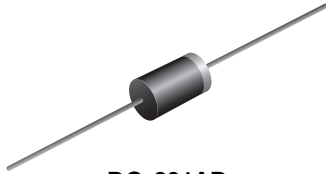




**THE DATASHEET OF  
BY298P-E3/54**



## Soft Recovery Plastic Rectifier


**DO-201AD**

### FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to 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 AEC-Q101 qualified.

### MECHANICAL DATA

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

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

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

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

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ 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	$T_A = 25\text{ }^\circ\text{C}$	$I_R$			10		$\mu\text{A}$
	$T_A = 100\text{ }^\circ\text{C}$				500		
Maximum reverse recovery time	$I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ , $I_{rr} = 1.0\text{ mA}$	$t_{rr}$			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

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

ORDERING INFORMATION (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)

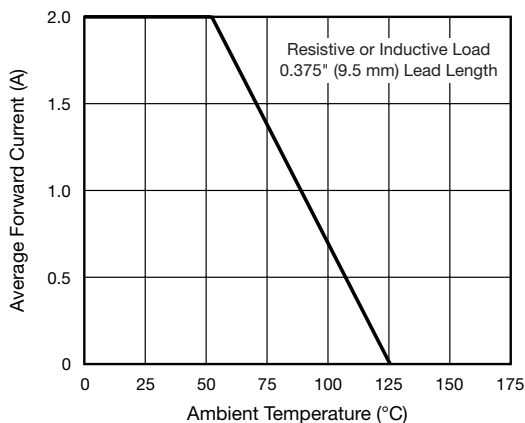


Fig. 1 - Forward Current Derating Curve

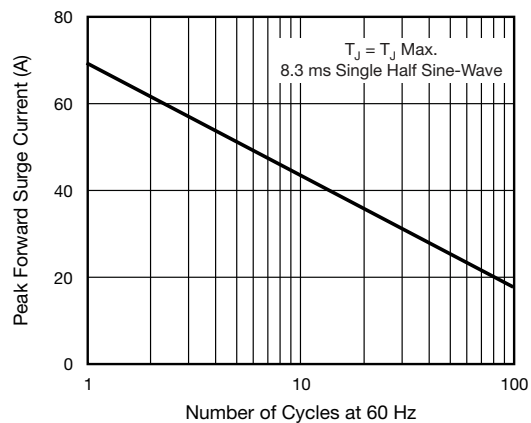


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

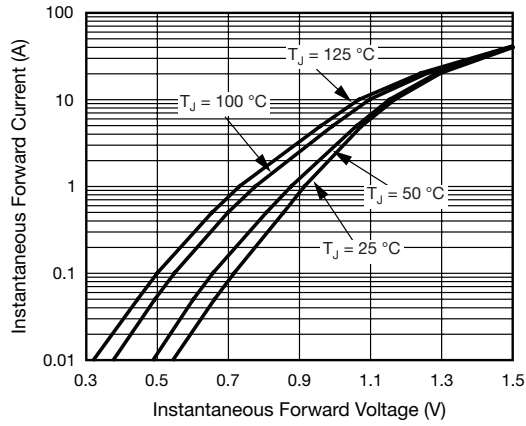


Fig. 3 - Typical Instantaneous Forward Characteristics

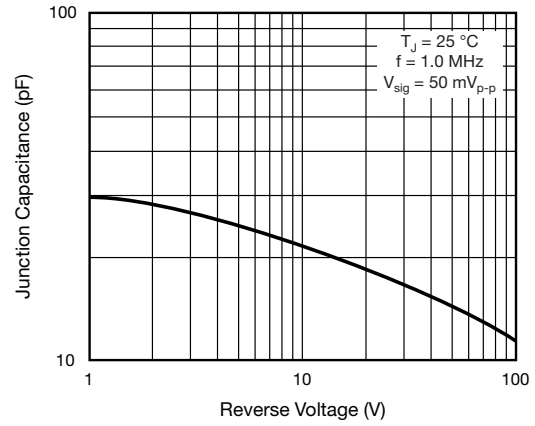


Fig. 5 - Typical Junction Capacitance

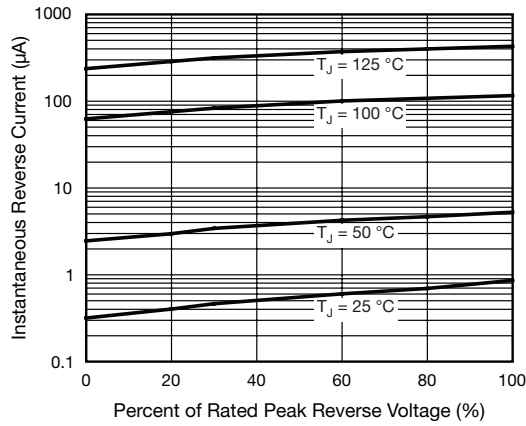
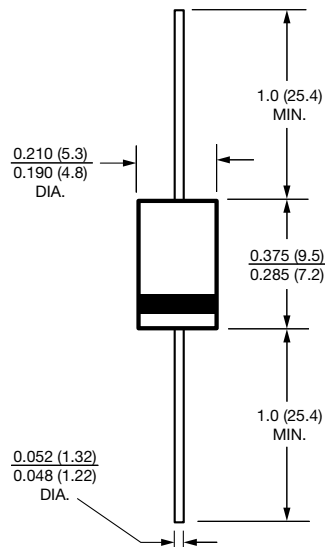


Fig. 4 - Typical Reverse Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)  
**DO-201AD**





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