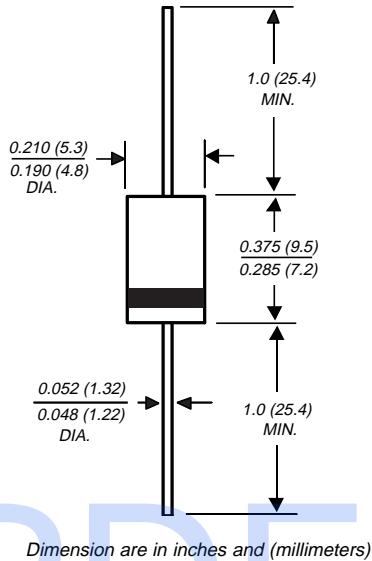


# BY500-100 THRU BY500-800

## SOFT RECOVERY FAST SWITCHING PLASTIC RECTIFIER

Reverse Voltage - 100 to 800 Volts Forward Current - 5.0 Amperes

DO-201AD



### FEATURES

- ◆ Plastic package has Underwriters Laboratory 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:  $250^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### 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:** 0.04 ounce, 1.1 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified

	SYMBOLS	BY500-100	BY500-200	BY500-400	BY500-600	BY500-800	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	100	200	400	600	800	Volts
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	Volts
Maximum DC blocking voltage	$V_{DC}$	100	200	400	600	800	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=45^\circ\text{C}$	$I_{(AV)}$	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	$I_{FRM}$	10.0					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)	$t_{rr}$	200.0					ns
Maximum reverse recovery current (NOTE 1)	$I_{RM(REC)}$	2.0					Amps
Typical junction capacitance (NOTE 2)	$C_J$	28.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	22.0					$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-50 to +125					$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-50 to +150					$^\circ\text{C}$

#### NOTES:

- (1) Reverse recovery test conditions:  $I_F=1.0\text{A}$ ,  $V_R=30\text{V}$ ,  $di/dt=50\text{A}/\mu\text{s}$ ,  $I_{rr}=10\%I_{RM}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

# RATINGS AND CHARACTERISTIC CURVES BY500-100 THRU BY500-800

