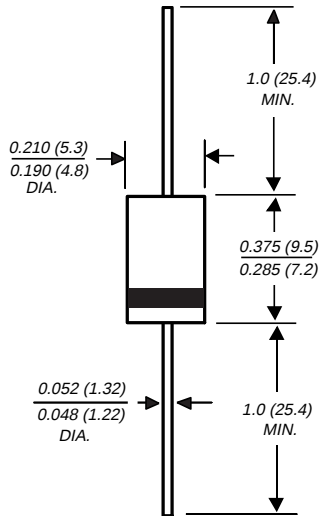


BY500-100 THRU BY500-800

SOFT RECOVERY FAST SWITCHING PLASTIC RECTIFIER

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

DO-201AD



Dimension are in inches and (millimeters)

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°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					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					$^\circ\text{C}/\text{W}$
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

FIG. 1 - FORWARD CURRENT DERATING CURVE

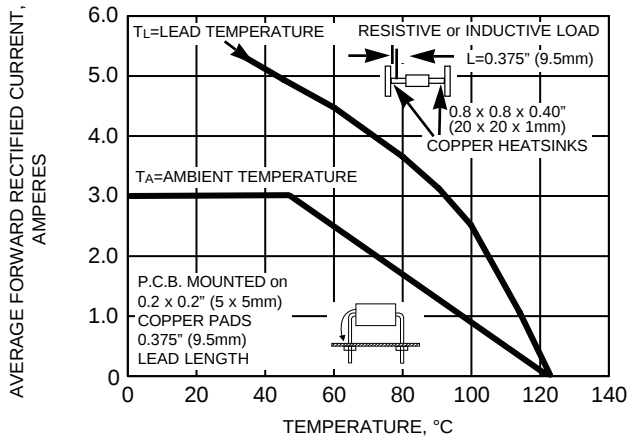


FIG. 2 - MAXIMUM PEAK FORWARD SURGE CURRENT

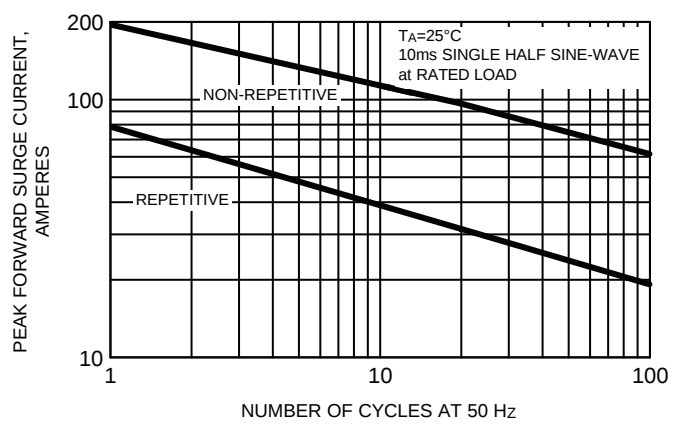


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

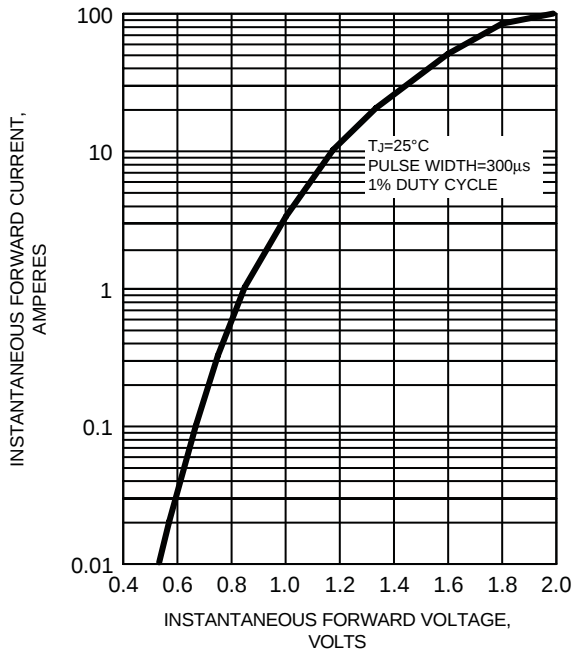


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

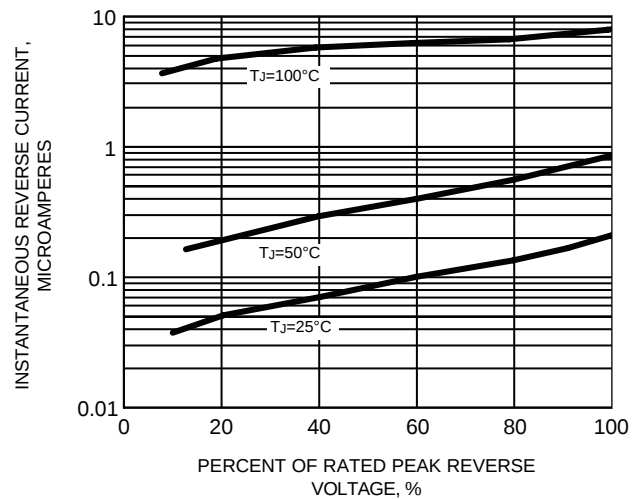


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

