

**GLASS PASSIVATED SUPER FAST RECTIFIER**

**VOLTAGE RANGE 50 to 400 Volts CURRENT 16 Amperes**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* Low thermal resistance
- \* High current capability
- \* Super fast switching speed
- \* High reliability
- \* Good for switching mode circuit

**MECHANICAL DATA**

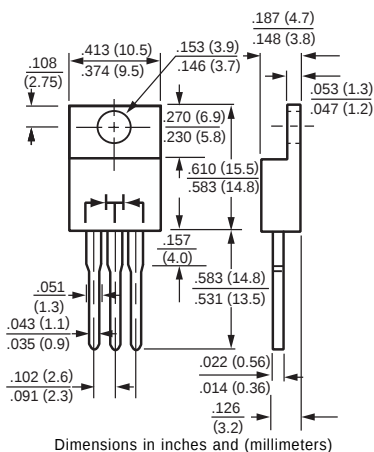
- \* Case: TO-220A molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.24 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**TO-220**



**MAXIMUM RATINGS** (At Ta = 25°C unless otherwise noted)

| RATINGS                                                                                              | SYMBOL   | SF161A       | SF162A | SF163A | SF164A | SF165A | SF166A | UNITS |
|------------------------------------------------------------------------------------------------------|----------|--------------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | VRRM     | 50           | 100    | 150    | 200    | 300    | 400    | Volts |
| Maximum RMS Voltage                                                                                  | VRMS     | 35           | 70     | 105    | 140    | 210    | 280    | Volts |
| Maximum DC Blocking Voltage                                                                          | Vdc      | 50           | 100    | 150    | 200    | 300    | 400    | Volts |
| Maximum Average Forward Rectified Current<br>at Tc = 125°C                                           | IO       | 16.0         |        |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM     | 150          |        |        |        |        |        | Amps  |
| Typical Thermal Resistance                                                                           | RθJC     | 3            |        |        |        |        |        | °C/W  |
| Typical Junction Capacitance (Note 2)                                                                | Cj       | 50           |        |        |        | 30     |        | pF    |
| Operating and Storage Temperature Range                                                              | TJ, TSTG | -65 to + 150 |        |        |        |        |        | °C    |

**ELECTRICAL CHARACTERISTICS** (At Ta = 25°C unless otherwise noted)

| CHARACTERISTICS                                            | SYMBOL | SF161A | SF162A | SF163A | SF164A | SF165A | SF166A | UNITS |
|------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 8.0A DC           | VF     | 1.0    |        |        |        | 1.35   |        | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | IR     | 10     |        |        |        | 500    |        | uAmps |
| Maximum Reverse Recovery Time (Note 1)                     | trr    | 35     |        |        |        | 50     |        | nSec  |

NOTES : 1. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. Suffix "C" =Common Cathode.

## RATING AND CHARACTERISTIC CURVES ( SF161A THRU SF166A )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

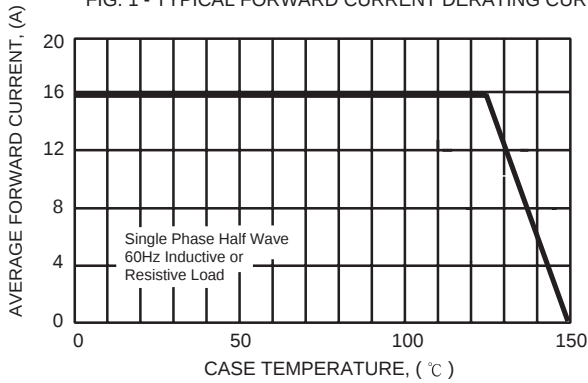


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

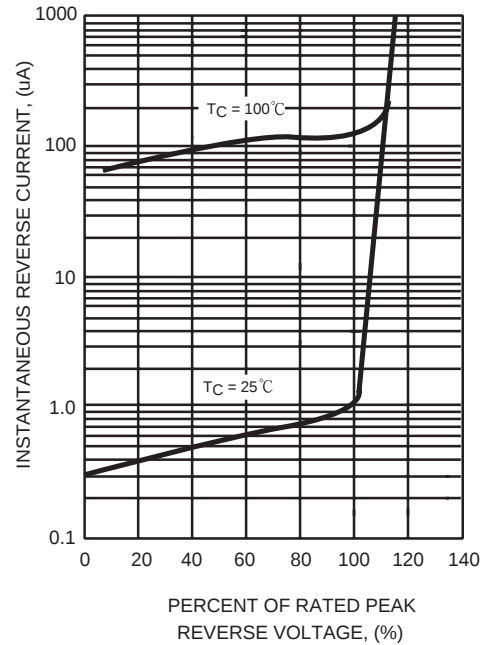


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

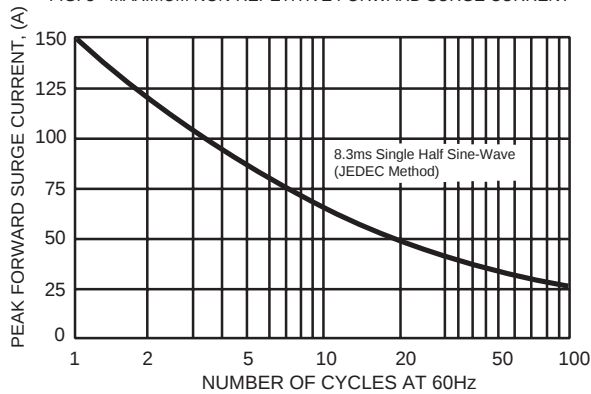


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

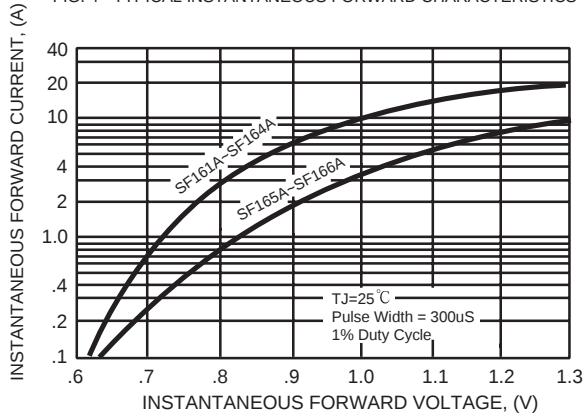


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

