



**VOLTAGE RANGE: 50-1000V**

**FORWARD CURRENT: 4.0A**

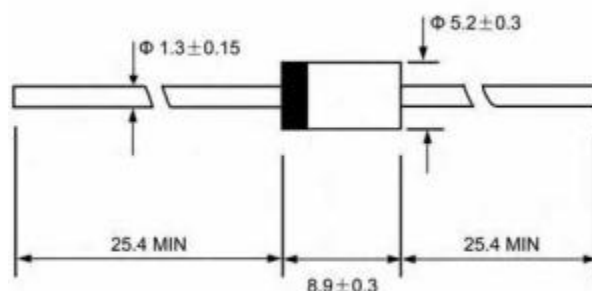
### Features

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

### 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



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERS

Ratings at 25°C ambient temperature unless otherwise specified.

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

| Type Number                                                                                   | Symbol                              | MUR<br>405  | MUR<br>410 | MUR<br>415 | MUR<br>420 | MUR<br>440 | MUR<br>460 | MUR<br>480 | MUR<br>4100 | UNI<br>TS |
|-----------------------------------------------------------------------------------------------|-------------------------------------|-------------|------------|------------|------------|------------|------------|------------|-------------|-----------|
| Maximum Recurrent Peak Reverse Voltage                                                        | VRRM                                | 50          | 100        | 150        | 200        | 400        | 600        | 800        | 1000        | V         |
| Maximum RMS Voltage                                                                           | VRMS                                | 35          | 70         | 105        | 140        | 280        | 420        | 560        | 700         | V         |
| Maximum DC Blocking Voltage                                                                   | VDC                                 | 50          | 100        | 150        | 200        | 400        | 600        | 800        | 1000        | V         |
| Maximum average forward rectified Current<br>9.5mm lead length @TA=50°C                       | IF(AV)                              | 4.0         |            |            |            |            |            |            |             | A         |
| Peak forward surge current:8.3ms single half-sine-wave<br>superimposed on rated load @TJ=125C | IFSM                                | 125         |            |            |            |            |            |            |             | A         |
| Maximum instantaneous Forward<br>Voltage                                                      | @TA=25°C@4.0A<br><br>@TA=150°C@3.0A | VF          | 0.89       |            |            | 1.28       |            | 1.75       |             | V         |
|                                                                                               |                                     |             | 0.70       |            |            | 1.10       |            | 1.50       |             |           |
| Maximum Reverse Current at<br>rated DC Blocking Voltage                                       | @TA=25°C                            | IR          | 5          |            |            |            |            |            |             | µA        |
|                                                                                               | @TA=150°C                           |             | 150        |            |            |            |            |            |             | µA        |
| Maximum reverse recovery time (Note1)                                                         | Trr                                 | 25          |            |            |            | 50         |            | 70         |             | ns        |
| Controlled Avalanche Energy (See Test Circuit in Figure 6)                                    | WAVAL                               | 20          |            |            |            |            |            |            |             | mJ        |
| Typical junction capacitance (Note2)                                                          | CJ                                  | 70          |            |            |            |            |            |            |             | PF        |
| Typical thermal resistance (Note3)                                                            | R θ JA                              | 20          |            |            |            |            |            |            |             | °C/W      |
| Operating junction temperature range                                                          | TJ                                  | -65 to +175 |            |            |            |            |            |            |             | °C        |
| Storage temperature range                                                                     | TSTG                                | -65 to +175 |            |            |            |            |            |            |             | °C        |

Note: 1. Measured with IF=0.5A, IR=1A, Irr=0.25A.

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

3. Thermal resistance from junction to ambient.



FIG.1:  $I_o$ - $T_a$  Curve

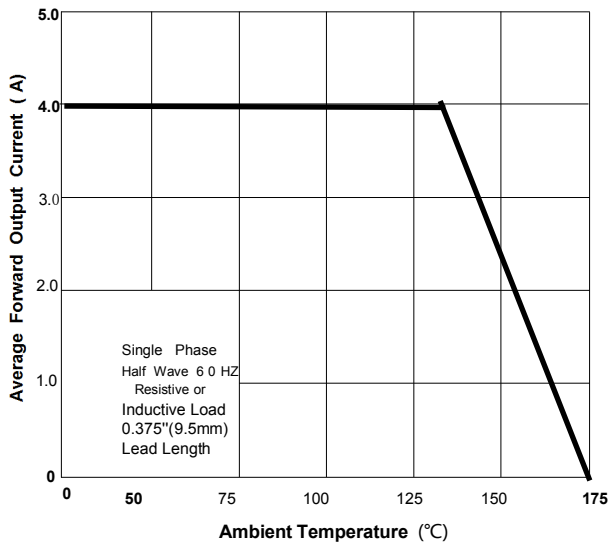


FIG.2: Forward Surge Current Capability

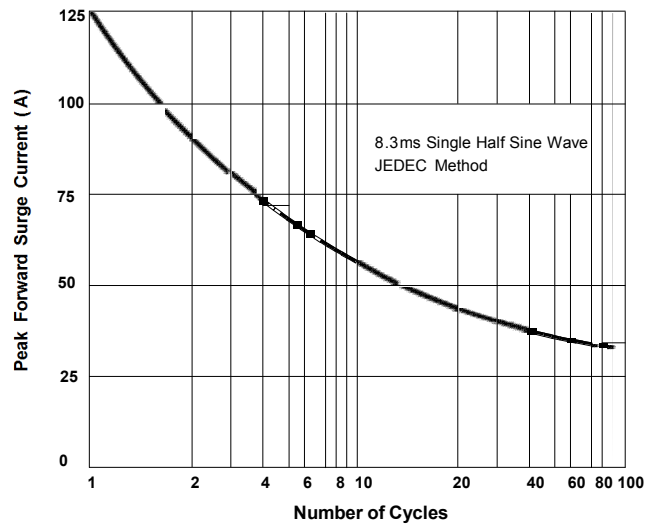


FIG.3: Forward Voltage

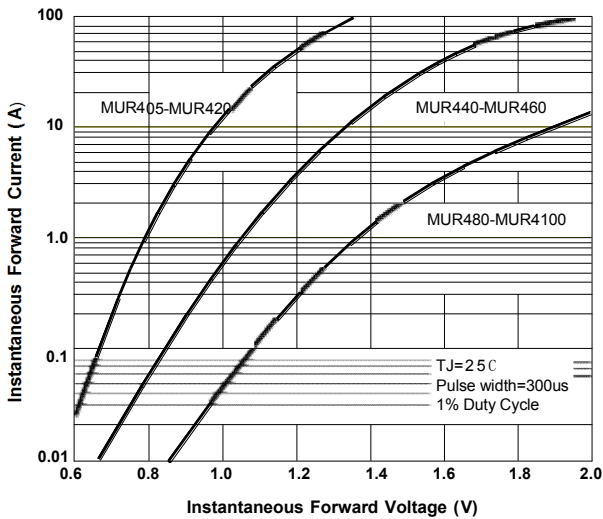


FIG.4: Typical Reverse Characteristics

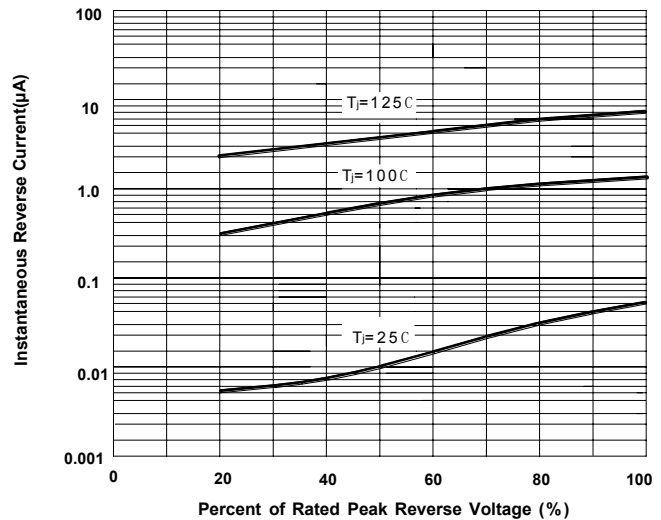
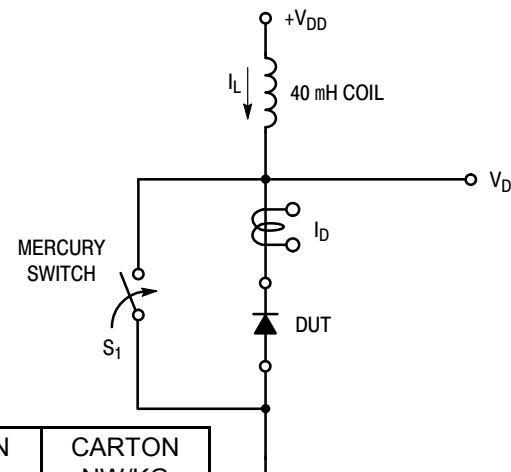
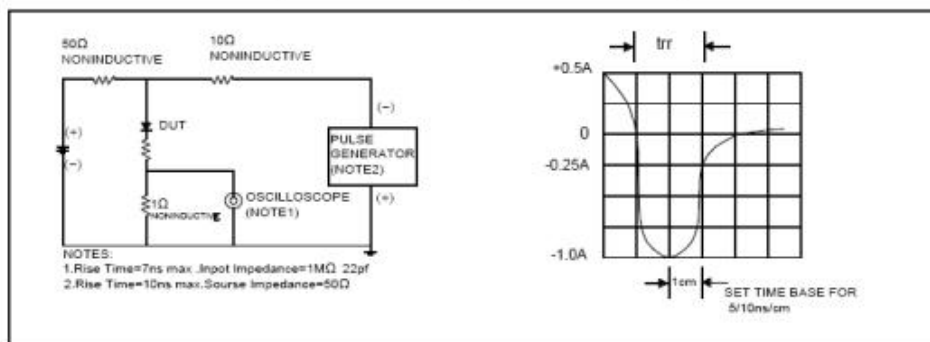


Figure 6. Test Circuit

FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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