



**VOLTAGE RANGE: 1500 V**

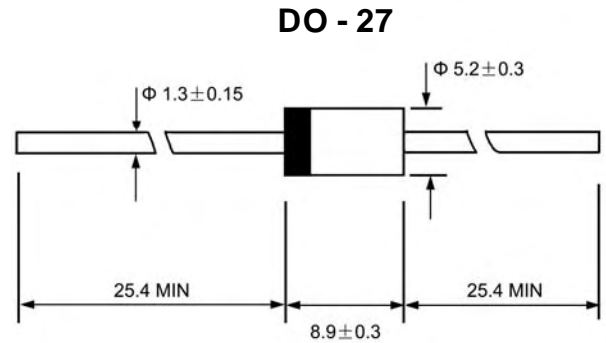
**CURRENT: 3.0 A**

## Features

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

## Mechanical Data

- ◇ Case: JEDEC DO-27, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|   |                 | 3TH41         | UNITS        |
|---|-----------------|---------------|--------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$       | 1500          | V            |
| Maximum RMS voltage   | $V_{RMS}$       | 1050          | V            |
| Maximum DC blocking voltage   | $V_{DC}$        | 1500          | V            |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ C$                          | $I_{F(AV)}$     | 3.0           | A            |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ C$ | $I_{FSM}$       | 200.0         | A            |
| Maximum instantaneous forward voltage<br>@ 3.5 A  | $V_F$           | 1.5           | V            |
| Maximum reverse current @ $T_A=25^\circ C$<br>at rated DC blocking voltage @ $T_A=100^\circ C$              | $I_R$           | 10.0<br>200.0 | $\mu A$      |
| Maximum reverse recovery time (Note1)   | $t_{rr}$        | 800           | ns           |
| Typical junction capacitance (Note2)  | $C_J$           | 32            | pF           |
| Typical thermal resistance (Note3)  | $R_{\theta JA}$ | 22            | $^\circ C/W$ |
| Operating junction temperature range  | $T_J$           | - 55---- +150 | $^\circ C$   |
| Storage temperature range   | $T_{STG}$       | - 55---- +150 | $^\circ C$   |

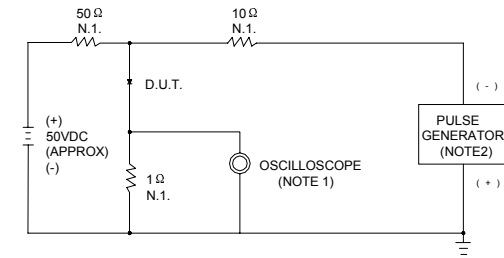
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

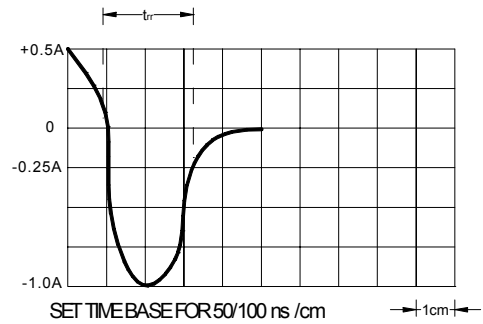
3. Thermal resistance from junction to ambient.

## Ratings AND Characteristic Curves

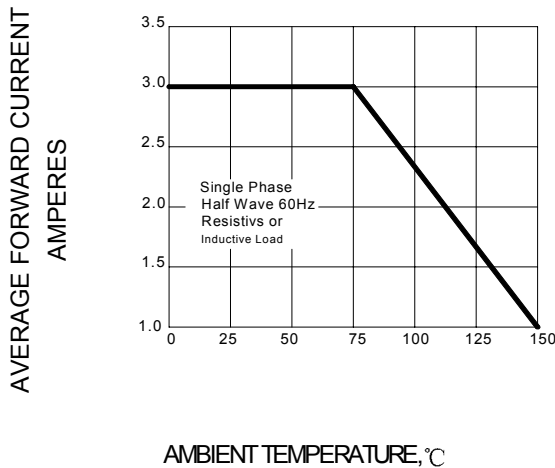
**FIG.1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



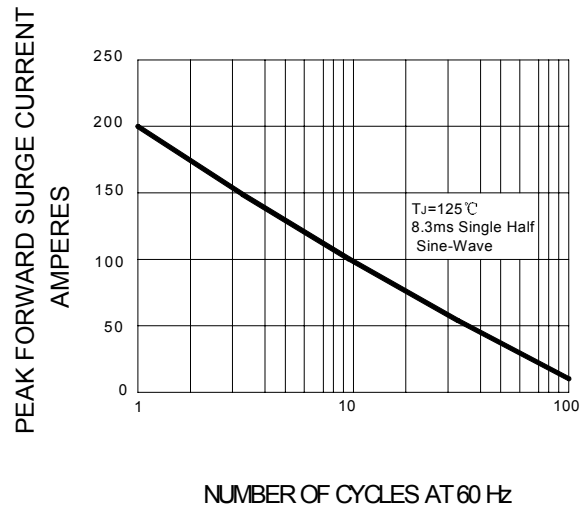
NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ, 22pF  
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω



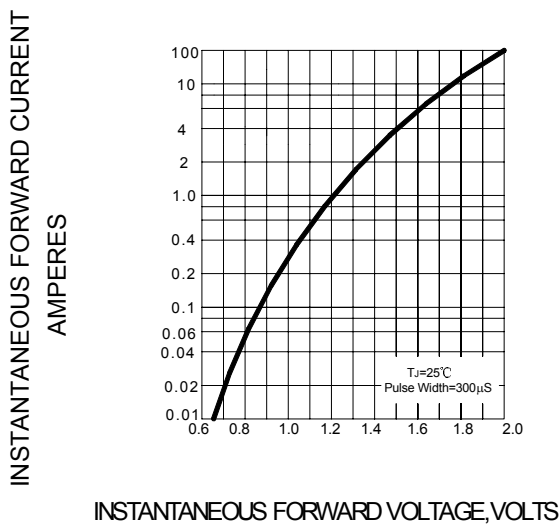
**FIG.2 – FORWARD DERATING CURVE**



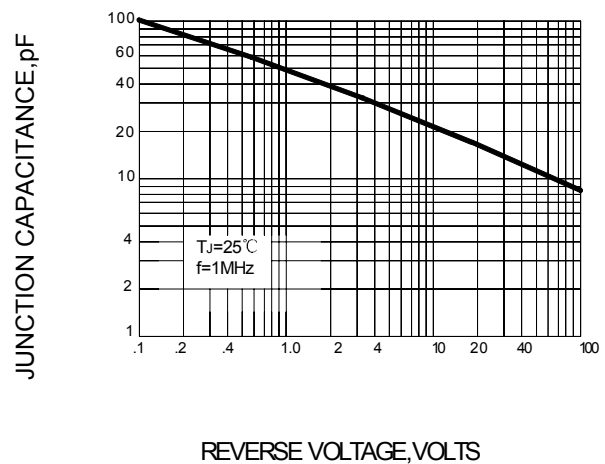
**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.5 – TYPICAL JUNCTION CAPACITANCE**



| PACKAGE | SPQ/PCS   | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|---------|-----------|----------------|----------------|--------------|--------------|
| DO-27   | 1250/AMMO | 12500          | 40X26.5X30     | 14.00        | 12.00        |