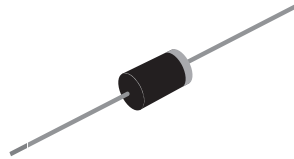


## General Purpose Plastic Rectifier



DO-201AD

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	200 A
$I_R$	5.0 $\mu$ A
$V_F$	1.2 V
$T_j$ max.	150 °C

### FEATURES

- Low forward voltage drop
- Low leakage current,  $I_R$  less than 0.1  $\mu$ A
- High forward surge capability
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



### TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes application.

(Note: These devices are not Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

### MECHANICAL DATA

**Case:** DO-201AD, molded epoxy body

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

**Polarity:** Color band denotes cathode end

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)									
PARAMETER	SYMBOL	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	200							A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 50 to + 150							°C

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNIT
Maximum instantaneous forward voltage	at 3.0 A	$V_F$				1.2				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	$I_R$				5.0 25				$\mu\text{A}$
Typical reverse recovery time	at $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$				2.0				$\mu\text{s}$
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$				30				pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	SYMBOL	P300A	P300B	P300D	P300G	P300J	P300K	P300M	UNIT	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$				20 5.0				$^\circ\text{C/W}$	

**Note:**

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. mounted with 0.8 x 0.8" (20 x 20 mm) copper heatsinks

<b>ORDERING INFORMATION</b>				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
P300J-E3/54	1.1	54	1400	13" Diameter Paper Tape & Reel
P300J-E3/73	1.1	73	1000	Ammo Pack Packaging

## RATINGS AND CHARACTERISTICS CURVES

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

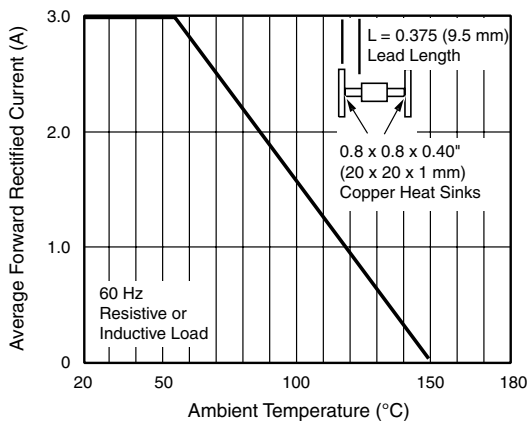


Figure 1. Forward Current Derating Curve

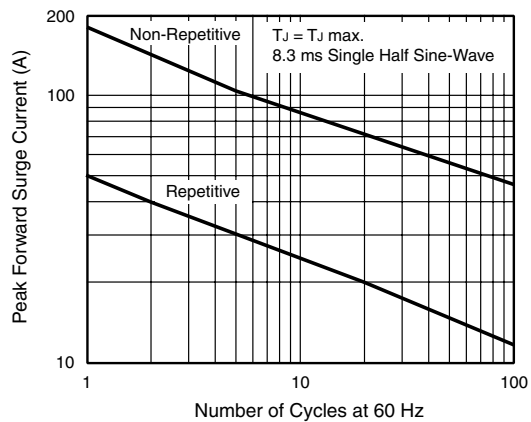


Figure 2. Maximum Peak Forward Surge Current

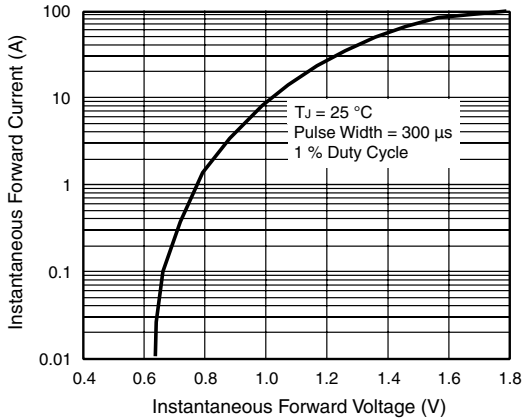


Figure 3. Typical Instantaneous Forward Characteristics

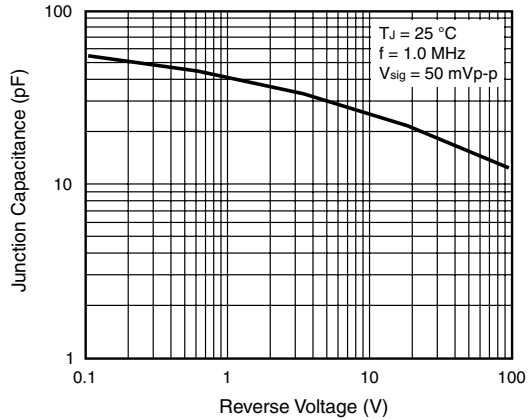


Figure 5. Typical Junction Capacitance Per Leg

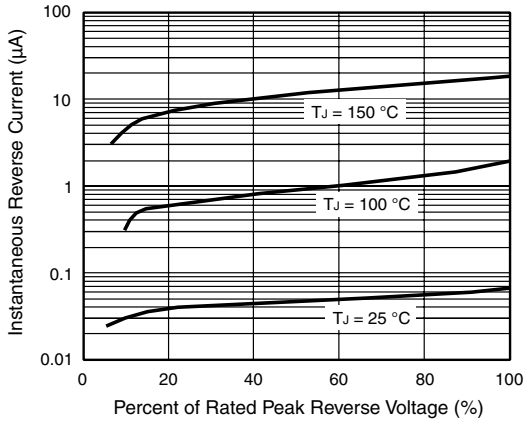


Figure 4. Typical Reverse Characteristics

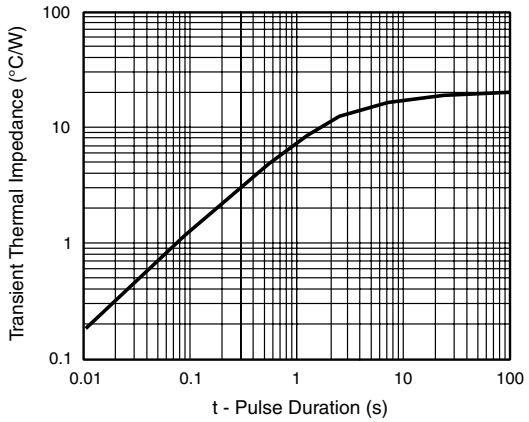
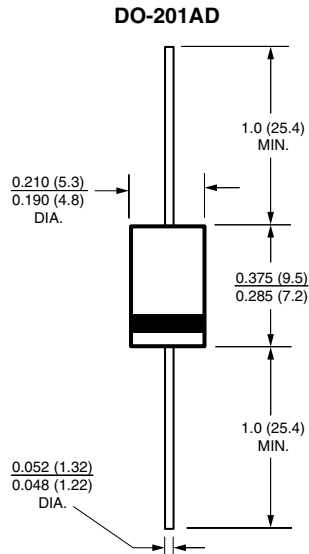


Figure 6. Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.