# International **ICR** Rectifier

#### Data Sheet No. PD10042C

# Series PVT322

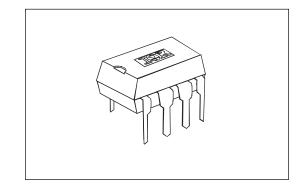
**Microelectronic Power IC** HEXFET<sup>®</sup> Power MOSFET Photovoltaic Relay Dual Pole, Normally Open 0-250V, 170mA AC/DC

### **General Description**

The PVT322 Series Photovoltaic Relay is a dualpole, normally open solid-state relay that can replace electromechanical relays in many applications. It utilizes International Rectifier's HEXFET power MOSFET as the output switch, driven by an integrated circuit photovoltaic generator of novel construction. The output switch is controlled by radiation from a GaAIAs light emitting diode (LED) which is optically isolated from the photovoltaic generator. Series PVT322 Relays are packaged in an 8-pin, molded DIP package with either through-hole or surface mount (gull-wing) terminals. It is available in standard plastic shipping tubes or on tape-andreel. Please refer to Part Identification information opposite.

#### Features

- **HEXFET Power MOSFET output**
- Bounce-free operation
- 4,000  $V_{\mbox{\tiny RMS}}$  I/O isolation Linear AC/DC operation
- Solid-State Reliability
- UL recognized and BABT certified



### Applications

- On/Off Hook switch
- Tip and Ring Line switching
- General switching

### Part Identification

PVT322	thru-hole
PVT322S	SMT
PVT322S-T	SMT, T&R

(HEXFET is the registered trademark for International Rectifier Power MOSFETs)

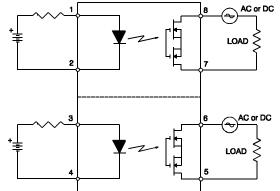
# **Electrical Specifications** (-40°C $\leq$ T\_A $\leq$ +85°C unless otherwise specified)

INPUT CHARACTERISTICS	RISTICS Limits	
Minimum Control Current (See figure1)	2.0	mA
Maximum Control Current for Off-State Resistance @TA=+25°C	0.4	mA
Control Current Range (Caution: current limit input LED, see figure 5)	2.0 to 25	mA
Maximum Reverse Voltage	7.0	V

OUTPUT CHARACTERISTICS	Limits	Units
Operating Voltage Range	0 to ±250	V(DC or AC peak)
Maximum Load Current @ T <sub>A</sub> =+40°C		
5mA Control (See figure 1) (single and dual channel operation)	170	mA
Maximum Peak Load Current (10ms maximum duration)		
(single and dual channel operation)	500	mA
Maximum On-State Resistance @T <sub>A</sub> =+25°C		
For 50mA Pulsed load, 5mA Control (see figure 3)	10	Ω
Maximum Off-State Leakage @T <sub>A</sub> =+25°C, ±250V (see figure 4)	1.0	μΑ
Maximum Turn-On Time @T <sub>A</sub> =+25°C (see figure 6)	3.0	ms
For 50mA, 100 V <sub>DC</sub> load, 5mA Control		
Maximum Turn-Off Time @T <sub>A</sub> =+25°C (see figure 6)	0.5	ms
For 50mA, 100 V <sub>DC</sub> load, 5mA Control		
Maximum Output Capacitance @ 50V <sub>DC</sub>	50	pF

GENERAL CHARACTERISTICS		Limits	Units
Minimum Dielectric Strength, Input-Output		4000	V <sub>RMS</sub>
Minimum Dielectric Strength, Pole-to-Pole		1000	V <sub>DC</sub>
Minimum Insulation Resistance, Input-Output, @T <sub>A</sub> =+25°C, 50%RH, 100V <sub>DC</sub>		10 <sup>12</sup>	Ω
Maximum Capacitance, Input-Output		1.0	pF
Maximum Pin Soldering Temperature (10 sec	conds maximum)	+260	
Ambient Temperature Range:	Operating	-40 to +85	°C
	Storage	-40 to +100	

# **Connection Diagram**



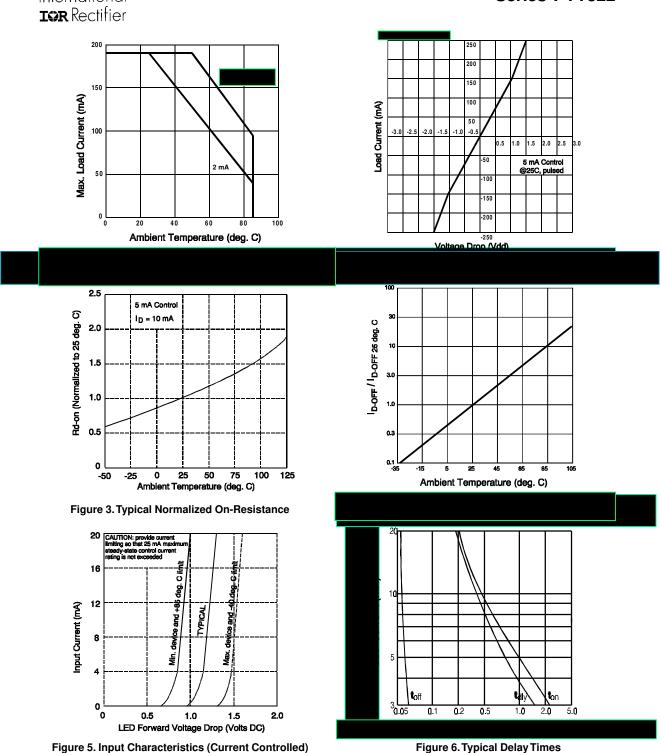


Figure 5. Input Characteristics (Current Controlled)

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### International **TOR** Rectifier

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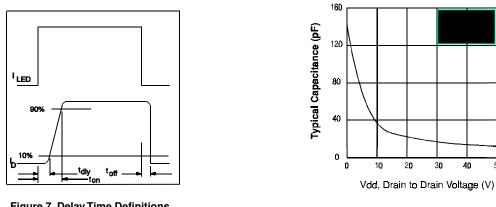
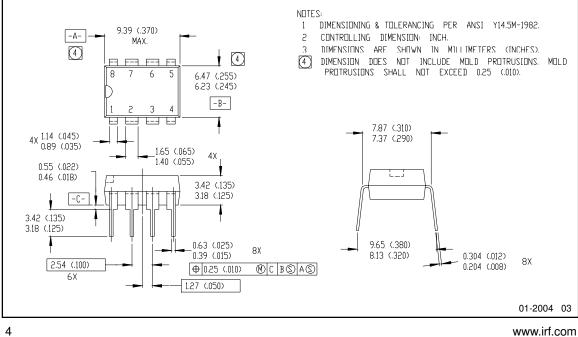


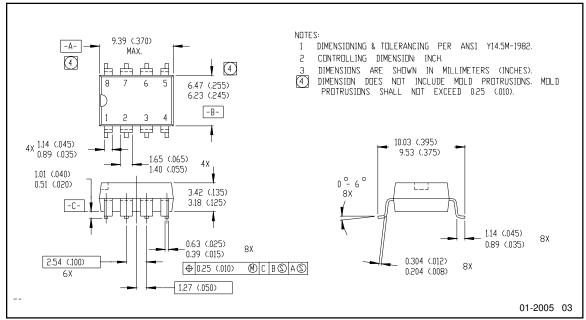
Figure 7. Delay Time Definitions

Figure 8. Typical Output Capacitance

### **Case Outlines**



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#### **Case Outlines**

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