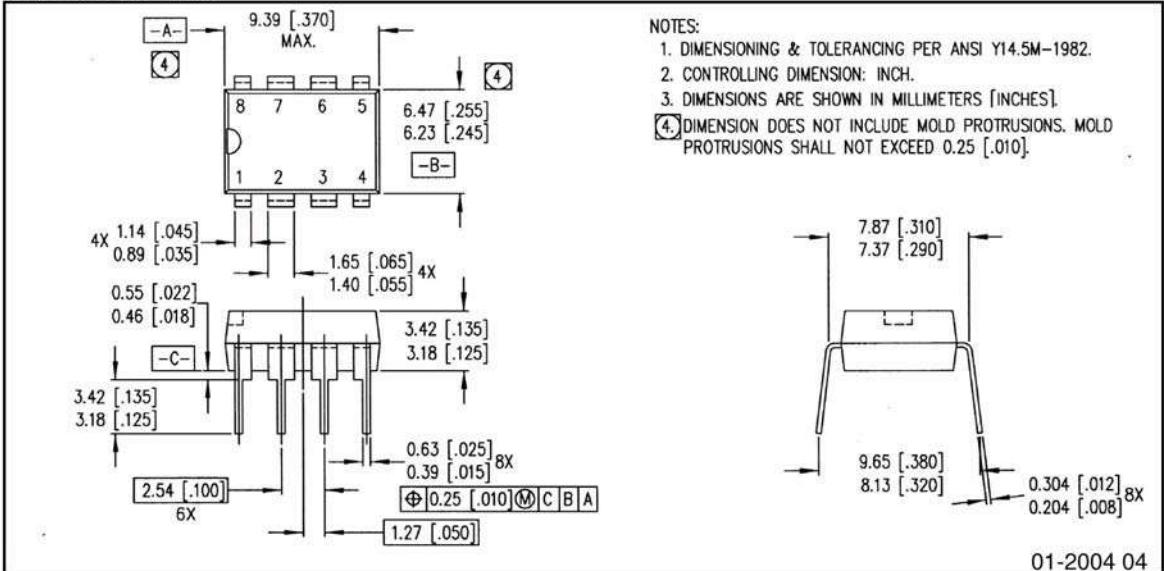


Figure 4. Typical Response Time

Case Outlines



Qualification information

Qualification level	Industrial (per JEDEC JESD47F [†] guidelines)	
Moisture Sensitivity Level	PVI5033RPBFHKL1	N/A
	PVI5033RSPbF	MSL4
	PVI5033RSTPBFUMA1	(per JEDEC J-STD-020E & JEDEC J-STD-033C) [†]
RoHS compliant	Yes	

[†] Applicable version of JEDEC standard at the time of product release.

Revision History

Date	Comment
24/05/2015	<ul style="list-style-type: none"> Added Qualification Information table on page 5. Updated data sheet based on corporate template.
12/06/2023	<ul style="list-style-type: none"> Updated data sheet OPNs.



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