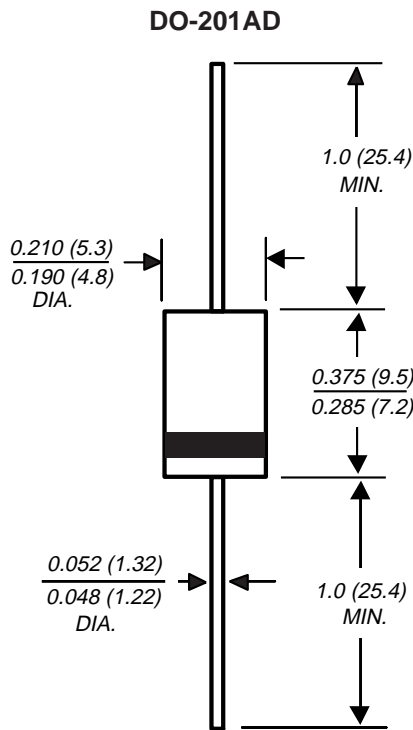


## Soft Recovery Fast-Switching Plastic Rectifier

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 <sup>(1)</sup>	$R_{\theta JA}$	22					°C/W
Operating junction temperature range	$T_J$	-50 to +125					°C
Storage temperature range	$T_{STG}$	-50 to +150					°C

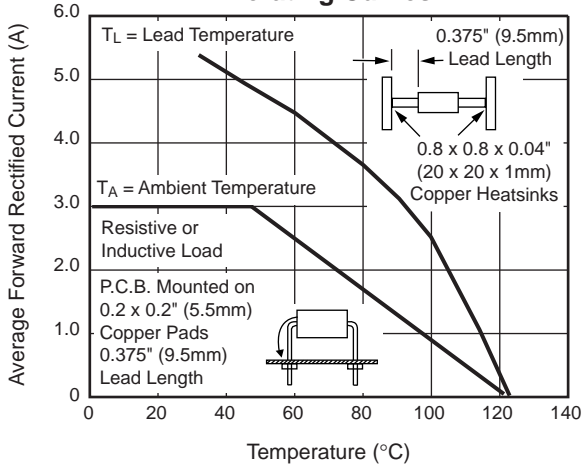
## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

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					$\mu\text{A}$ mA
Maximum reverse recovery time <sup>(1)</sup>	$t_{rr}$	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

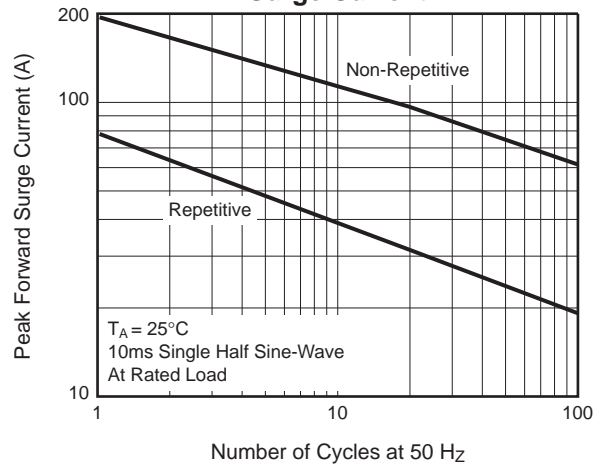
**Notes:** (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

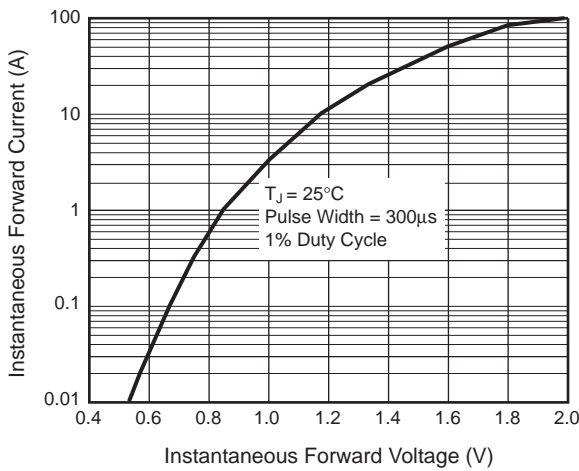
**Fig. 1 – Forward Current Derating Curves**



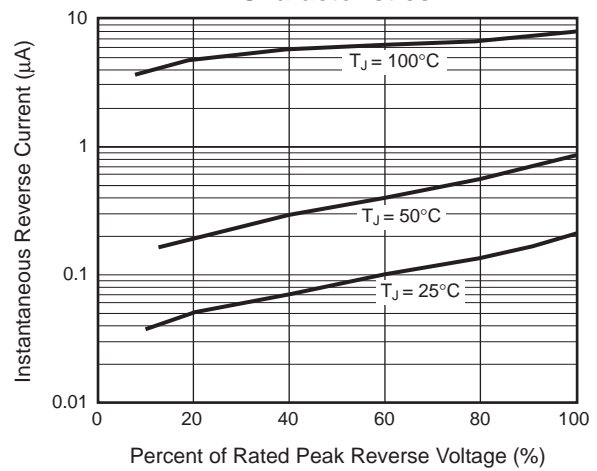
**Fig. 2 – Maximum Peak Forward Surge Current**



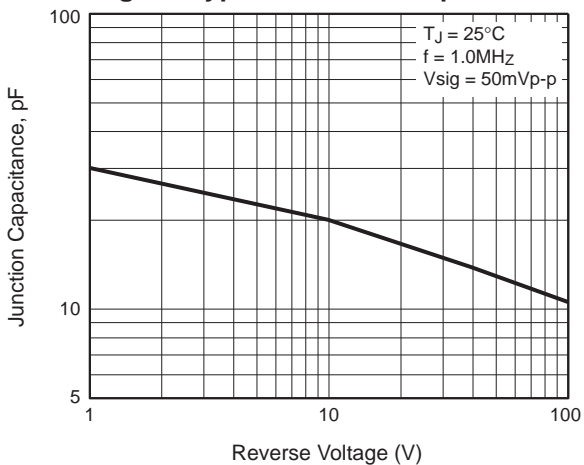
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



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