

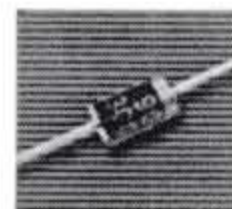


## BY396 thru BY399

3.0 Amps. Fast Recovery Rectifiers  
Voltage Range 100 to 800 Volts Forward Current 3.0 Amperes

### Features

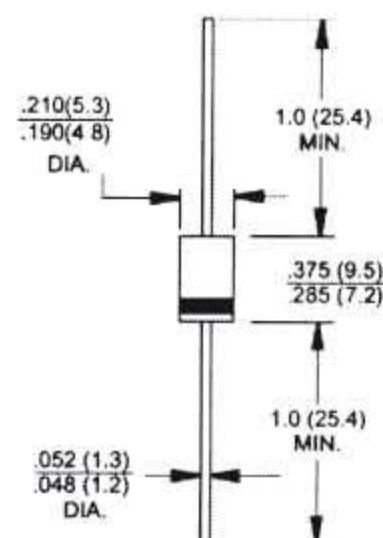
- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Construction utilizes void-free molded plastic technique
- ◆ 3.0 Amperes operation at  $T_A=50^\circ\text{C}$  with no thermal runaway
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension



DO-201AD

### 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 ounce, 1.1 grams



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

60/1042

| Parameter                                                                                                        | Symbols         | BY396       | BY397 | BY398 | BY399 | Units                     |
|------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------|-------|-------|---------------------------|
| Maximum repetitive peak reverse voltage                                                                          | $V_{RRM}$       | 100         | 200   | 400   | 800   | Volts                     |
| Maximum RMS voltage                                                                                              | $V_{RMS}$       | 70          | 140   | 280   | 560   | Volts                     |
| Maximum DC blocking voltage                                                                                      | $V_{DC}$        | 100         | 200   | 400   | 800   | Volts                     |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_A=50^\circ\text{C}$                | $I_{F(AV)}$     | 3.0         |       |       |       | Amps                      |
| Peak forward surge current<br>10ms single half sine-wave superimposed on<br>rated load at $T_A=50^\circ\text{C}$ | $I_{FSM}$       | 100.0       |       |       |       | Amps                      |
| Maximum repetitive peak forward surge at $f < 15\text{KHz}$                                                      | $I_{FRM}$       | 10          |       |       |       | Amps                      |
| Maximum instantaneous forward voltage @ 3.0A                                                                     | $V_F$           | 1.25        |       |       |       | Volts                     |
| Maximum DC reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$    | $I_R$           | 10.0<br>500 |       |       |       | $\mu\text{A}$             |
| Maximum reverse recovery time at<br>$I_F=10\text{mA}$ , $I_R=10\text{mA}$ , $I_T=1.0\text{mA}$                   | $t_{rr}$        | 500         |       |       |       | $\mu\text{S}$             |
| Maximum forward recovery time at<br>100mA, $di/dt = 50\text{A}/\mu\text{s}$                                      | $t_{fr}$        | 1.0         |       |       |       | $\mu\text{S}$             |
| Typical junction capacitance at 4.0V, 1MHz                                                                       | $C_j$           | 28          |       |       |       | pF                        |
| Typical thermal resistance (Note 1)                                                                              | $R_{\theta JA}$ | 22          |       |       |       | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range                                                                             | $T_J$           | -50 to +125 |       |       |       | $^\circ\text{C}$          |
| Storage temperature range                                                                                        | $T_{STG}$       | -50 to +150 |       |       |       | $^\circ\text{C}$          |

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

