

### Axial Lead Super Fast Rectifier

**Pb** Lead(Pb)-Free

#### Features:

- \* Low forward voltage drop.
- \* High current capability.
- \* High reliability.
- \* High surge current capability.

**REVERSE VOLTAGE**  
**50-600 VOLTS**  
**CURRENT**  
**1.0 AMPERE**



**DO-41**

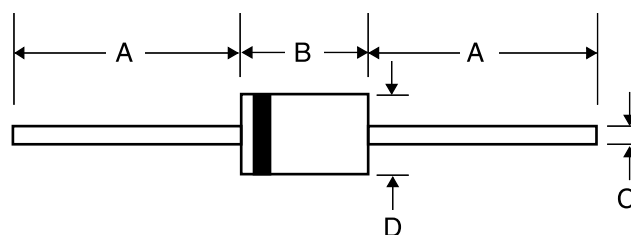
#### Mechanical Data:

- \* Case: Molded plastic.
- \* Epoxy: UL 94V-0 rate flame retardant.
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed.
- \* Polarity: Color band denotes cathode end.
- \* Mounting position: Any.
- \* Weight: 0.34 grams.

### DO-41 Outline Dimensions

Unit:mm

#### Axial Device (Through-Hole)



|       | A     |     | B    |      | C    |      | D    |      |
|-------|-------|-----|------|------|------|------|------|------|
| Dim   | Min   | Max | Min  | Max  | Min  | Max  | Min  | Max  |
| DO-41 | 25.40 | -   | 4.06 | 5.20 | 0.70 | 0.90 | 2.00 | 2.70 |

## Maximum Rating

| Characteristic                                                                    | Symbol    | SF11        | SF12 | SF13 | SF14 | SF15 | SF16 | SF17 | SF18 | Units |
|-----------------------------------------------------------------------------------|-----------|-------------|------|------|------|------|------|------|------|-------|
| Maximum repetitive peak reverse voltage                                           | $V_{RRM}$ | 50          | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V     |
| Maximum RMS voltage                                                               | $V_{RMS}$ | 35          | 70   | 105  | 140  | 210  | 280  | 350  | 420  | V     |
| Maximum DC blocking voltage                                                       | $V_{DC}$  | 50          | 100  | 150  | 200  | 300  | 400  | 500  | 600  | V     |
| Maximum average forward rectified current                                         | $I_{AV}$  | 1.0         |      |      |      |      |      |      |      | A     |
| Peak forward surge current 8.3mS single half sine-wave superimposed on rated load | $I_{FSM}$ | 30          |      |      |      |      |      |      |      | A     |
| Operating junction temperature range                                              | $T_J$     | +150        |      |      |      |      |      |      |      | °C    |
| Storage temperature range                                                         | $T_{STG}$ | -65 to +150 |      |      |      |      |      |      |      | °C    |

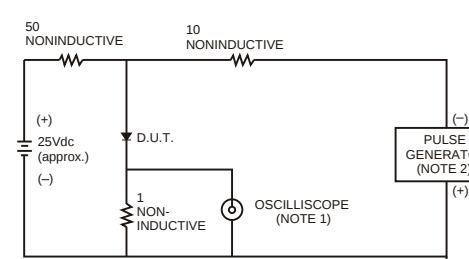
Notes: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. Reverse Recovery Time test condition :  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

## Electrical Characteristic

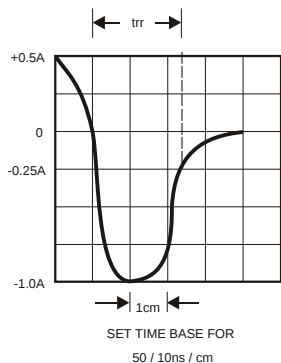
| Characteristic                                                                                         | Symbol          | SF11      | SF12 | SF13 | SF14 | SF15 | SF16 | SF17 | SF18 | Units |
|--------------------------------------------------------------------------------------------------------|-----------------|-----------|------|------|------|------|------|------|------|-------|
| Maximum Instanatneous Forward Voltage<br>I <sub>F</sub> =1.0A                                          | V <sub>F</sub>  | 0.95      |      |      |      | 1.25 |      | 1.50 |      | V     |
| Maximum DC Reverse Current<br>Rated DC Blocking Voltage, T <sub>A</sub> =25°C<br>T <sub>A</sub> =100°C | I <sub>R</sub>  | 5.0<br>50 |      |      |      |      |      |      |      | μA    |
| Typical Junction Capacitance                                                                           | C <sub>P</sub>  | 50        |      |      |      |      |      |      |      | pF    |
| Maximum Reverse Recovery Time                                                                          | T <sub>rr</sub> | 35        |      |      |      |      |      |      |      | nS    |

## RATING AND CHARACTERISTIC CURVES

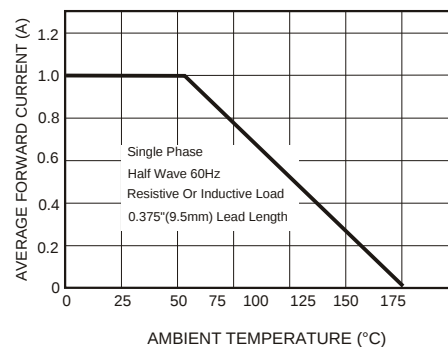


NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

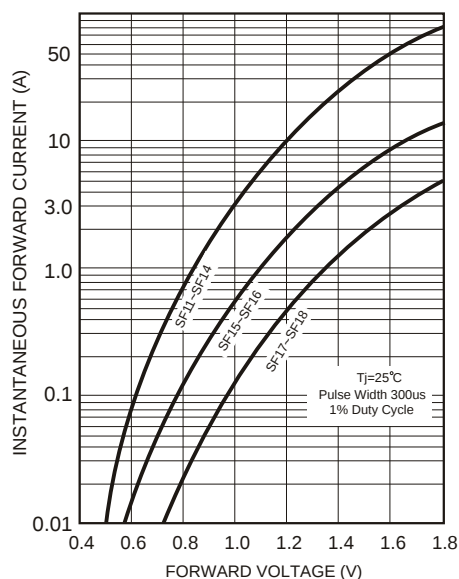
**FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY**



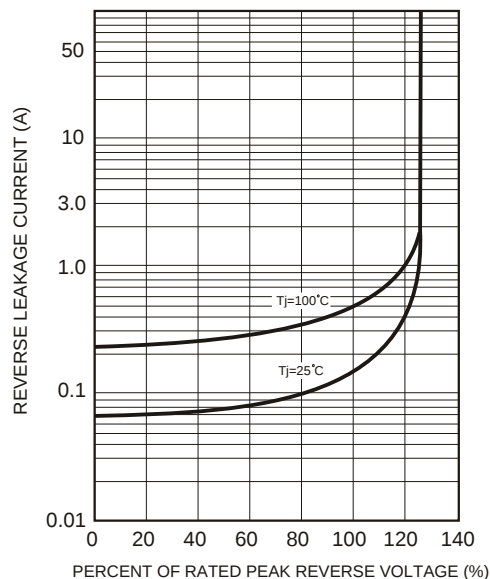
**TIME CHARACTERISTIC**



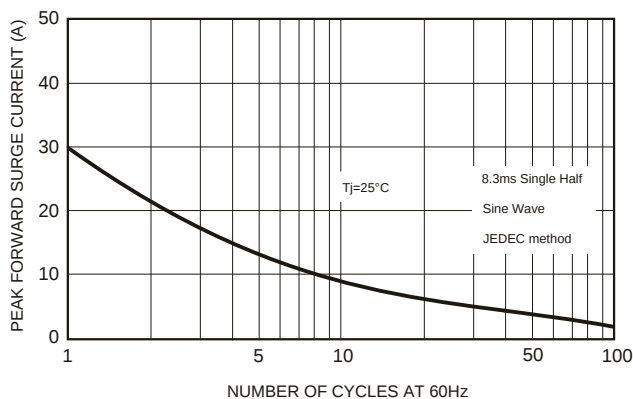
**FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE**



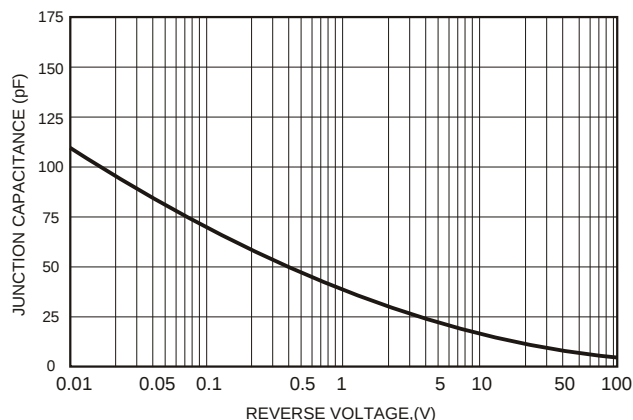
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL REVERSE CHARACTERISTICS**



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



**FIG.6 TYPICAL JUNCTION CAPACITANCE**