



## BYV95A - BYV96E

## AVALANCHE FAST RECOVERY RECTIFIER DIODES

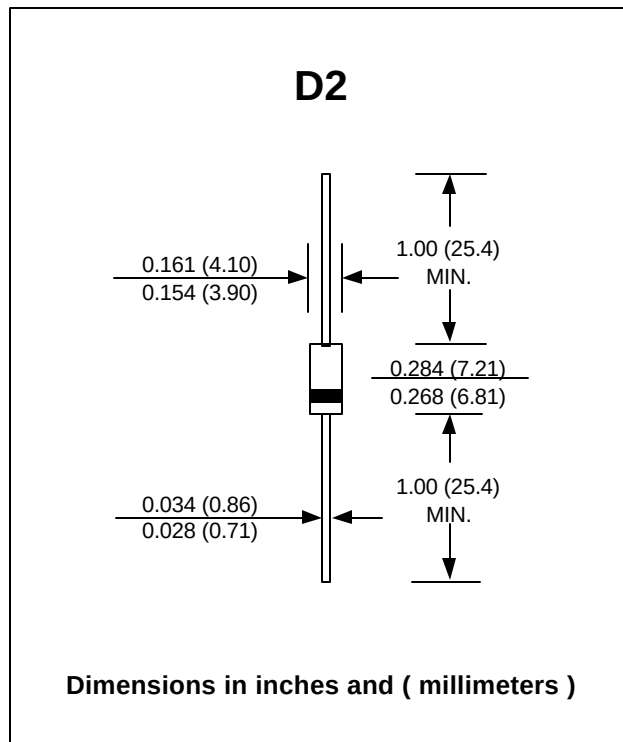
**PRV : 200 - 1000 Volts**  
**I<sub>o</sub> : 1.5 Amperes**

### 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 : D2 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 : 0.465 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 50 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| RATING                                                                                                    | SYMBOL                | BYV95A        | BYV95B | BYV95C | BYV96D | BYV96E | UNITS |
|-----------------------------------------------------------------------------------------------------------|-----------------------|---------------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                    | V <sub>RRM</sub>      | 200           | 400    | 600    | 800    | 1000   | Volts |
| Maximum RMS voltage                                                                                       | V <sub>RMS</sub>      | 140           | 280    | 420    | 560    | 700    | Volts |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>       | 200           | 400    | 600    | 800    | 1000   | Volts |
| Min. Avalanche Breakdown Voltage @ 100 μA                                                                 | V <sub>BR(min.)</sub> | 300           | 500    | 700    | 900    | 1100   | Volts |
| Maximum Average Forward Rectified Current<br>Lead Length 10 mm. ; T <sub>tp</sub> = 65 °C                 | I <sub>F(AV)</sub>    | 1.5           |        |        |        |        | Amps. |
| Peak Forward Surge Current single half sine wave<br>superimposed on rated load                            | I <sub>FSM</sub>      | 35            |        |        |        |        | Amps. |
| Maximum Forward Voltage at I <sub>F</sub> = 3.0 Amps.                                                     | V <sub>F</sub>        | 1.6           |        |        |        |        | Volts |
| Maximum DC Reverse Current T <sub>J</sub> = 25 °C<br>at Rated DC Blocking Voltage T <sub>J</sub> = 165 °C | I <sub>R</sub>        | 5.0           |        |        |        |        | μA    |
|                                                                                                           |                       | 150           |        |        |        |        |       |
| Maximum Reverse Recovery Time ( Note 1 )                                                                  | T <sub>rr</sub>       | 150           |        |        | 200    |        | ns    |
| Typical Thermal Resistance (Note 2)                                                                       | R <sub>θJA</sub>      | 50            |        |        |        |        | °C/W  |
| Junction Temperature Range                                                                                | T <sub>J</sub>        | 175           |        |        |        |        | °C    |
| Storage Temperature Range                                                                                 | T <sub>STG</sub>      | - 65 to + 175 |        |        |        |        | °C    |

### Notes :

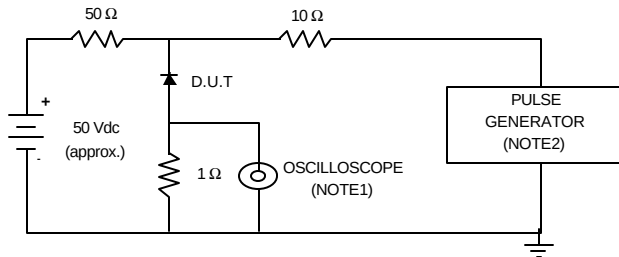
(1) Measured with I<sub>F</sub> = 0.5A, R = 1.0A, I<sub>rr</sub> = 0.25A

(2) Thermal resistance from Junction to Ambient at 0.375" (9.5mm) Lead Lengths. P.C. Board Mounted.

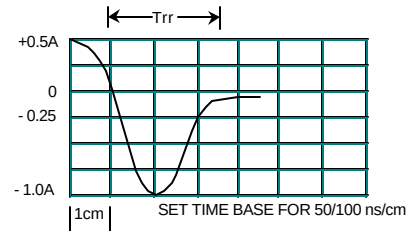
**UPDATE : AUGUST 3, 1998**

## RATING AND CHARACTERISTIC CURVES ( BYV95A - BYV96E )

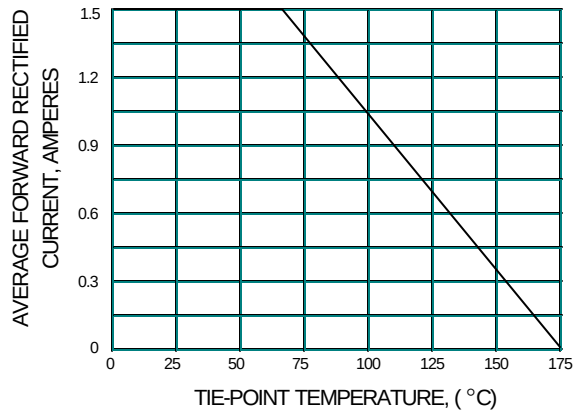
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



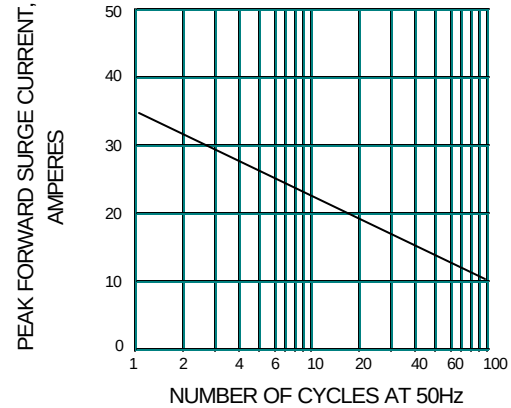
NOTE : 1. Rise Time = 7ns max., Input Impedance = 1 megaohm, 22pF.  
2. Rise Time = 10ns max., Source Impedance = 50 ohms.  
3. All Resistors = Non-inductive Types.



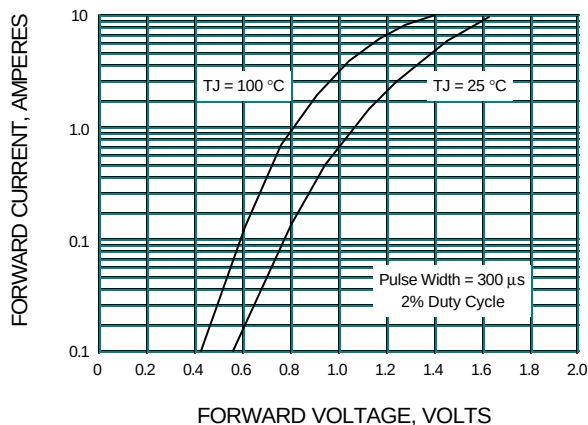
**FIG.2 - FORWARD CURRENT DERATING CURVE**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

