

**Super Fast Rectifiers**

**Reverse Voltage - 200V**

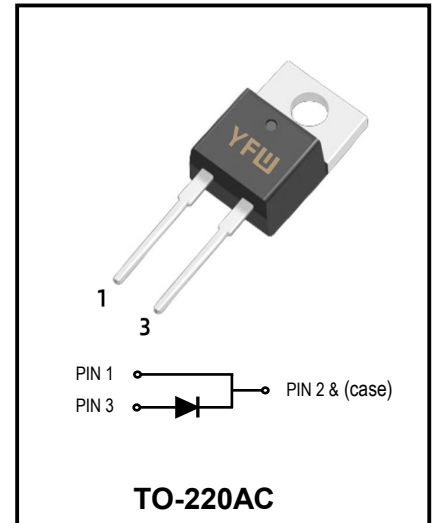
**Forward Current - 8A**

**FEATURES**

- ◆Glass passivated chip junctions
- ◆Super fast recovery time for switching mode application
- ◆High Forward Surge Capability
- ◆Low Reverse Current
- ◆Lead free in compliance with EU RoHS 2011/65/EU directive

**MECHANICAL DATA**

- ◆Circuit figure: Single positive
- ◆Leads: Solderable per mil-std-202, Method 208
- ◆Polarity: as marked
- ◆Mounting torque: 5 in-lbs maximum
- ◆Terminals: Puretin plated



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C)**

| RATINGS                                                                                                    | SYMBOL          | Value      | Units   |
|------------------------------------------------------------------------------------------------------------|-----------------|------------|---------|
| Maximum repetitive reverse voltage                                                                         | $V_{RRM}$       | 200        | V       |
| Maximum RMS voltage                                                                                        | $V_{RMS}$       | 140        | V       |
| Maximum DC blocking voltage                                                                                | $V_{DC}$        | 200        | V       |
| Maximum average forward current                                                                            | $I_{AV}$        | 8          | A       |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                         | $I_{FSM}$       | 125        | A       |
| Typical thermal resistance per diode (Note 1)                                                              | $R_{\theta-JC}$ | 4.0        | °C/W    |
| Operation Junction Temperature and Storage Temperature                                                     | $T_J, T_{STG}$  | -55 ~ +150 | °C      |
| <b>CHARACTERISTICS</b>                                                                                     |                 |            |         |
| Typical forward voltage per leg at 8A                                                                      | $V_F$           | 1.0        | V       |
| Maximum average reverse current<br>at rated DC blocking voltage<br>$T_J=25^{\circ}C$<br>$T_J=125^{\circ}C$ | $I_R$           | 5<br>250   | $\mu A$ |
| Typical reverse recovery time (Note 2)                                                                     | $T_{RR}$        | 35         | nS      |

Notes: 1. Thermal resistance from junction to case.  
2. Test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $IRR=0.25A$ .

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

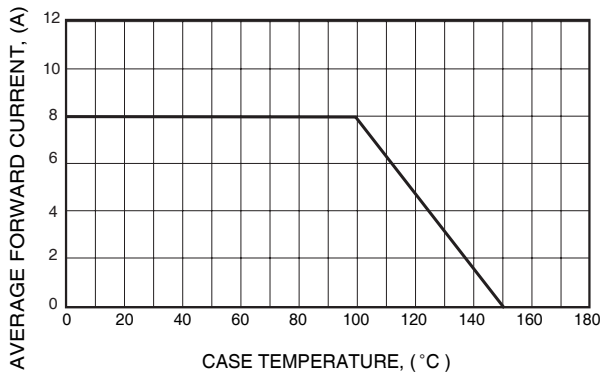


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

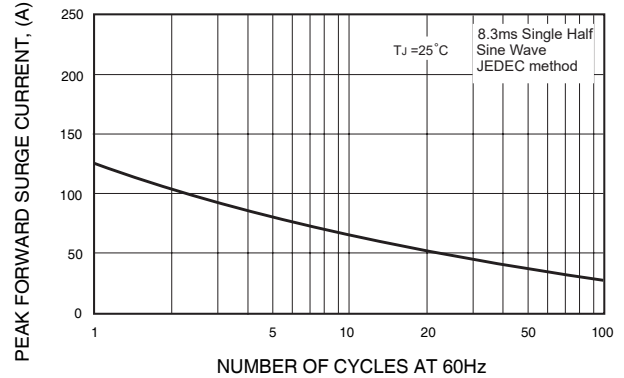


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

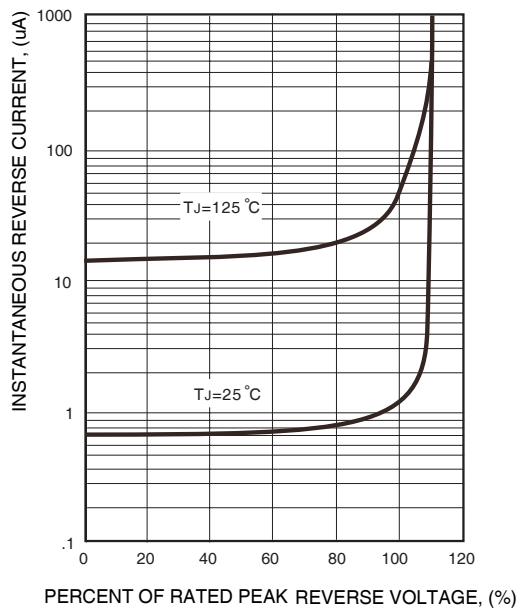


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

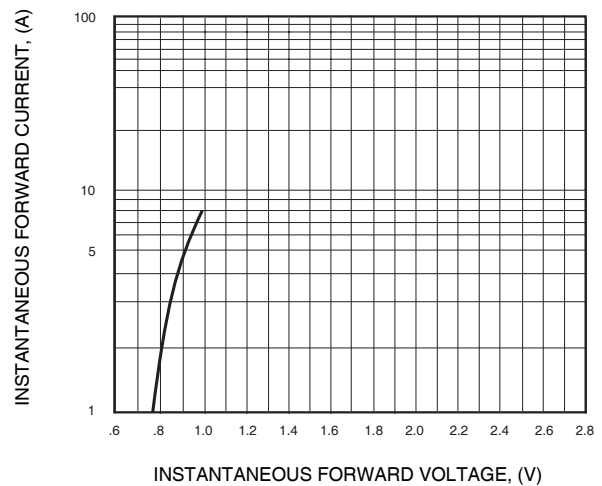
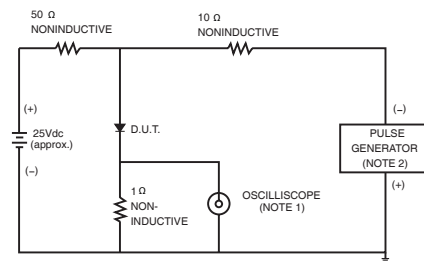
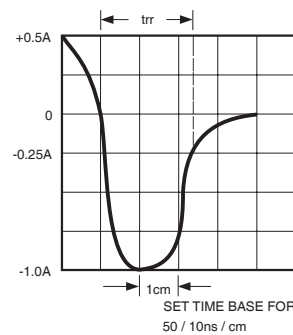


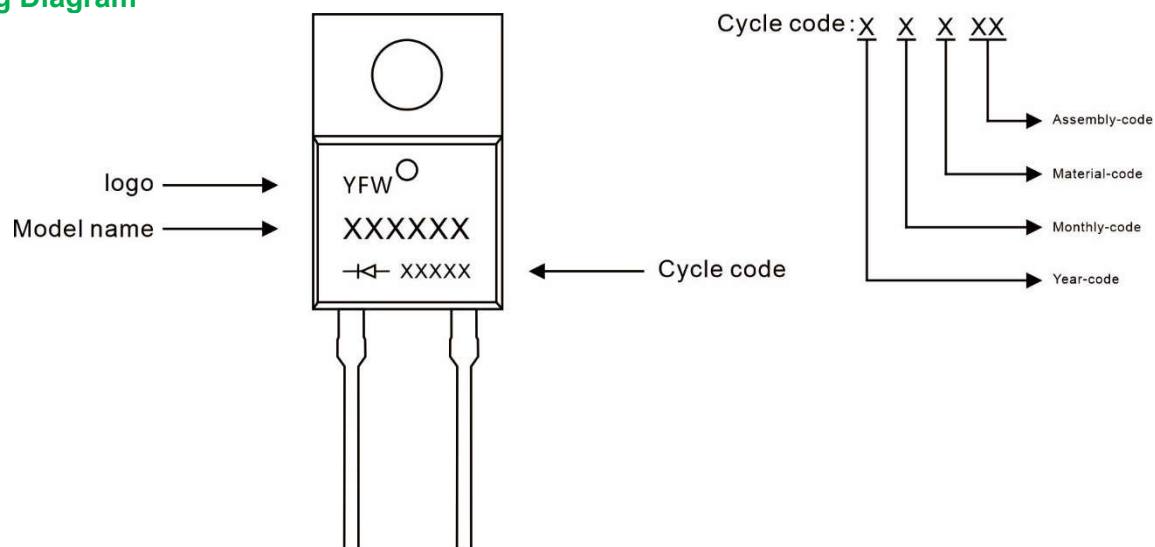
FIG.6- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.



## Marking Diagram



## Ordering information

| Model name | Package  | Unit Weight   | Base Quantity | Packing Quantity           |
|------------|----------|---------------|---------------|----------------------------|
| MUR820DA   | TO-220AC | 0.067oz(1.9g) | 50pcs/tube    | 1000PCS/Box 5000PCS/Carton |

## Package Dimensions

### TO-220AC

| Dim | Millimeter |       | Inches |       |
|-----|------------|-------|--------|-------|
|     | Min.       | Max.  | Min.   | Max.  |
| A   | 4.34       | 4.67  | 0.171  | 0.184 |
| A1  | 2.52       | 2.82  | 0.099  | 0.111 |
| b   | 0.71       | 0.91  | 0.028  | 0.036 |
| b1  | 1.17       | 1.37  | 0.046  | 0.054 |
| c   | 0.30       | 0.50  | 0.012  | 0.020 |
| c1  | 1.17       | 1.37  | 0.046  | 0.054 |
| D   | 9.90       | 10.20 | 0.390  | 0.402 |
| E   | 8.50       | 8.90  | 0.335  | 0.350 |
| E1  | 12.00      | 12.50 | 0.472  | 0.492 |
| e   | 4.88       | 5.28  | 0.192  | 0.208 |
| F   | 2.60       | 2.80  | 0.102  | 0.110 |
| L   | 13.20      | 13.80 | 0.520  | 0.543 |
| L1  | 3.80       | 4.20  | 0.150  | 0.165 |
| Φ   | 3.60       | 3.96  | 0.142  | 0.156 |

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