



BY500-50 thru BY500-1000

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

Features

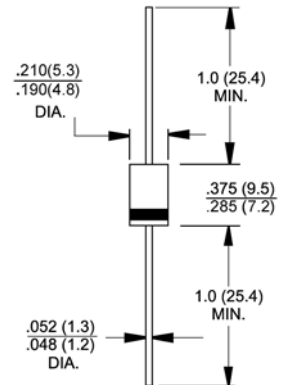
- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Fast switching for high efficiency
- ◆ High forward current operation at $T_J=45^{\circ}\text{C}$
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Especially designed 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

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



DO-201AD



Dimensions in inches and (millimeters)

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 $T_J=45^{\circ}\text{C}$	$I_{F(AV)}$	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 at rated DC blocking voltage	I_R	10.0 1.0							μA 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)

