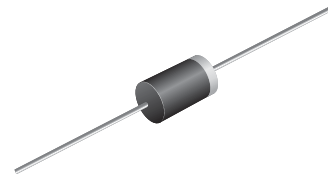




## General Purpose Plastic Rectifier

### 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



DO-201AD

### 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



### 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

### 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.)

### Maximum Ratings

( $T_A = 25$  °C unless otherwise noted)

Parameter	Symbols	P300A	P300B	P300D	P300G	P300J	P300K	P300M	Units
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

# P300A thru P300M



Vishay General Semiconductor

## Electrical Characteristics

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

Parameter	Test condition	Symbols	P300A	P300B	P300D	P300G	P300J	P300K	P300M	Units
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

## Thermal Characteristics

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

Parameter	Symbols	P300A	P300B	P300D	P300G	P300J	P300K	P300M	Units
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$				20 5.0				$^\circ\text{C/W}$

Notes:

(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

## Ratings and Characteristics Curves

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

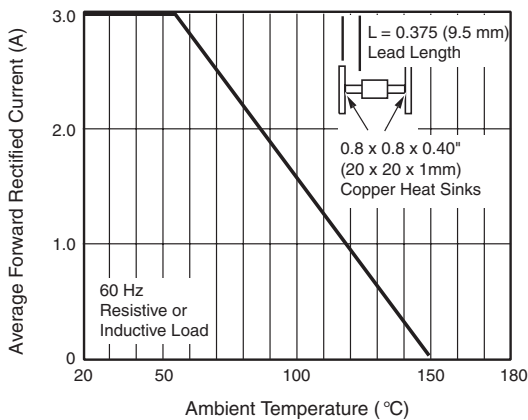


Figure 1. Forward Current Derating Curve

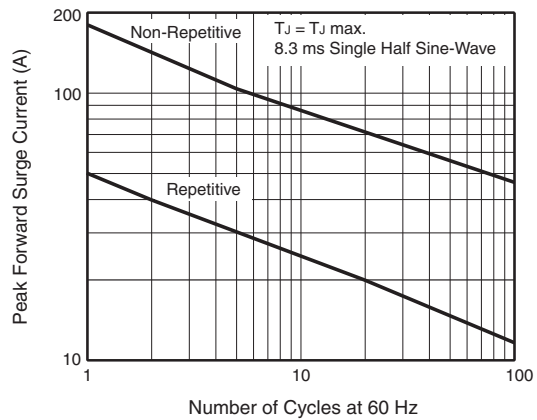


Figure 2. Maximum Peak Forward Surge Current

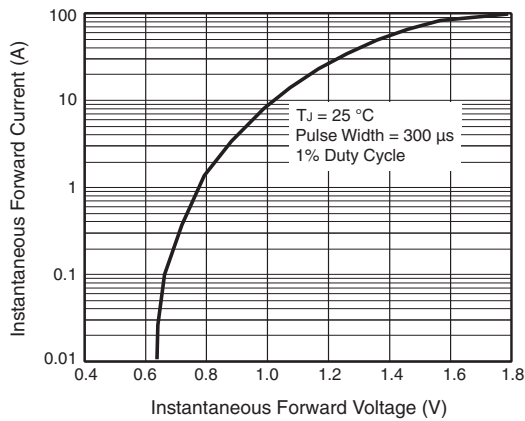


Figure 3. Typical Instantaneous Forward Characteristics

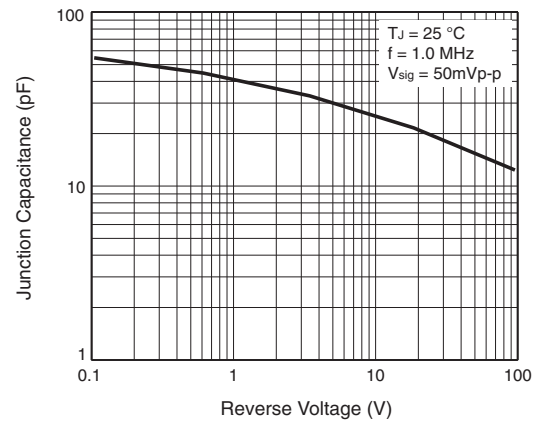


Figure 5. Typical Junction Capacitance Per Leg

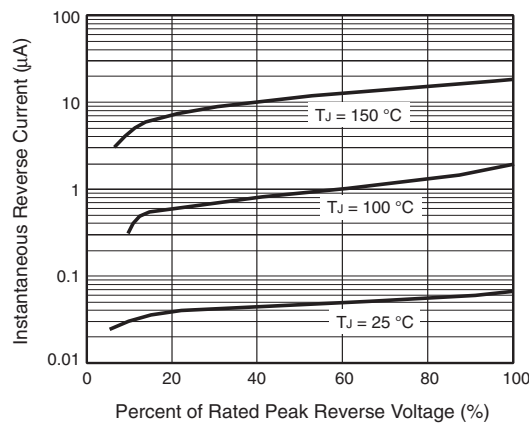


Figure 4. Typical Reverse Characteristics

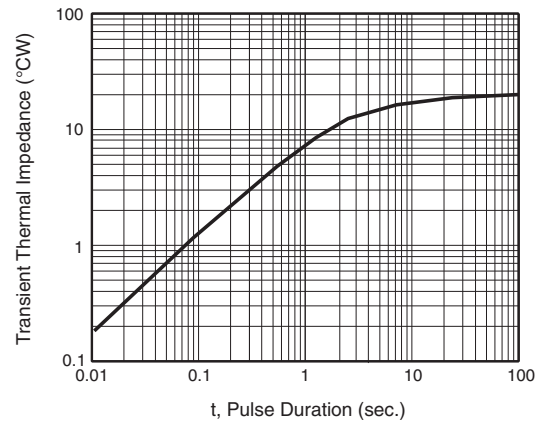


Figure 6. Typical Transient Thermal Impedance

### Package outline dimensions in inches (millimeters)

