

### FAST RECOVERY RECTIFIERS

**VOLTAGE RANGE: 100 --- 200 V**
**CURRENT: 3.0 A**

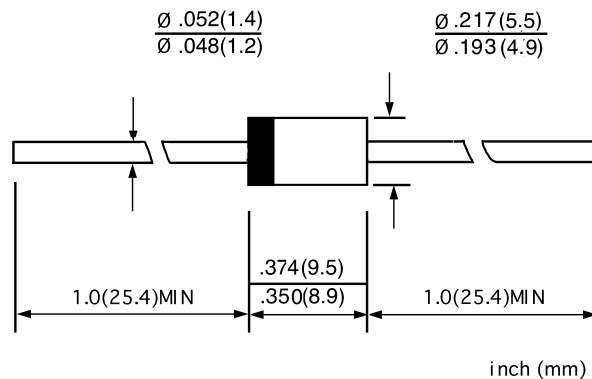
#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon Alcohol, Isopropanol and similar solvents

#### MECHANICAL DATA

- ◇ Case: JEDEC DO--27, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.041 ounces, 1.15 grams
- ◇ Mounting position: Any

#### DO - 27



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 50Hz, resistive or inductive load. For capacitive load, derate by 20%.

|                                                                                                                  |                 | 30<br>DF1      | 30<br>DF2 | UNITS              |
|------------------------------------------------------------------------------------------------------------------|-----------------|----------------|-----------|--------------------|
| Maximum recurrent peak reverse voltage                                                                           | $V_{RRM}$       | 100            | 200       | V                  |
| Maximum RMS voltage                                                                                              | $V_{RMS}$       | 70             | 140       | V                  |
| Maximum DC blocking voltage                                                                                      | $V_{DC}$        | 100            | 200       | V                  |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ\text{C}$                         | $I_{F(AV)}$     | 3.0            |           | A                  |
| Peak forward surge current<br>10ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ\text{C}$ | $I_{FSM}$       | 200.0          |           | A                  |
| Maximum instantaneous forward voltage<br>@ 3.0A                                                                  | $V_F$           | 1.0            |           | V                  |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$       | $I_R$           | 10.0<br>200.0  |           | $\mu\text{A}$      |
| Maximum reverse recovery time (Note1)                                                                            | $t_{rr}$        | 200            |           | ns                 |
| Typical junction capacitance (Note2)                                                                             | $C_J$           | 32             |           | pF                 |
| Typical thermal resistance (Note3)                                                                               | $R_{\theta JA}$ | 22             |           | $^\circ\text{C/W}$ |
| Operating junction temperature range                                                                             | $T_J$           | -55 ---- + 150 |           | $^\circ\text{C}$   |
| Storage temperature range                                                                                        | $T_{STG}$       | -55 ---- + 150 |           | $^\circ\text{C}$   |

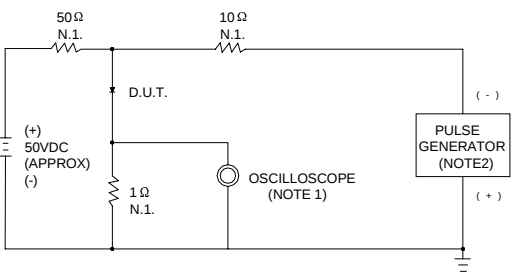
 NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

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

3. Thermal resistance from junction to ambient.

[www.galaxycn.com](http://www.galaxycn.com)

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

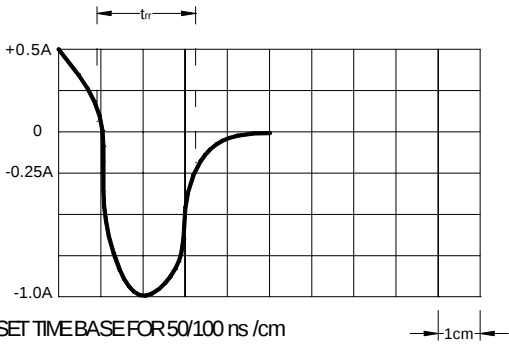
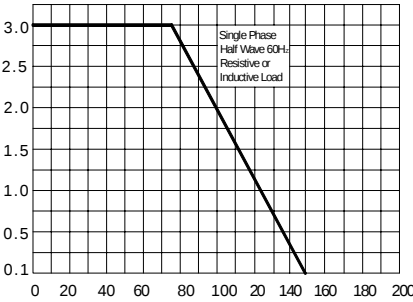


FIG.2 –FORWARD DERATING CURVE

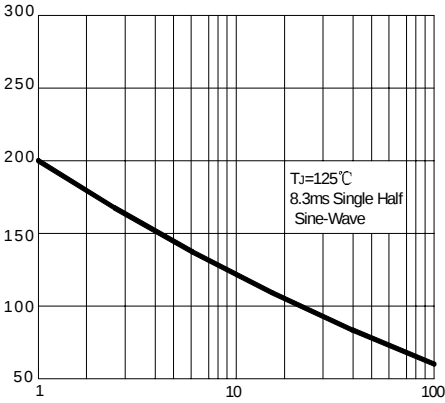
AVERAGE FORWARD CURRENT  
AMPERES



AMBIENT TEMPERATURE, °C

FIG.3 –PEAK FORWARD SURGE CURRENT

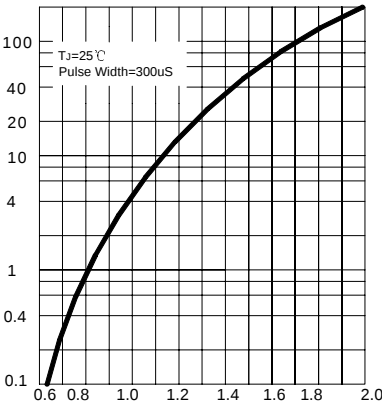
PEAK FORWARD SURGE CURRENT  
AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG.4-TYPICAL FORWARD CHARACTERISTIC

INSTANTANEOUS FORWARD CURRENT  
AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS