



# BY396 THRU BY399

## 3.0 AMPS. Fast Recovery Rectifiers



Voltage Range  
100 to 800 Volts  
Current  
3.0 Amperes

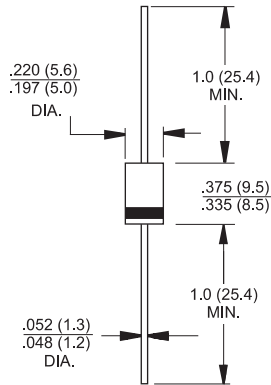
### Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 1.2 grams

### DO-201AD



Dimensions in inches and (millimeters)

### 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%

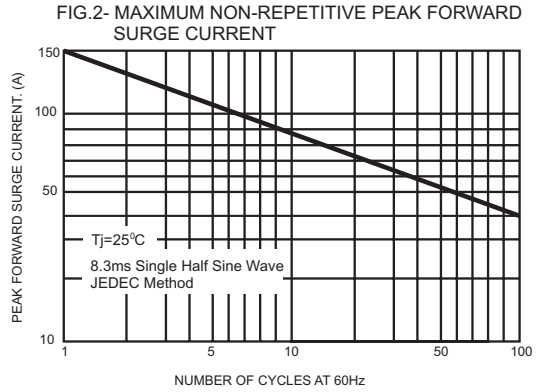
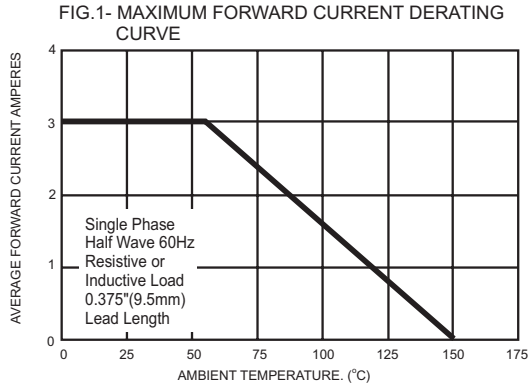
| Type Number   | Symbol          | BY396       | BY397 | BY398 | BY399 | Units              |
|---|-----------------|-------------|-------|-------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 100         | 200   | 400   | 800   | V                  |
| 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<br>.375"(9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$              | $I_{(AV)}$      | 3.0         |       |       |       | A                  |
| Peak Forward Surge Current, 8.3 ms Single<br>Half Sine-wave Superimposed on Rated Load<br>(JEDEC method)      | $I_{FSM}$       | 150         |       |       |       | A                  |
| Maximum Instantaneous Forward Voltage<br>@ 3.0A   | $V_F$           | 1.2         |       |       |       | V                  |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | $I_R$           | 5<br>100    |       |       |       | uA<br>uA           |
| Maximum Reverse Recovery Time ( Note 1 )  | $T_{rr}$        | 250         |       |       |       | nS                 |
| Typical Junction Capacitance ( Note 2 )   | $C_j$           | 50          |       |       |       | pF                 |
| Typical Thermal Resistance ( Note 3 )   | $R_{\theta JA}$ | 40          |       |       |       | $^\circ\text{C/W}$ |
| Operating Temperature Range   | $T_J$           | -65 to +150 |       |       |       | $^\circ\text{C}$   |
| Storage Temperature Range   | $T_{STG}$       | -65 to +150 |       |       |       | $^\circ\text{C}$   |

Notes:1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

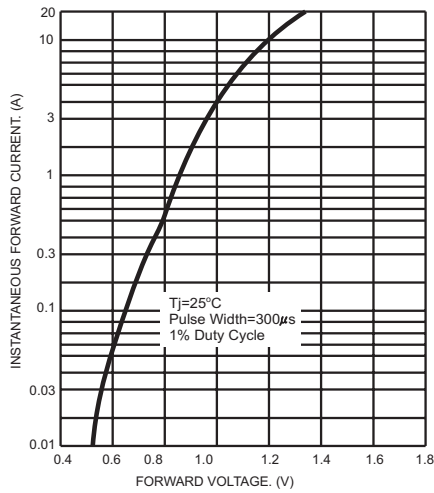
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

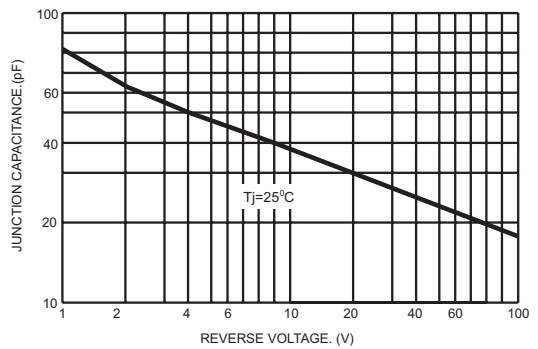
## RATINGS AND CHARACTERISTIC CURVES (BY396 THRU BY399)



**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

