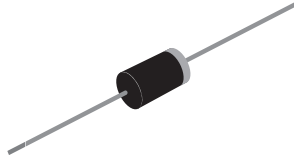


## Soft Recovery Fast-Switching Plastic Rectifier



DO-201AD

### FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### 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.)

### MECHANICAL DATA

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

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

PRIMARY 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

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	BY396P	BY397P	BY398P	BY399P	UNIT
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

ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	BY396P	BY397P	BY398P	BY399P	UNIT
Maximum instantaneous forward voltage	3.0 A	$V_F$	1.25				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25$ °C $T_A = 100$ C	$I_R$	10 500				$\mu$ A
Maximum reverse recovery time	$I_F = 10$ mA, $I_R = 10$ mA, $I_{rr} = 1.0$ mA	$t_{rr}$	500				ns
Maximum forward recovery time	100 mA, $di/dt = 50$ A/ $\mu$ s	$t_{fr}$	1.0				$\mu$ s
Typical junction capacitance	4.0 V, 1 MHz	$C_J$	28				pF



THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	BY396P	BY397P	BY398P	BY399P	UNIT
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	22				$^\circ\text{C/W}$

**Note:**

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BY398P-E3/54	1.1	54	1400	13" diameter paper tape and reel
BY398P-E3/73	1.1	73	1000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

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

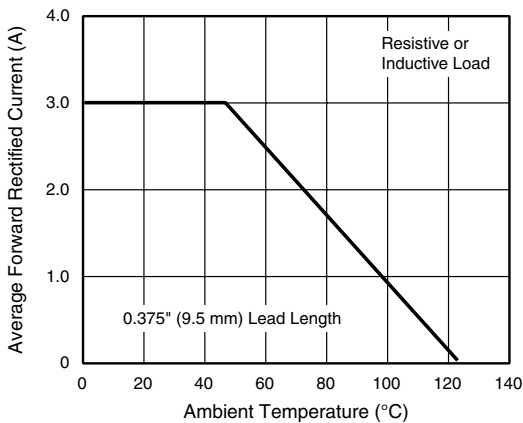


Figure 1. Forward Current Derating Curve

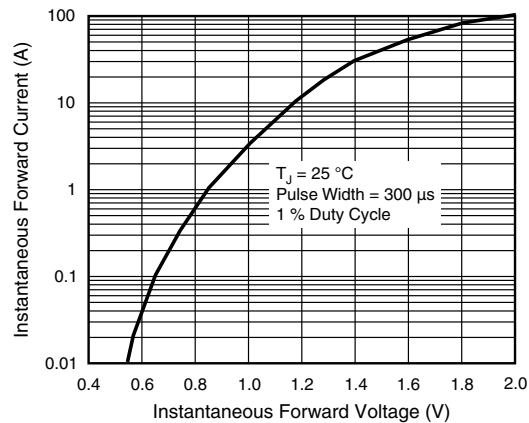


Figure 3. Typical Instantaneous Forward Characteristics

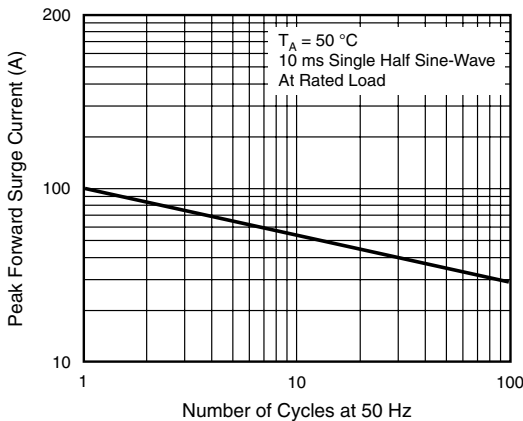


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

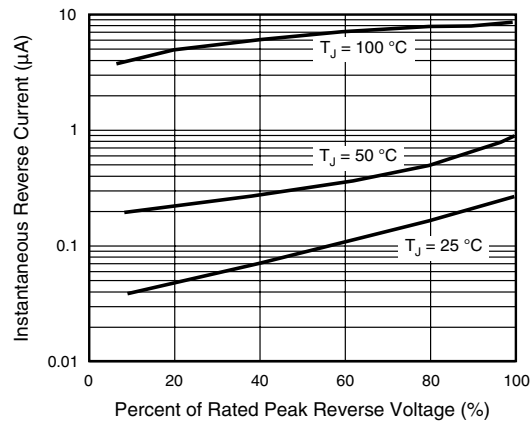


Figure 4. Typical Reverse Characteristics

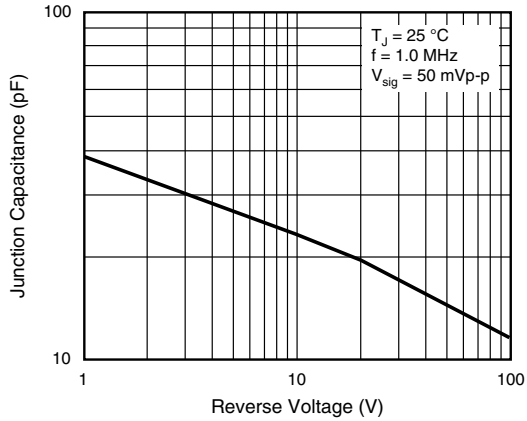
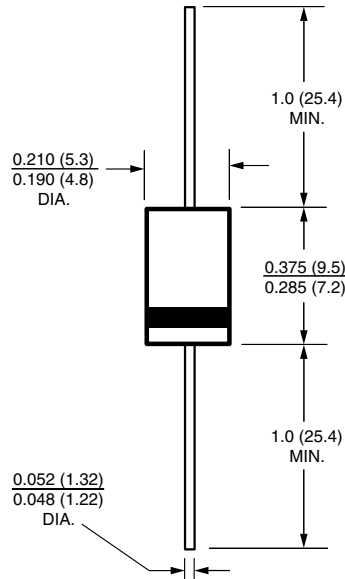


Figure 5. Typical Junction Capacitance

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

**DO-201AD**





## Disclaimer

All product specifications and data are subject to change without notice.

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