



# BY500-50 thru BY500-1000

Reverse Voltage 50 to 1000 Volts      Fast Recovery Rectifiers  
Forward Current 5.0 Amperes

## Features

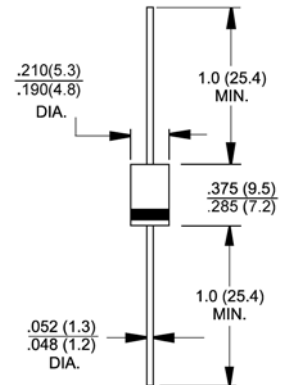
- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Fast switching for high efficiency
- ◆ High forward current operation at  $T_L=45^\circ\text{C}$
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Especially designed for applications such as switch mode power supplies, inverters, converters, TV scanning, Ultrasonic-systems, speed controlled DC motors, low RF interference and free wheeling diode circuits
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension
- ◆  $T_J$  is 150°C (Max.) and  $T_{STG}$  is 175°C (Max.) with PI glue



DO-201AD

## Mechanical Data

- ◆ Case: JEDEC DO-201AD, molded plastic body
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting Position: Any
- ◆ Weight: 0.042 ounce, 1.195 grams



## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	BY500 -50	BY500 -100	BY500 -200	BY500 -400	BY500 -600	BY500 -800	BY500 -1000	Units	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts	
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=45^\circ\text{C}$	$I_{F(AV)}$	5.0								Amps
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_A=25^\circ\text{C}$	$I_{FSM}$	200.0								Amps
Maximum repetitive peak forward surge	$I_{FRM}$	10								Amps
Maximum instantaneous forward voltage at 5.0A	$V_F$	1.35								Volts
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	10.0 1.0								$\mu\text{A}$ mA
Maximum reverse recovery time (Note 1)	$t_{rr}$	200								nS
Typical junction capacitance at 4.0V, 1MHz	$C_J$	28								pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	22								$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +125								$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150								$^\circ\text{C}$

- Notes:**
1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
  2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

# RATINGS AND CHARACTERISTIC CURVES

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

