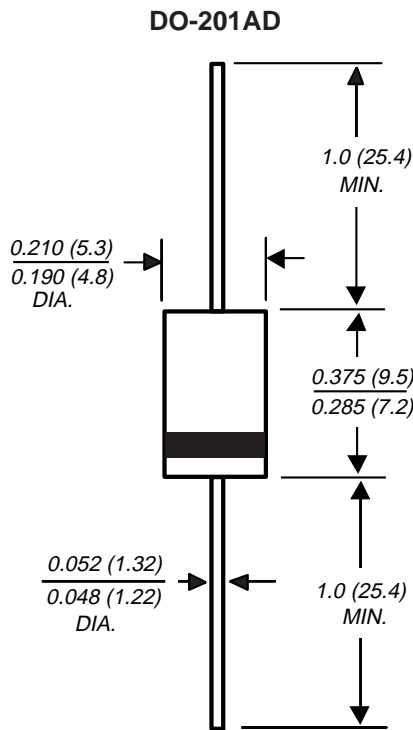


Soft Recovery Fast-Switching Plastic Rectifier

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

Vishay Semiconductors
formerly General Semiconductor

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

Fig. 1 – Forward Current Derating Curves

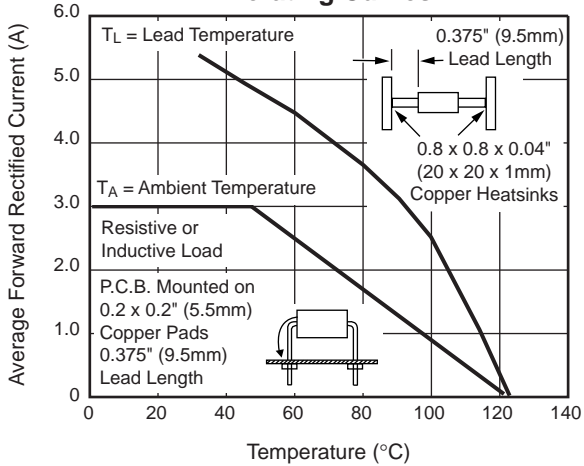


Fig. 2 – Maximum Peak Forward Surge Current

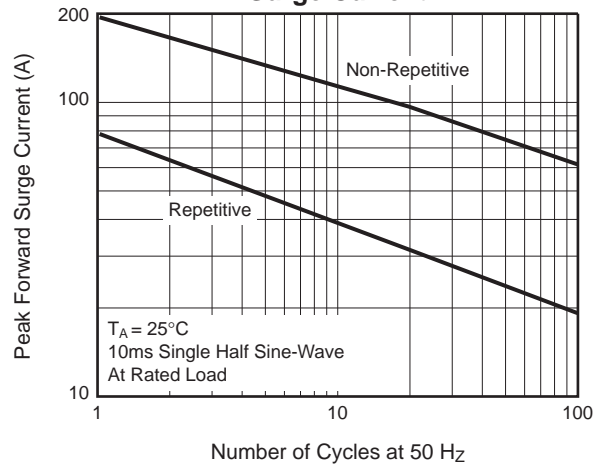


Fig. 3 – Typical Instantaneous Forward Characteristics

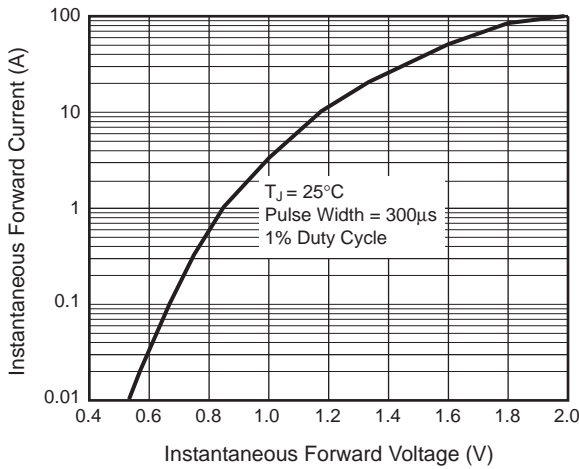


Fig. 4 – Typical Reverse Characteristics

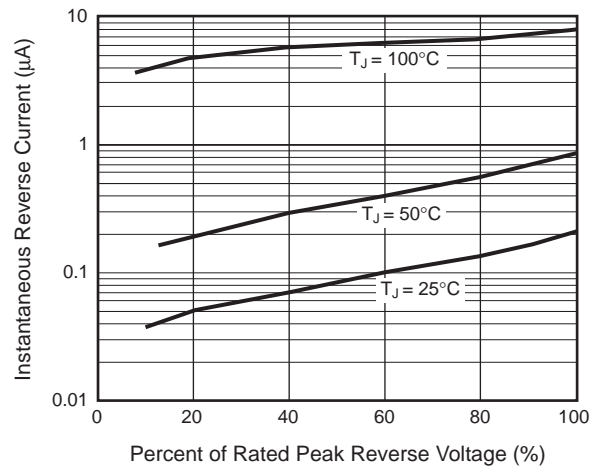


Fig. 5 – Typical Junction Capacitance

