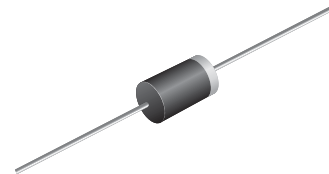




Soft Recovery Fast-Switching Plastic Rectifier

Major Ratings and Characteristics

| | |
|-------------|----------------|
| $I_{F(AV)}$ | 3.0 A |
| V_{RRM} | 100 V to 800 V |
| I_{FSM} | 100 A |
| t_{rr} | 500 ns |
| I_R | 10 μ A |
| V_F | 1.25 V |
| T_j max. | 125 °C |



DO-201AD

Features

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-201AD, molded epoxy body

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: Color band denotes cathode end

Typical Applications

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and Telecommunication.

(Note: These devices are not Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

| Parameter | Symbols | BY396P | BY397P | BY398P | BY399P | Units |
|--|-------------|---------------|--------|--------|--------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 100 | 200 | 400 | 800 | V |
| Maximum RMS voltage | V_{RMS} | 70 | 140 | 280 | 560 | V |
| Maximum DC blocking voltage | V_{DC} | 100 | 200 | 400 | 800 | V |
| Maximum average forward rectified current 0.375" (9.5 mm) lead lengths at $T_A = 50$ °C | $I_{F(AV)}$ | 3.0 | | | | A |
| Peak forward surge current 10 ms single half sine-wave superimposed on rated load at $T_A = 50$ °C | I_{FSM} | 100 | | | | A |
| Maximum repetitive peak forward surge at $f < 15$ KHz | I_{FRM} | 10 | | | | A |
| Operating junction temperature range | T_J | - 50 to + 125 | | | | °C |
| Storage temperature range | T_{STG} | - 50 to + 150 | | | | °C |

Electrical Characteristics

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

| Parameter | Test condition | Symbols | BY396P | BY397P | BY398P | BY399P | Units |
|---|--|----------|--------|--------|--------|--------|---------------|
| Maximum instantaneous forward voltage | at 3.0 A | V_F | 1.25 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage | $T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$ | I_R | | 10 | 500 | | μA |
| Maximum reverse recovery time | at $I_F = 10\text{ mA}$, $I_R = 10\text{ mA}$, $I_{rr} = 1.0\text{ mA}$ | t_{rr} | | 500 | | | ns |
| Maximum forward recovery time | at 100 mA, $di/dt = 50\text{ A}/\mu\text{s}$ | t_{fr} | | 1.0 | | | μs |
| Typical junction capacitance | at 4.0 V, 1 MHz | C_J | | 28 | | | pF |

Thermal Characteristics

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

| Parameter | Symbols | BY396P | BY397P | BY398P | BY399P | Units |
|---|-----------------|--------|--------|--------|--------|---------------------------|
| Typical thermal resistance ⁽¹⁾ | $R_{\theta JA}$ | 22 | | | | $^\circ\text{C}/\text{W}$ |

Notes:

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

Ratings and Characteristics Curves

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

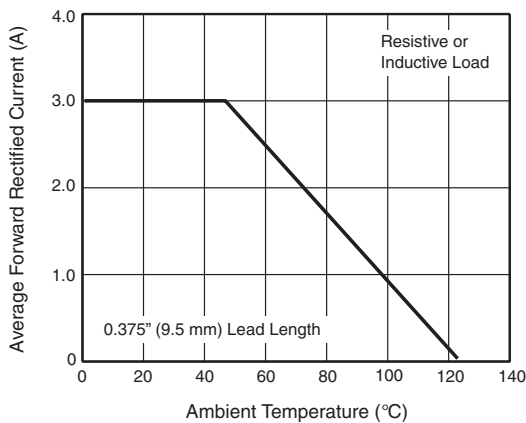


Figure 1. Forward Current Derating Curve

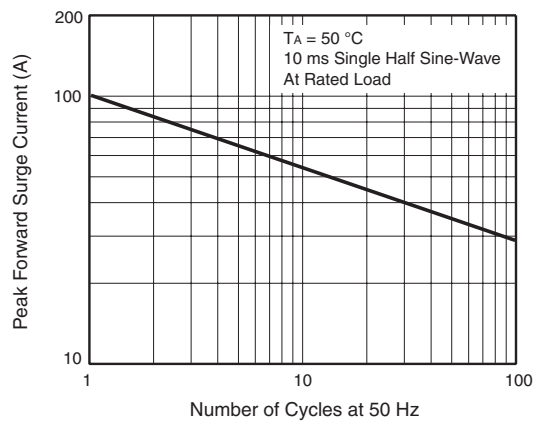


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

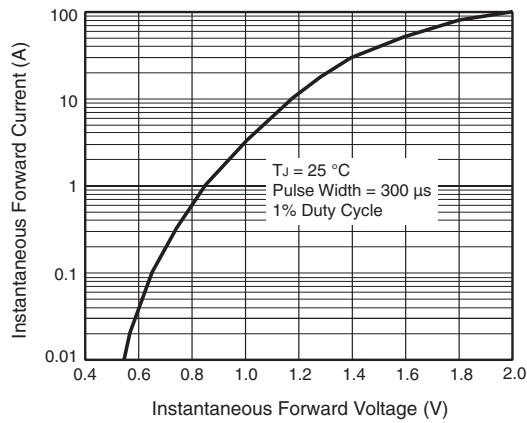


Figure 3. Typical Instantaneous Forward Characteristics

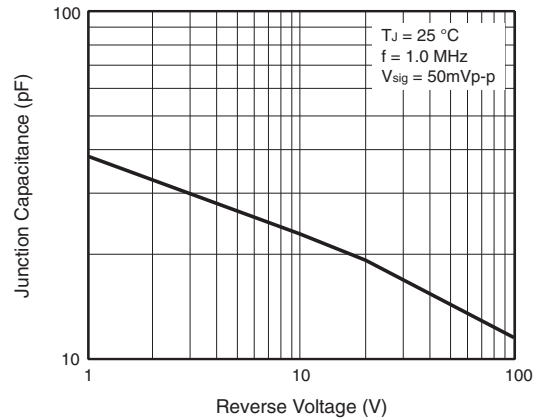


Figure 5. Typical Junction Capacitance

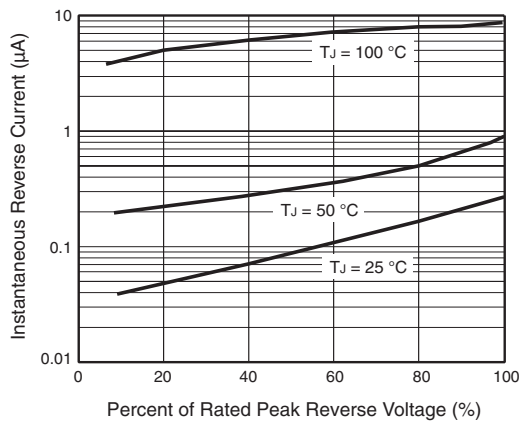
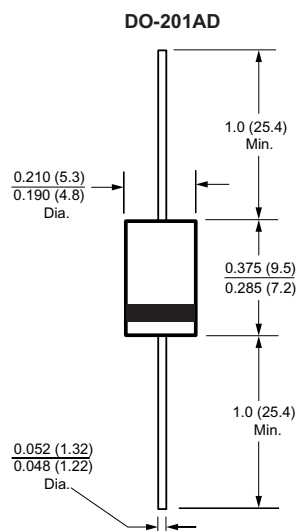


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)





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