

# BYW54 - BYW56

**PRV : 600 - 1000Volts**  
**Io : 2.0 Amperes**

## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* **Pb / RoHS Free**

## 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

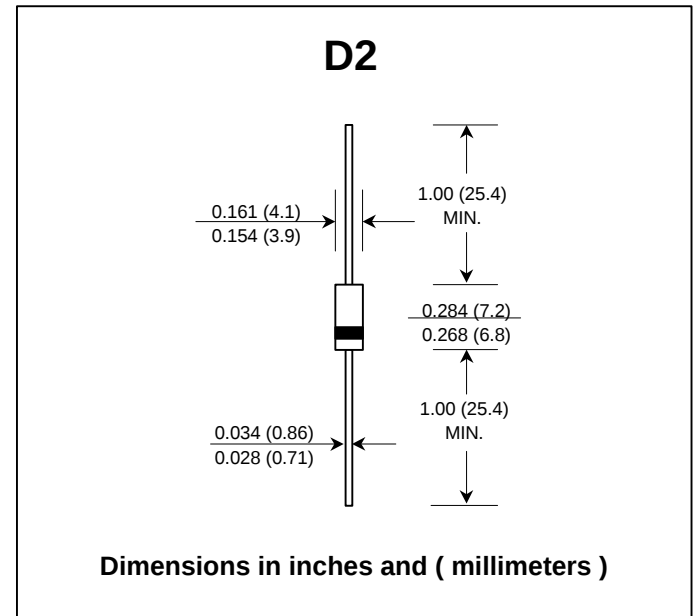
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| RATING                                                            | SYMBOL           | BYW54         | BYW55 | BYW56 | UNIT        |
|-------------------------------------------------------------------|------------------|---------------|-------|-------|-------------|
| Maximum Repetitive Peak Reverse Voltage                           | $V_{RRM}$        | 600           | 800   | 1000  | V           |
| Maximum Crest Working Reverse Voltage                             | $V_{RWM}$        | 600           | 800   | 1000  | V           |
| Maximum Continuous Reverse Voltage                                | $V_R$            | 600           | 800   | 1000  | V           |
| Min. Reverse Avalanche Breakdown Voltage @ $I_R = 0.1$ mA         | $V_{(BR)R-min.}$ | 650           | 900   | 1300  | V           |
| Maximum Average Forward Current $T_{p=45}^{\circ}C$ (Note 1)      | $I_{F(AV)}$      | 2.0           |       |       | A           |
| Maximum Non-Repetitive Peak Forward Surge Current                 | $I_{FSM}$        | 50            |       |       | A           |
| Maximum Repetitive Peak Forward Current                           | $I_{FRM}$        | 12            |       |       | A           |
| Maximum Forward Voltage at $I_F = 1.0$ A                          | $V_F$            | 1.0           |       |       | V           |
| Maximum Reverse Current at $V_R = V_{RRM}$                        | $I_R$            | 1.0           |       |       | $\mu A$     |
| Maximum Reverse Current at $V_R = V_{RRM}$ , $T_j = 165^{\circ}C$ | $I_{R(H)}$       | 150           |       |       | $\mu A$     |
| Typical Reverse Recovery Time (Note 2)                            | $T_{rr}$         | 3.0           |       |       | $\mu s$     |
| Thermal Resistance - Junction to Ambient                          | $R_{\theta JA}$  | 100           |       |       | K / W       |
| Junction Temperature Range                                        | $T_j$            | - 65 to + 175 |       |       | $^{\circ}C$ |
| Storage Temperature Range                                         | $T_{STG}$        | - 65 to + 175 |       |       | $^{\circ}C$ |

## Notes :

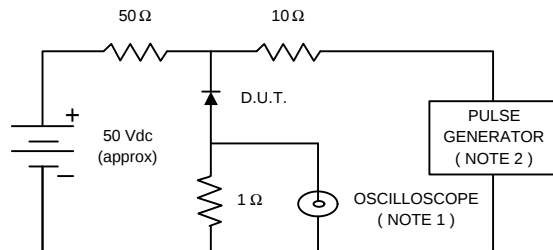
- (1) Lead Length 10 mm.
- (2) Test Conditions :  $I_F = 0.5$  A to  $I_R = 1$  A ; measured at  $I_{rr} = 0.25$  A

# AVALANCHE RECTIFIER DIODES



## RATING AND CHARACTERISTIC CURVES ( BYW54 - BYW56 )

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



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

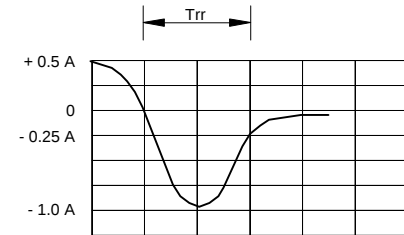


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

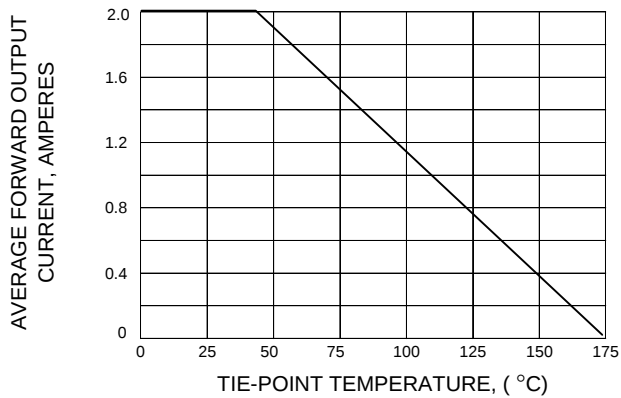


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

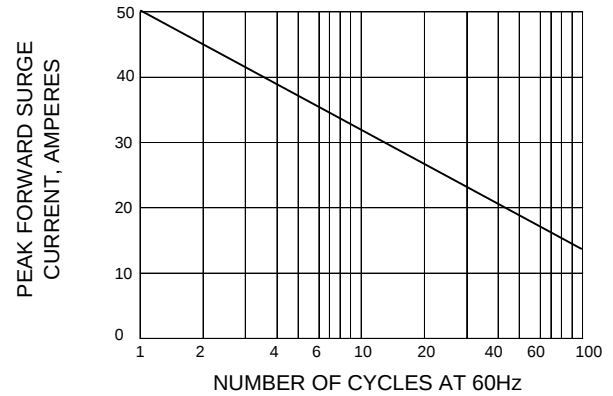


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

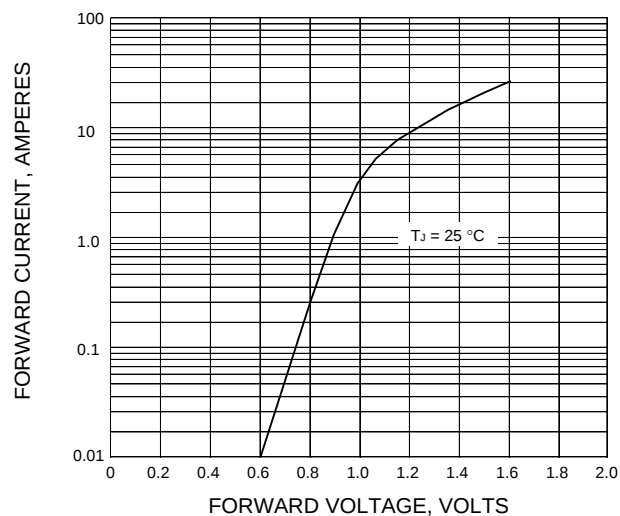


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

