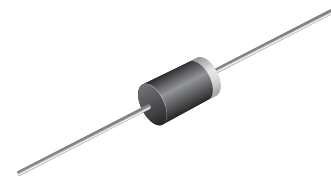


## Soft Recovery Fast-Switching Plastic Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
$V_{RRM}$	100 V to 800 V
$I_{FSM}$	100 A
$t_{rr}$	500 ns
$I_R$	10 $\mu$ A
$V_F$	1.25 V
$T_j$ max.	125 °C



DO-201AD

### Features

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- 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 fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and Telecommunication.

(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	BY396P	BY397P	BY398P	BY399P	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	200	400	800	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	560	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead lengths at $T_A = 50$ °C	$I_{F(AV)}$	3.0				A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load at $T_A = 50$ °C	$I_{FSM}$	100				A
Maximum repetitive peak forward surge at $f < 15$ KHz	$I_{FRM}$	10				A
Operating junction temperature range	$T_J$	- 50 to + 125				°C
Storage temperature range	$T_{STG}$	- 50 to + 150				°C

# BY396P thru BY399P



Vishay General Semiconductor

## Electrical Characteristics

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

Parameter	Test condition	Symbols	BY396P	BY397P	BY398P	BY399P	Units
Maximum instantaneous forward voltage	at 3.0 A	$V_F$	1.25				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	$I_R$		10	500		$\mu\text{A}$
Maximum reverse recovery time	at $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $I_{rr} = 1.0\text{ mA}$	$t_{rr}$		500			ns
Maximum forward recovery time	at 100 mA, $di/dt = 50\text{ A}/\mu\text{s}$	$t_{fr}$		1.0			$\mu\text{s}$
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$		28			pF

## Thermal Characteristics

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

Parameter	Symbols	BY396P	BY397P	BY398P	BY399P	Units
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	22				$^\circ\text{C}/\text{W}$

Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

## Ratings and Characteristics Curves

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

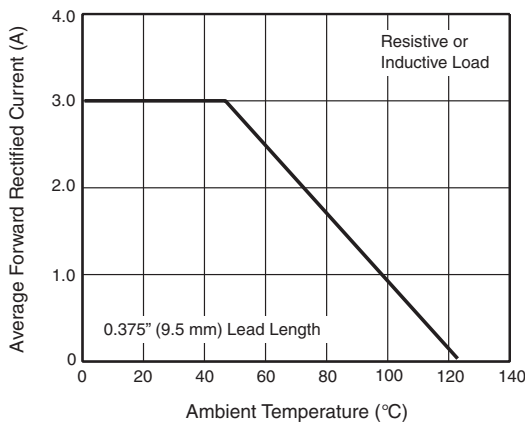


Figure 1. Forward Current Derating Curve

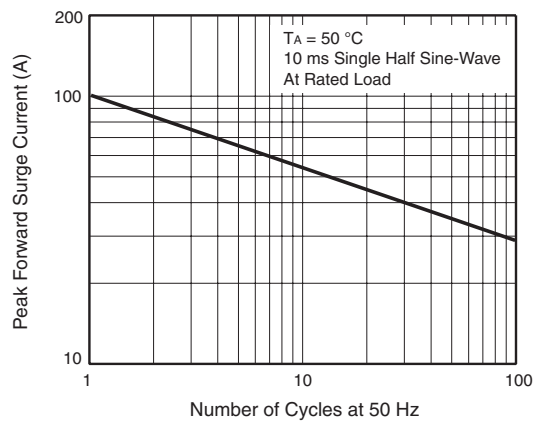


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

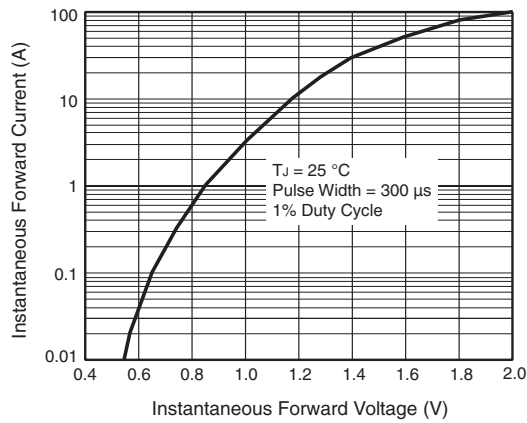


Figure 3. Typical Instantaneous Forward Characteristics

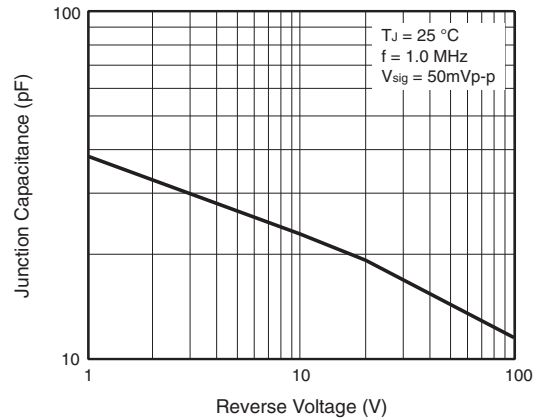


Figure 5. Typical Junction Capacitance

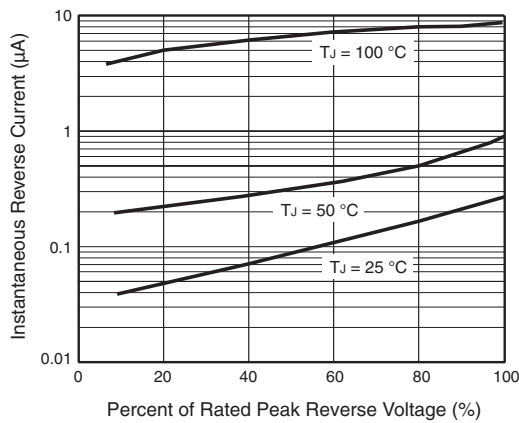
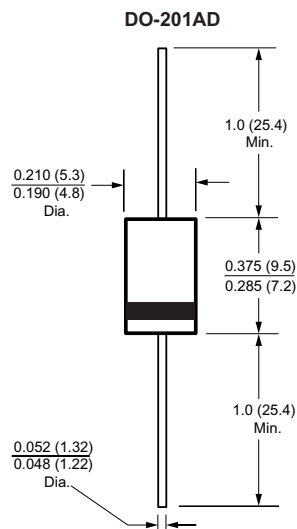


Figure 4. Typical Reverse Characteristics

## 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.