

## FEATURES

- Superfast recovery times-epitaxial construction.
- Low forward voltage, high current capability.
- Exceeds environmental standards of MIL-S-19500/228.
- Hermetically sealed.
- Low leakage.
- High surge capability.
- Plastic package has Underwriters Laboratories Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request

## MECHANICAL DATA

Case: Molded plastic, DO-201AD

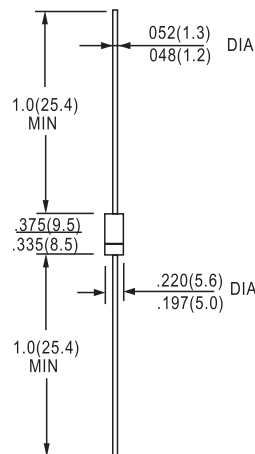
Terminals: Axial leads, solderable to MIL-STD-202, Method 208

Polarity: Color Band denotes cathode end

Mounting Position: Any

Weight: 0.04 ounce, 1.12 gram

DO-27



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Resistive or inductive load, 60Hz.

| PARAMETER                                                                                                 | SYMBOL          | ER300       | ER301 | ER301A | ER302 | ER303 | ER304 | ER306 | UNITS                       |
|-----------------------------------------------------------------------------------------------------------|-----------------|-------------|-------|--------|-------|-------|-------|-------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                    | $V_{RRM}$       | 50          | 100   | 150    | 200   | 300   | 400   | 600   | V                           |
| Maximum RMS Voltage                                                                                       | $V_{RMS}$       | 35          | 70    | 105    | 140   | 210   | 280   | 420   | V                           |
| Maximum DC Blocking Voltage                                                                               | $V_{DC}$        | 50          | 100   | 150    | 200   | 300   | 400   | 600   | V                           |
| Maximum Average Forward Current .375"(9.5mm) lead length at $T_A=55^\circ\text{C}$                        | $I_{AV}$        | 3.0         |       |        |       |       |       |       | A                           |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)          | $I_{FSM}$       | 125         |       |        |       |       |       |       | A                           |
| Maximum Forward Voltage at 3.0A DC                                                                        | $V_F$           | 0.95        |       |        | 1.25  |       | 1.70  |       | V                           |
| Maximum DC Reverse Current at $T_A=25^\circ\text{C}$<br>Rated DC Blocking Voltage $T_A=125^\circ\text{C}$ | $I_R$           | 5.0         |       |        | 300   |       |       |       | $\mu\text{A}$               |
| Maximum Reverse Recovery Time(Note 1)                                                                     | $T_{RR}$        | 35          |       |        |       |       |       |       | ns                          |
| Typical Junction capacitance (Note 2)                                                                     | $C_J$           | 35          |       |        |       |       |       |       | pF                          |
| Typical Junction Resistance(Note 3)                                                                       | $R_{\theta JA}$ | 20          |       |        |       |       |       |       | $^\circ\text{C} / \text{W}$ |
| Operating and Storage Temperature Range $T_J, T_{STG}$                                                    | $T_J, T_{STG}$  | -55 TO +150 |       |        |       |       |       |       | $^\circ\text{C}$            |

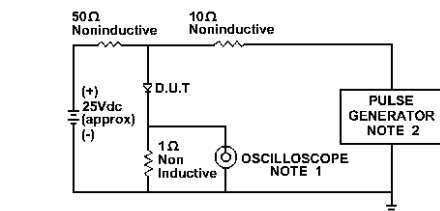
NOTES:1. Reverse Recovery Test Conditions:  $I_F=5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$

2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC

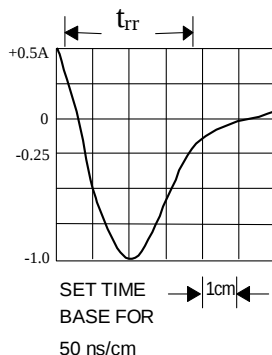
3. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted

**RATINGS AND CHARACTERISTICS CURVES**

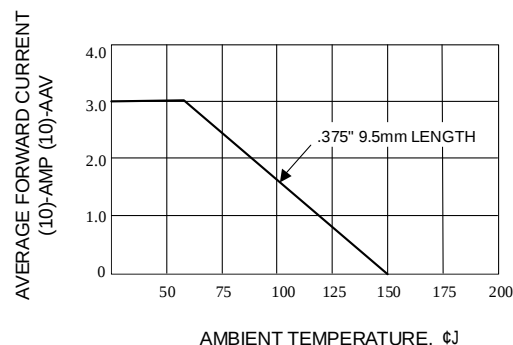
**ER300 THRU ER306**



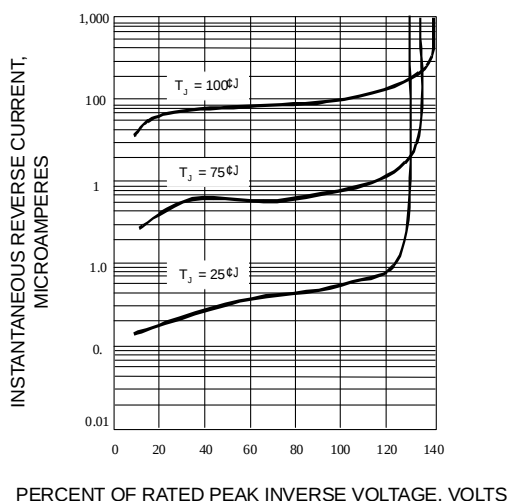
NOTE: 1. Rise Time = 7ns max.  
Input Impedance = 1 megohm. 22pF  
2. Rise Time = 10ns max.  
Source Impedance = 50 Ohms



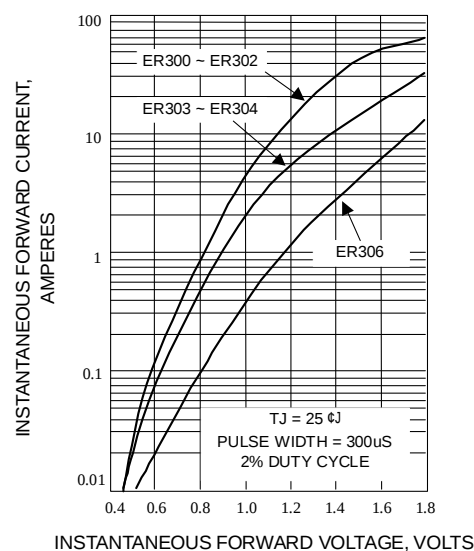
**Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



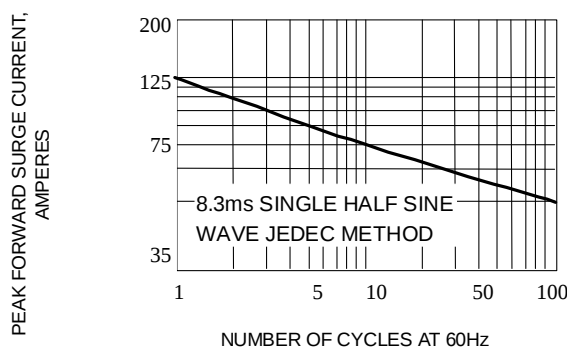
**Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING**



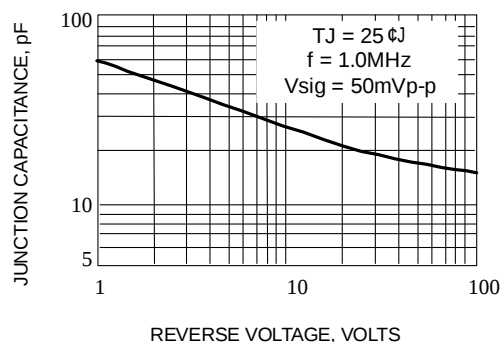
**Fig. 3-TYPICAL REVERSE CHARACTERISTICS**



**Fig. 4-FORWARD CURRENT DERATING CURVE**



**Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT**



**Fig. 6-TYPICAL JUNCTION CAPACITANCE**