

# BY399

## FAST RECOVERY RECTIFIER DIODES

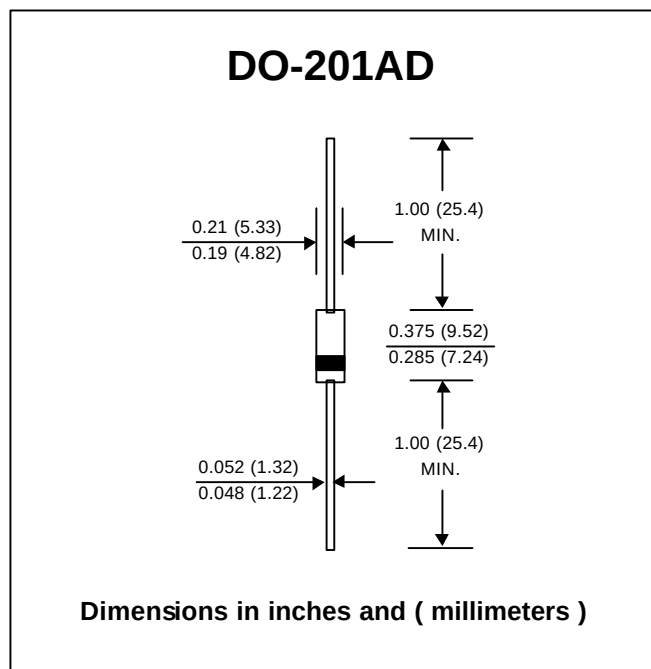
**PRV : 100 - 800 Volts**  
**Io : 3.0 Amperes**

### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency

### MECHANICAL DATA :

- \* Case : DO-201AD Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 1.21 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.



| RATING                                                                                                  | SYMBOL             | BY396         | BY397 | BY398 | BY399 | UNIT  |
|---------------------------------------------------------------------------------------------------------|--------------------|---------------|-------|-------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                  | V <sub>RRM</sub>   | 100           | 200   | 400   | 800   | Volts |
| Maximum RMS Voltage                                                                                     | V <sub>RMS</sub>   | 70            | 140   | 280   | 560   | Volts |
| Maximum DC Blocking Voltage                                                                             | V <sub>DC</sub>    | 100           | 200   | 400   | 800   | Volts |
| Maximum Average Forward Current<br>0.375"(9.5mm) Lead Length Ta = 55 °C                                 | I <sub>F(AV)</sub> | 3.0           |       |       |       | Amps. |
| Peak Forward Surge Current,<br>8.3ms Single half sine wave Superimposed<br>on rated load (JEDEC Method) | I <sub>FSM</sub>   | 100           |       |       |       | Amps. |
| Maximum Peak Forward Voltage at I <sub>F</sub> = 3.0 Amps.                                              | V <sub>F</sub>     | 1.25          |       |       |       | Volts |
| Maximum DC Reverse Current Ta = 25 °C<br>at Rated DC Blocking Voltage Ta = 100 °C                       | I <sub>R</sub>     | 10            |       |       |       | μA    |
|                                                                                                         | I <sub>R(H)</sub>  | 100           |       |       |       | μA    |
| Maximum Reverse Recovery Time ( Note 1 )                                                                | T <sub>rr</sub>    | 250           |       |       |       | ns    |
| Typical Junction Capacitance ( Note 2 )                                                                 | C <sub>J</sub>     | 60            |       |       |       | pf    |
| Junction Temperature Range                                                                              | T <sub>J</sub>     | - 65 to + 150 |       |       |       | °C    |
| Storage Temperature Range                                                                               | T <sub>STG</sub>   | - 65 to + 150 |       |       |       | °C    |

### Notes :

- ( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 V<sub>DC</sub>