

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

INPUT CHARACTERISTICS	Limits	Units
Minimum Control Current (see figure 1)	3.0	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)	3.0 to 25	mA
Maximum Reverse Voltage	6.0	V

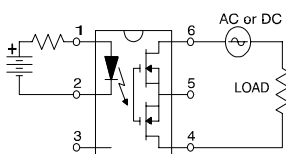
OUTPUT CHARACTERISTICS	Limits	Units
Operating Voltage Range	0 to ±20	V(DC or AC peak)
Maximum Continuous Load Current @ T _A =+40°C, 5mA Control (see figure 1)		
A Connection	2.5	A (DC or AC)
B Connection	3.0	A (DC)
C Connection	4.5	A (DC)
Maximum Pulsed Load Current @ T _A =+25°C, (100 ms @ 10% duty cycle)		
A Connection	6.0	A (DC or AC)
Maximum On-State Resistance @ T _A =+25°C, for 1A pulsed load, 5mA Control (see figure 4)		
A Connection	100	mΩ
B Connection	65	
C Connection	40	
Maximum Off-State Leakage @ T _A =+25°C, ±16V _{DC}	10	nA
Maximum Turn-On Time @ T _A =+25°C (see figure 7), for 1A, 20 V _{DC} load, 5mA Control	5.0	ms
Maximum Turn-Off Time @ T _A =+25°C (see figure 7), for 1A, 20 V _{DC} load, 5mA Control	0.5	ms
Maximum Output Capacitance @ 20V _{DC} (see figure 2)	300	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	

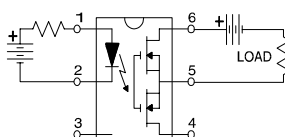
International Rectifier does not recommend the use of this product in aerospace, avionics, military or life support applications. Users of this International Rectifier product in such applications assume all risks of such use and indemnify International Rectifier against all damages resulting from such use.

Connection Diagrams

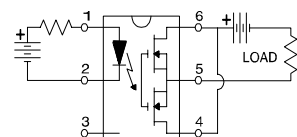
"A" Connection



"B" Connection



"C" Connection



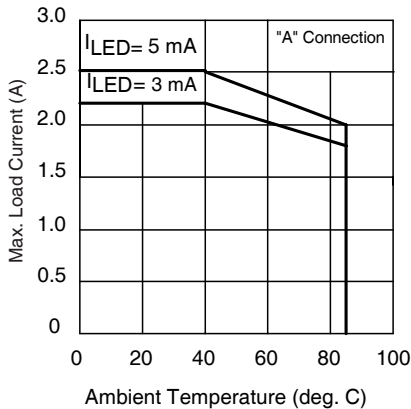


Figure 1. Current Derating Curves*

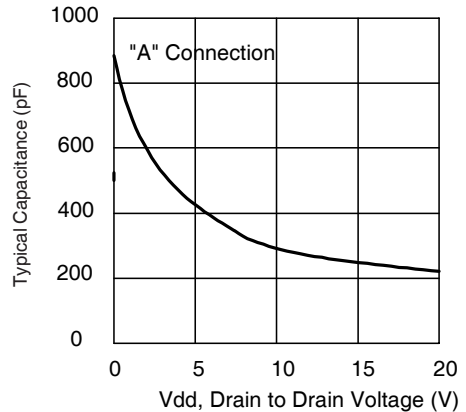
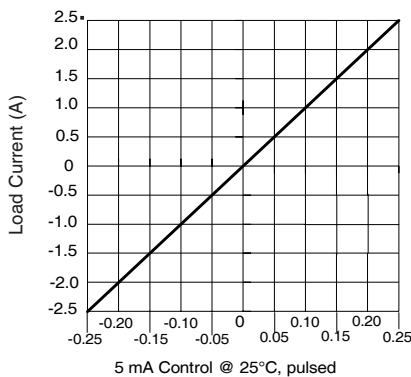


Figure 2. Typical Output Capacitance

* Derating of 'B' and 'C' connection at +85°C will be 70% of that specified at +40°C and is linear from +40°C to +85°C.



Connection "A" Voltage Drop (Vdd)
Figure 3. Linearity Characteristics

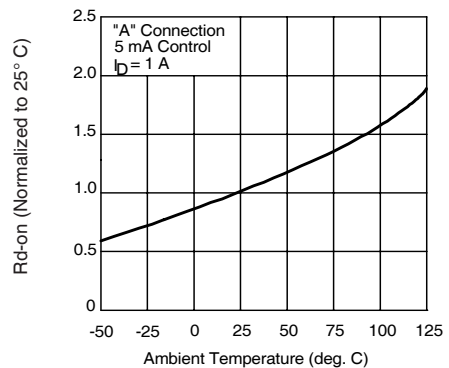


Figure 4. Typical Normalized On-Resistance

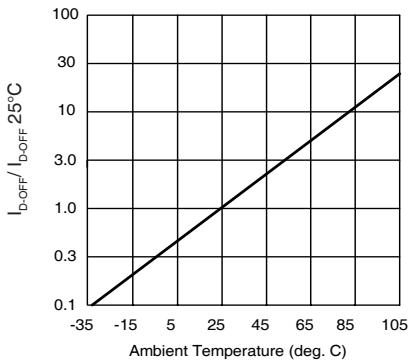


Figure 5. Typical Normalized Off-State Leakage

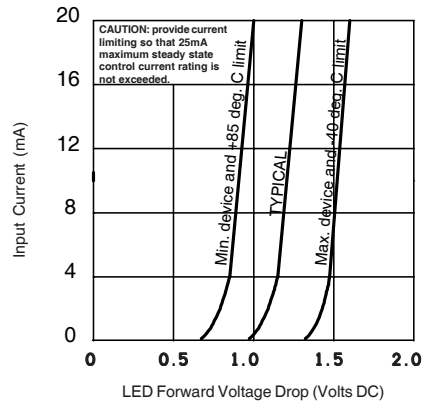


Figure 6. Input Characteristics (Current Controlled)

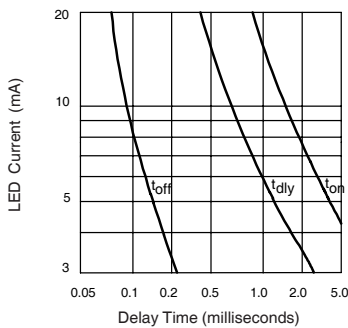


Figure 7. Typical Delay Times

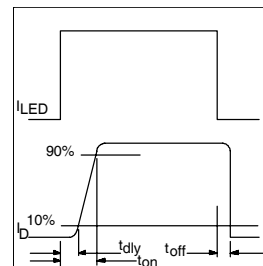
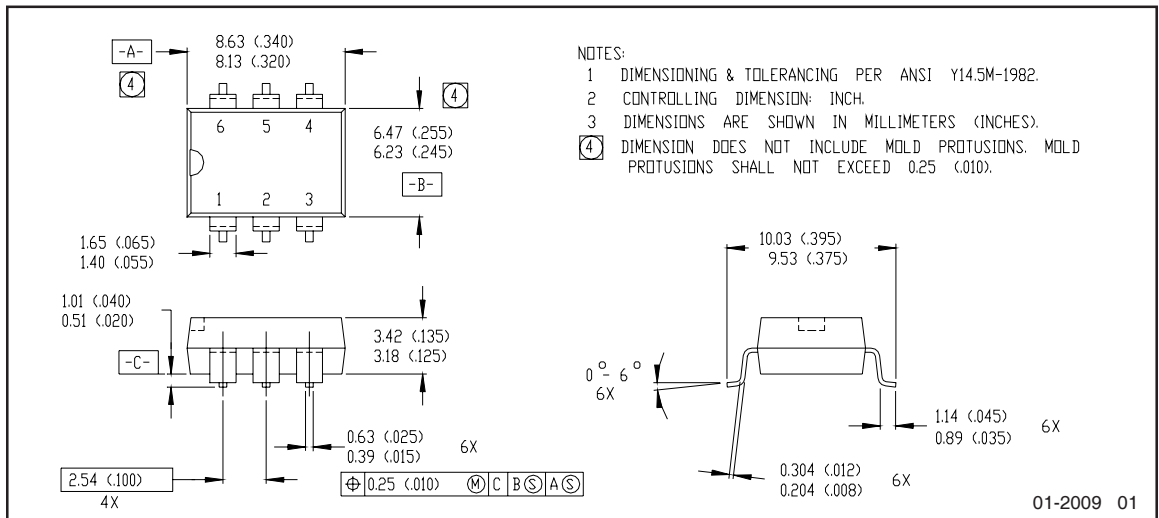
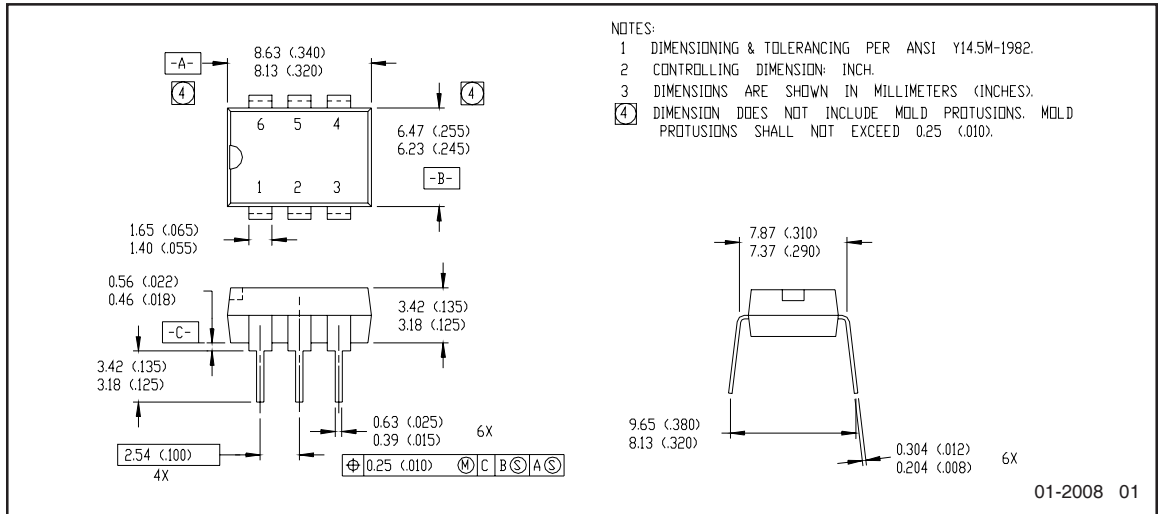


Figure 8. Delay Time Definitions

Case Outlines



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

Qualification information[†]

Qualification level	Industrial (per JEDEC JESD471 ^{††} guidelines)	
Moisture Sensitivity Level	PVN013PbF	N/A
	PVN013SPbF	MSL4
	PVN013S-TPbF	(per JEDEC J-STD-020E & JEDEC J-STD-033C ^{††})
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
5/11/2015	- Added Qualification Information Table on page 6 - Updated data sheet with new IR corporate template

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Data and specifications subject to change without notice

To contact International Rectifier, please visit <http://www.irf.com/whoto-call/>