

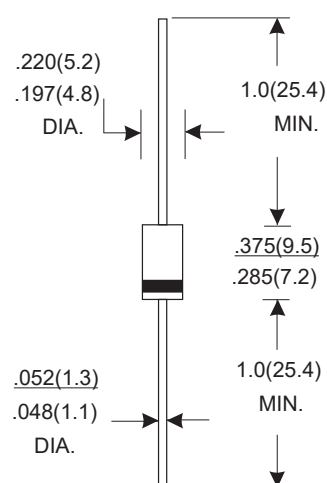
## DO-27 Ultra-Fast Recovery Rectifier Diodes

### FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- High speed switching

### MECHANICAL DATA

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



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

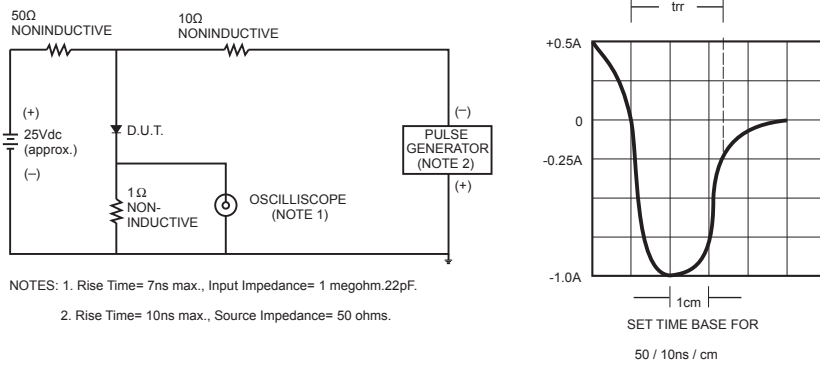
| Parameter                                                                                             |                         | Symbol             | SF31           | SF32 | SF33 | SF34 | SF35 | SF36 | SF37 | SF38 | UNITS |
|-------------------------------------------------------------------------------------------------------|-------------------------|--------------------|----------------|------|------|------|------|------|------|------|-------|
| Maximum recurrent peak reverse voltage                                                                |                         | V <sub>RRM</sub>   | 50             | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V     |
| Maximum RMS voltage                                                                                   |                         | V <sub>RMS</sub>   | 35             | 70   | 105  | 140  | 210  | 280  | 420  | 560  | V     |
| Maximum DC blocking voltage                                                                           |                         | V <sub>DC</sub>    | 50             | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V     |
| Maximum Average Forward Rectified Current.375"(9.5mm)<br>Lead Length at T <sub>A</sub> =75 °C         |                         | I <sub>F(AV)</sub> | 3.0            |      |      |      |      |      |      |      | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC Method) |                         | I <sub>FSM</sub>   | 125.0          |      |      |      |      |      |      |      | A     |
| Maximum Instantaneous Forward Voltage at 3.0A                                                         |                         | V <sub>F</sub>     | 1.0            |      |      |      | 1.3  |      | 1.7  |      | V     |
| Maximum reverse current<br>at rated DC blocking voltage                                               | @T <sub>A</sub> =25 °C  | I <sub>R</sub>     | 5.0            |      |      |      |      |      |      |      | μ A   |
|                                                                                                       | @T <sub>A</sub> =100 °C |                    | 50.0           |      |      |      |      |      |      |      |       |
| Maximum reverse recovery time (Note1)                                                                 |                         | t <sub>rr</sub>    | 35             |      |      |      |      |      |      |      | ns    |
| Typical junction capacitance (Note2)                                                                  |                         | C <sub>J</sub>     | 40             |      |      |      | 30   |      |      |      | pF    |
| Typical thermal resistance(Note3)                                                                     |                         | R <sub>θJA</sub>   | 50             |      |      |      |      |      |      |      | °C/W  |
| Operating junction temperature range                                                                  |                         | T <sub>j</sub>     | -55 ---- + 125 |      |      |      |      |      |      |      | °C    |
| Storage temperature range                                                                             |                         | T <sub>STG</sub>   | -55 ---- + 150 |      |      |      |      |      |      |      | °C    |

**Note:** 1.Reverse recovery condition  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$

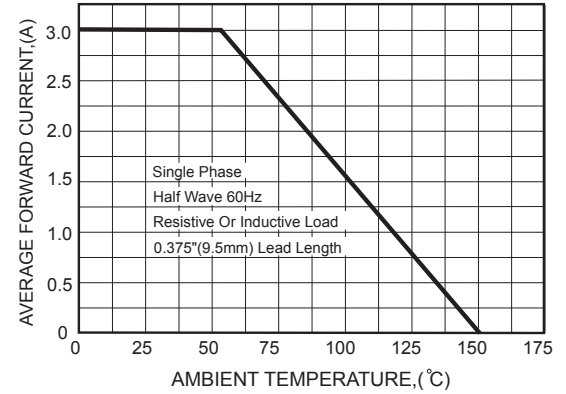
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES

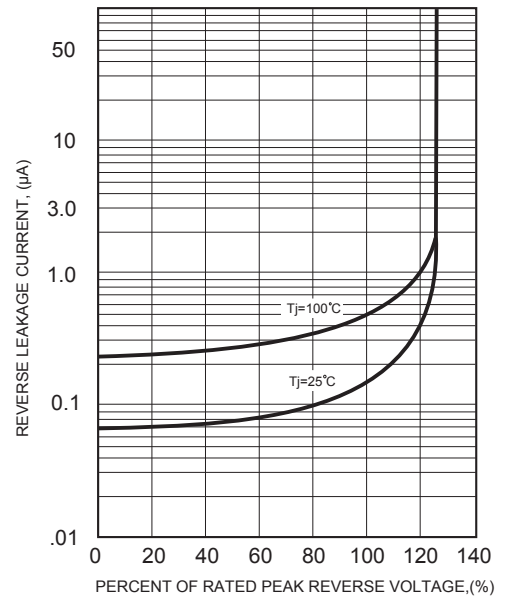
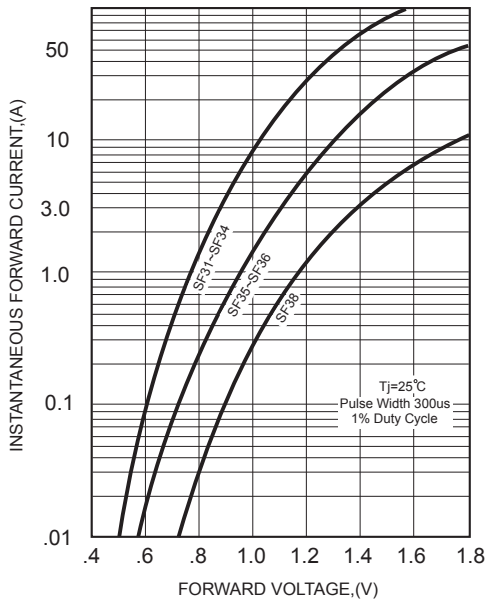
**FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



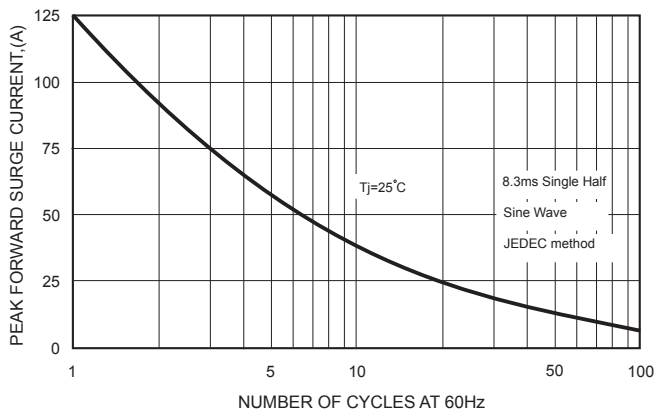
**FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE**



**FIG.3-TYPICAL FORWARD CHARACTERISTICS** **FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6-TYPICAL JUNCTION CAPACITANCE**

