



**VOLTAGE RANGE: 1000 --- 1800 V**  
**CURRENT: 1.0A**



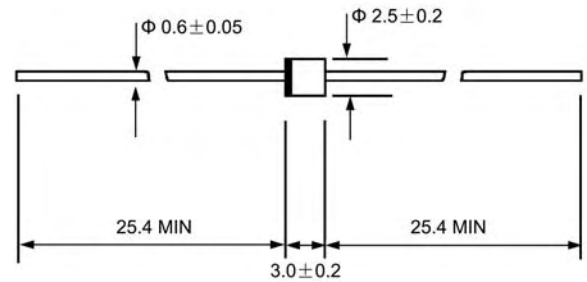
## Features

- ◇ Fast switching
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents

## Mechanical Data

- ◇ Case: JEDEC R--1, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.007 ounces, 0.20 grams
- ◇ Mounting position: Any

**R - 1**



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

| Parameter   | Symbol      | 1A10F         | 1A12F | 1A14F | 1A15F | 1A16F | 1A18F | UNITS      |
|---|-------------|---------------|-------|-------|-------|-------|-------|------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$   | 1000          | 1200  | 1400  | 1500  | 1600  | 1800  | V          |
| Maximum RMS voltage   | $V_{RMS}$   | 700           | 840   | 980   | 1050  | 1120  | 1260  | V          |
| Maximum DC blocking voltage   | $V_{DC}$    | 1000          | 1200  | 1400  | 1500  | 1600  | 1800  | V          |
| Maximum average forward rectified current<br>9.5mm lead length, @ $T_A=75^\circ C$                        | $I_{F(AV)}$ | 1.0           |       |       |       |       |       | A          |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load $T_J=125^\circ C$ | $I_{FSM}$   | 30.0          |       |       |       |       |       | A          |
| Maximum instantaneous forward voltage<br>@ 1.0 A  | $V_F$       | 1.3           | 1.8   |       |       |       | V     |            |
| Maximum reverse current @ $T_A=25^\circ C$<br>at rated DC blocking voltage @ $T_A=100^\circ C$            | $I_R$       | 5.0           |       |       |       | 100.0 |       | $\mu A$    |
| Maximum reverse recovery time (NOTE1)   | $t_{rr}$    | 300           |       |       |       |       |       | ns         |
| Typical junction capacitance (NOTE2)  | $C_J$       | 15            |       |       |       |       |       | pF         |
| Operating junction temperature range  | $T_J$       | -55 --- + 150 |       |       |       |       |       | $^\circ C$ |
| Storage temperature range   | $T_{STG}$   | -55 --- + 150 |       |       |       |       |       | $^\circ C$ |

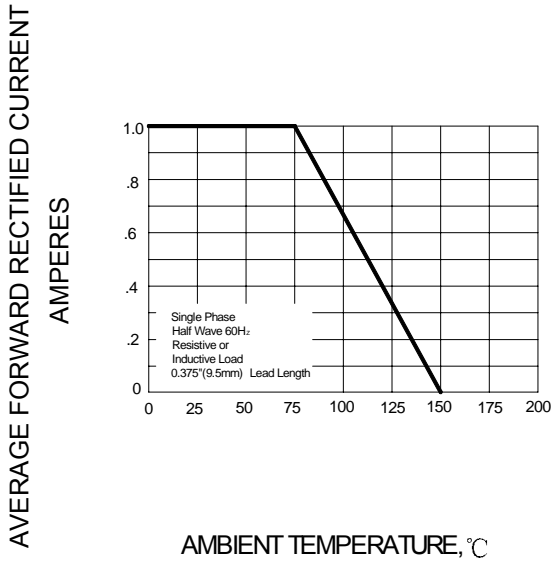
NOTE: 1. Reverse recovery test conditions:  $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$ .

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

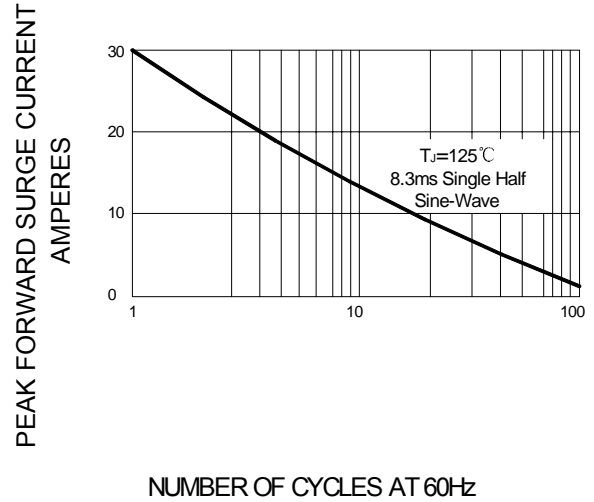


## Ratings AND Characteristic Curves

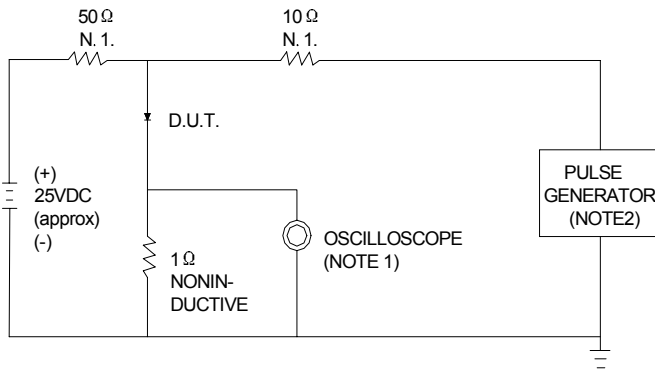
**FIG.1 – FORWARD DERATING CURVE**



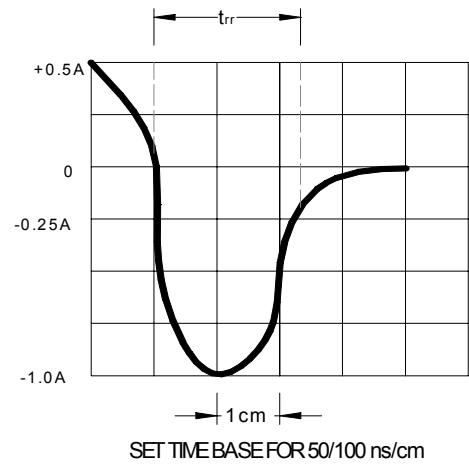
**FIG.2 – PEAK FORWARD SURGE CURRENT**



**FIG.3 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



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



| PACKAGE | SPQ/PCS   | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|---------|-----------|----------------|----------------|--------------|--------------|
| R-1     | 5000/AMMO | 50000          | 42X28X31       | 12.00        | 10.00        |