



# BY500-50 THRU BY500-1000

## SOFT RECOVERY FAST SWITCHING PLASTIC RECTIFIER

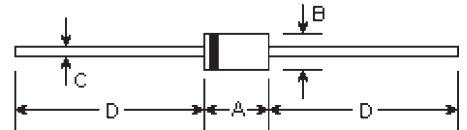
Reverse Voltage - 50 to 1000 Volts

Forward Current - 5.0 Amperes

### 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°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3Kg) tension

### DO-201AD



### Mechanical Data

- **Case:** 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

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.283	0.374	7.20	9.50	
B	0.189	0.208	4.80	5.30	φ
C	0.048	0.051	1.20	1.30	φ
D	1.000	-	25.40	-	

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	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 $T_L=45^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3ms 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 at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	10.0 1.0							μA 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							°C/W
Operating junction temperature range	$T_J$	-50 to +125							°C
Storage temperature range	$T_{STG}$	-50 to +150							°C

#### Notes:

- (1) Reverse recovery test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$
- (2) Measured at 1.0MHz 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

