BY500-50-BY500-1000

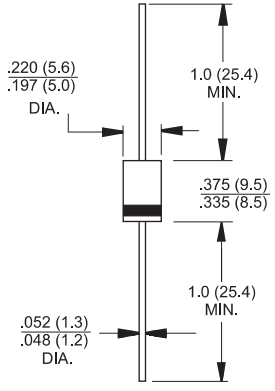
Soft Recovery Fast Switching Plastic Rectifier

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℃
- 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℃/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension

DO-201AD



Dimensions in inches and (millimeters)

Mechanical Data

- **Case:** DO-201AD molded plastic body
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 1.2 grams

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Type Number	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℃	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load at T_A=25℃	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℃ / T_A=100℃	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							℃/W
Operating junction temperature range	T_J	-50 to +125							℃
Storage temperature range	T_{STG}	-50 to +150							℃

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

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RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

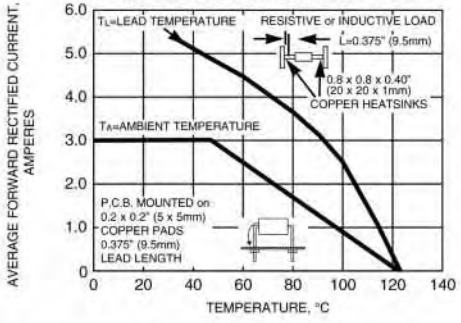

FIG. 2 - MAXIMUM PEAK FORWARD SURGE CURRENT

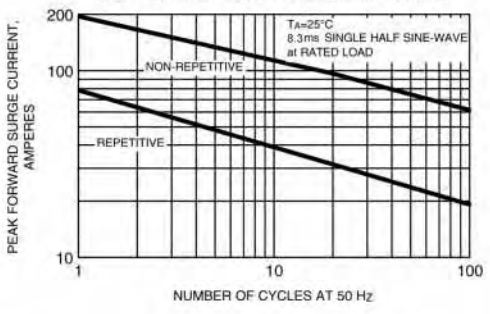

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

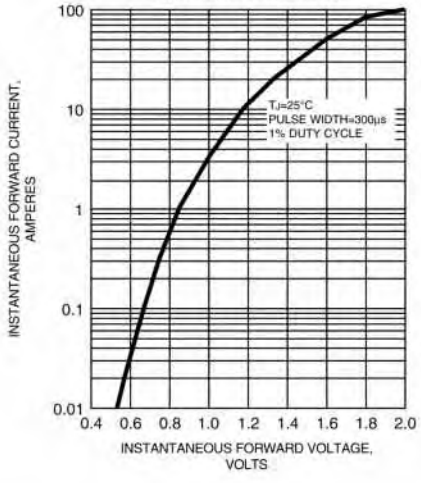

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

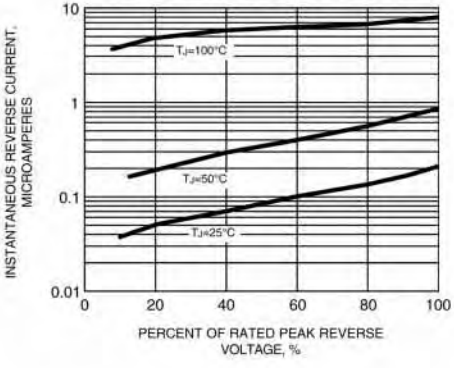

FIG. 5 - TYPICAL JUNCTION CAPACITANCE