

Pb Free Plating Product

## SF54AG thru SF58AG



## 5.0 Ampere Super Fast Rectifiers for Power Chargers

### Features

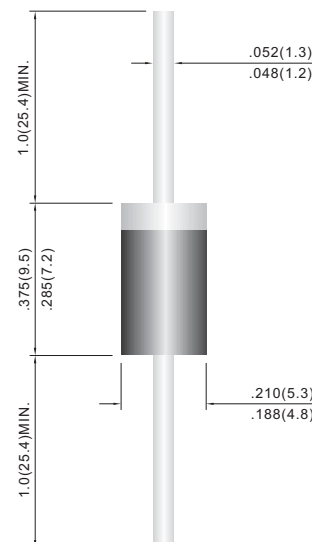
- ✧ High efficiency, low VF
- ✧ High current capability
- ✧ GPP as-cut wafer for high IFSM
- ✧ High surge current capability
- ✧ Low power loss.
- ✧ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

### Mechanical Data

- ✧ Case: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.2 gram approximately

DO-201AD

Unit: inch(mm)



## Maximum Ratings and Electrical Characteristics

Rating 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%

| Type Number                                                                                              | Symbol                               | SF54AG      | SF56AG | SF58AG | Units    |
|----------------------------------------------------------------------------------------------------------|--------------------------------------|-------------|--------|--------|----------|
| Maximum Recurrent Peak Reverse Voltage                                                                   | V <sub>RRM</sub>                     | 200         | 400    | 600    | V        |
| Maximum RMS Voltage                                                                                      | V <sub>RMS</sub>                     | 140         | 280    | 420    | V        |
| Maximum DC Blocking Voltage                                                                              | V <sub>DC</sub>                      | 200         | 400    | 600    | V        |
| Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @T <sub>A</sub> =100°C                | I <sub>(AV)</sub>                    | 5.0         |        |        | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )      | I <sub>FSM</sub>                     | 170         |        |        | A        |
| Maximum Instantaneous Forward Voltage @ 5.0A                                                             | V <sub>F</sub>                       | 0.98        | 1.3    | 1.7    | V        |
| Maximum DC Reverse Current @ T <sub>A</sub> =25 °C at Rated DC Blocking Voltage @ T <sub>A</sub> =125 °C | I <sub>R</sub>                       | 5.0<br>100  |        |        | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)                                                                   | T <sub>rr</sub>                      | 35          |        |        | nS       |
| Typical Junction Capacitance (Note 2)                                                                    | C <sub>j</sub>                       | 100         | 50     |        | pF       |
| Typical Thermal Resistance                                                                               | R <sub>θJA</sub><br>R <sub>θJL</sub> | 40<br>5.0   |        |        | °C/W     |
| Operating Temperature Range                                                                              | T <sub>J</sub>                       | -65 to +150 |        |        | °C       |
| Storage Temperature Range                                                                                | T <sub>STG</sub>                     | -65 to +150 |        |        | °C       |

- Notes:
1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$
  2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
  3. Mount on Cu-Pad Size 16mm x 16mm on PCB.

## RATING AND CHARACTERISTIC CURVES

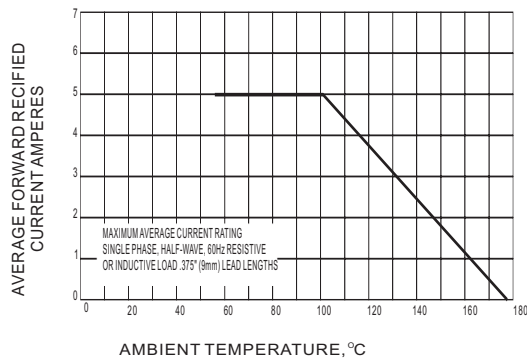


FIG.1 MAXIMUM AVERAGE FORWARD CURRENT RATING

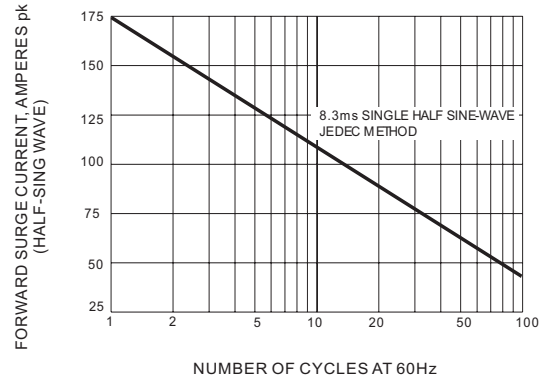


FIG.2 MAXIMUM NON-REPEITIVE SURGE CURRENT

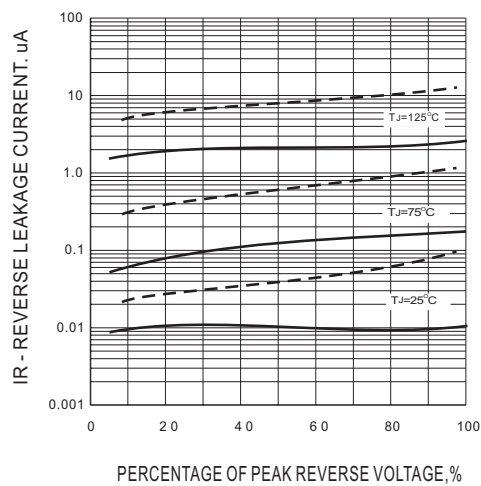


FIG.3 TYPICAL REVERSE CHARACTERISTICS

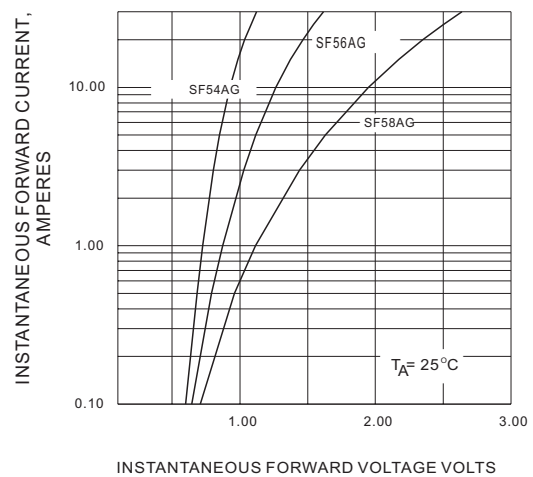


FIG.4 TYPICAL JUNCTION CAPACITANCE