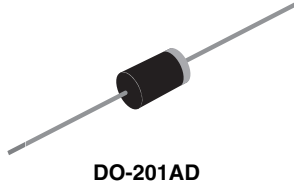


## Soft Recovery Plastic Rectifier



### 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.)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
$V_{RRM}$	100 V to 800 V
$I_{FSM}$	70 A
$t_{rr}$	500 ns
$I_R$	10 $\mu$ A
$V_F$	1.3 V
$T_J$ max.	125 °C

### 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

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	200	600	800	V
Maximum RMS voltage	$V_{RMS}$	70	140	420	560	V
Maximum DC blocking voltage	$V_{DC}$	100	200	600	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	$I_{F(AV)}$	2.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	70				A
Operating junction temperature range	$T_J$	- 50 to + 125				°C
Storage temperature range	$T_{STG}$	- 50 to + 150				°C



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT
Maximum instantaneous forward voltage	3.0 A	$V_F$	1.3				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	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $t_{rr} = 1.0\text{ mA}$	$t_{rr}$		500			ns
Maximum forward recovery time	$I_F = 100\text{ mA}$	$t_{rr}$		1.0			$\mu\text{s}$
Typical junction capacitance	4.0 V, 1 MHz	$C_J$		28			pF

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	15				$^\circ\text{C/W}$	

**Note:**

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

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BY298P-E3/54	1.1	54	1400	13" diameter paper tape and reel
BY298P-E3/73	1.1	73	1000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

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

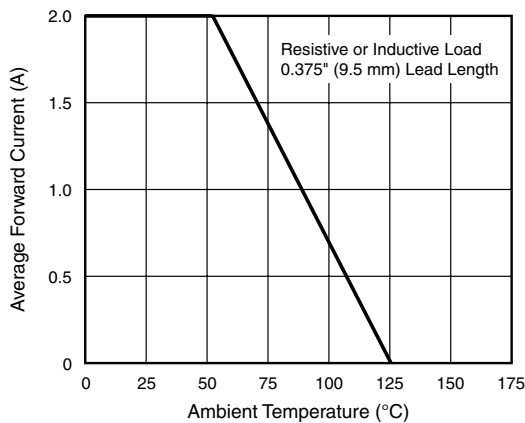


Figure 1. Forward Current Derating Curve

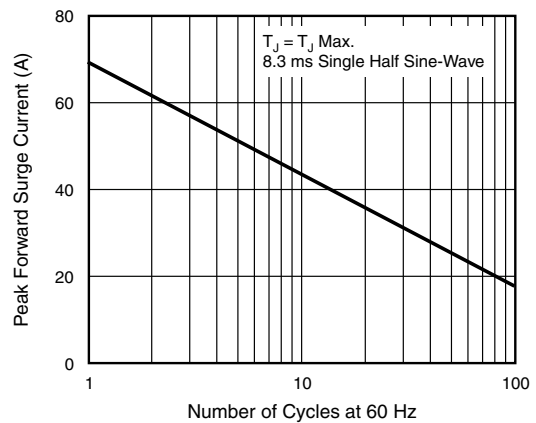


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

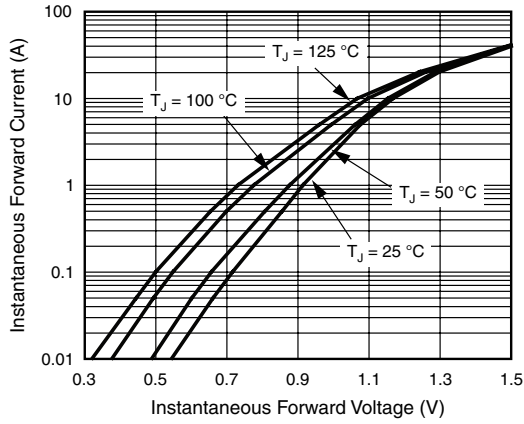


Figure 3. Typical Instantaneous Forward Characteristics

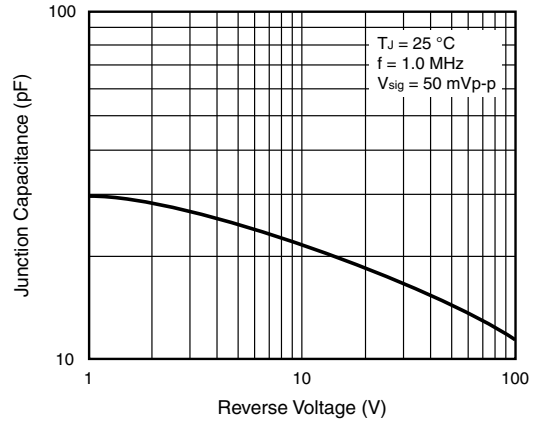


Figure 5. Typical Junction Capacitance

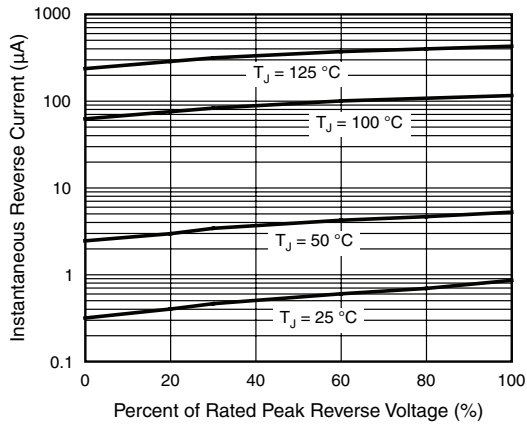
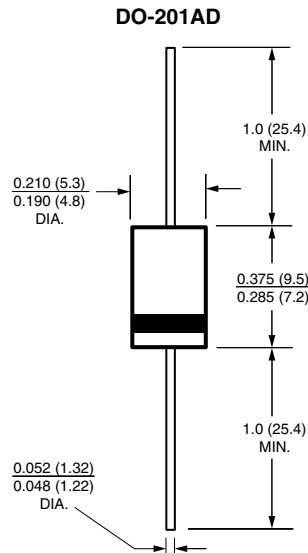


Figure 4. Typical Reverse Characteristics

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





## Disclaimer

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