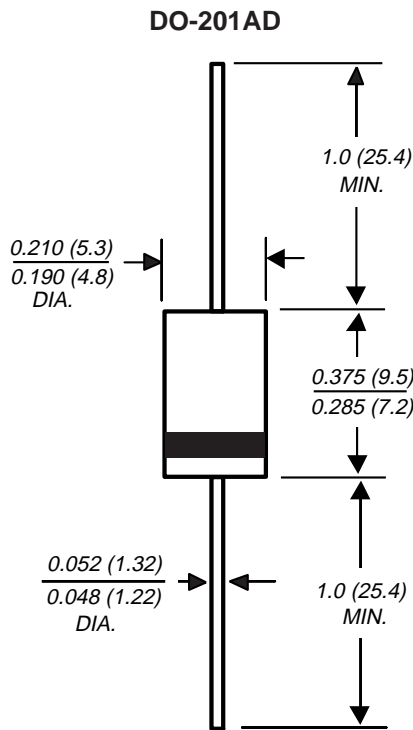


Soft Recovery Fast-Switching Plastic Rectifier

Reverse Voltage 100 to 800 V
 Forward Current 5.0 A



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Fast switching for high efficiency
- High forward current operation at $T_L=45^\circ\text{C}$
- 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

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 oz., 1.1 g

Packaging codes/options:

1/Bulk - 1.5K per container, 15K per box

4/1.4K per 13" reel, 5.6K per box

23/1K per Ammo. mag., 9K per box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	BY500-100	BY500-200	BY500-400	BY500-600	BY500-800	Units
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	100	200	400	600	800	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=45^\circ\text{C}$	$I_{F(AV)}$	5.0					A
Peak forward surge current 10ms single half sine-wave superimposed on rated load at $T_A=25^\circ\text{C}$	I_{FSM}	200					A
Maximum repetitive peak forward surge	I_{FRM}	10					A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	22					°C/W
Operating junction temperature range	T_J	-50 to +125					°C
Storage temperature range	T_{STG}	-50 to +150					°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 5.0A	V_F	1.35					V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	10 1.0					μA mA
Maximum reverse recovery time ⁽¹⁾	t_{rr}	200					ns
Maximum reverse recovery current at $I_F=1.0\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{A}/\mu\text{s}$, $I_{rr}=10\%$ I_{RM}	$I_{RM(REC)}$	2.0					A
Typical junction capacitance at 4.0V, 1MHz	C_J	28					pF

Notes: (1) 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)

Fig. 1 – Forward Current Derating Curves

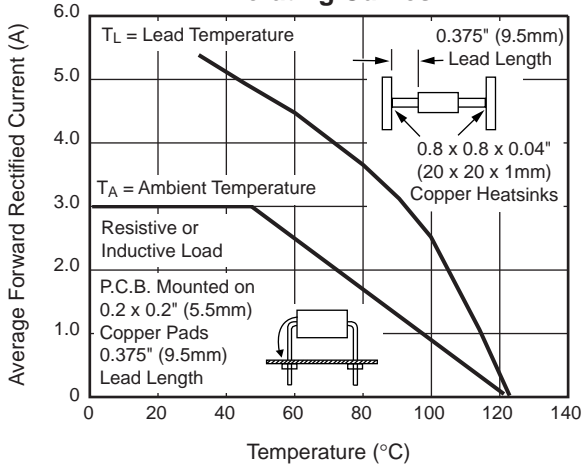


Fig. 2 – Maximum Peak Forward Surge Current

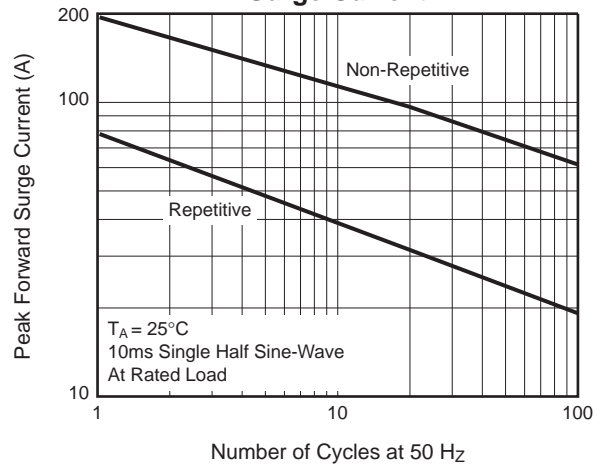


Fig. 3 – Typical Instantaneous Forward Characteristics

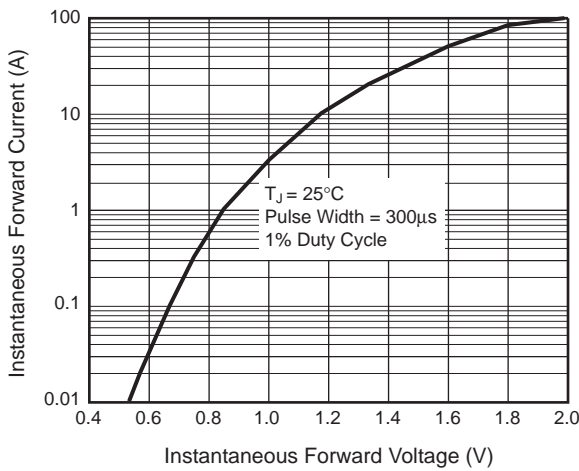


Fig. 4 – Typical Reverse Characteristics

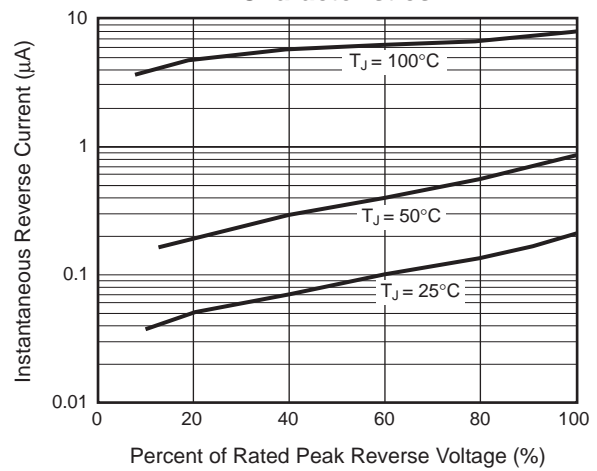


Fig. 5 – Typical Junction Capacitance

