

Pb Free Plating Product

## SF164C/SF166C/SF168C



16 Ampere Heatsink Common Cathode Fast Recovery Half Bridge Rectifiers

**Features**

- ★ Latest GPP technology with super fast recovery time
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

**Application**

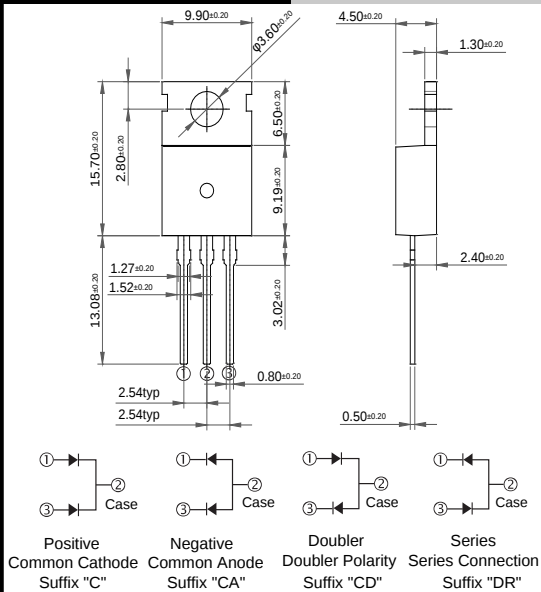
- ★ Automotive Inverters and Solar Inverters
- ★ Plating Power Supply, SMPS, Motor Control and UPS
- ★ Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- ★ Case: Heatsink TO-220AB/TO-220CE
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-202 method 208
- ★ Polarity: As marked on diode body
- ★ Mounting position: Any
- ★ Weight: 2.2 gram approximately

**TO-220AB**

Unit:mm

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|                                                                                                         | SYMBOL                            | SF164C       | SF166C | SF168C | UNIT     |
|---------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|--------|--------|----------|
| 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 T <sub>C</sub> =100°C                                         | I <sub>F(AV)</sub>                | 16.0         |        |        | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)       | I <sub>FSM</sub>                  | 175          | 150    |        | A        |
| Maximum Instantaneous Forward Voltage @ 8.0 A                                                           | V <sub>F</sub>                    | 0.98         | 1.3    | 1.7    | V        |
| Maximum DC Reverse Current @T <sub>J</sub> =25°C<br>At Rated DC Blocking Voltage @T <sub>J</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>                    | 90           |        |        | pF       |
| Typical Thermal Resistance (Note 3)                                                                     | R <sub>θJC</sub>                  | 2.2          |        |        | °C/W     |
| Operating Junction and Storage Temperature Range                                                        | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |        |        | °C       |

NOTES : (1) Reverse recovery test conditions I<sub>F</sub>= 0.5A, I<sub>R</sub>= 1.0A, I<sub>rr</sub> = 0.25A.

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

(3) Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

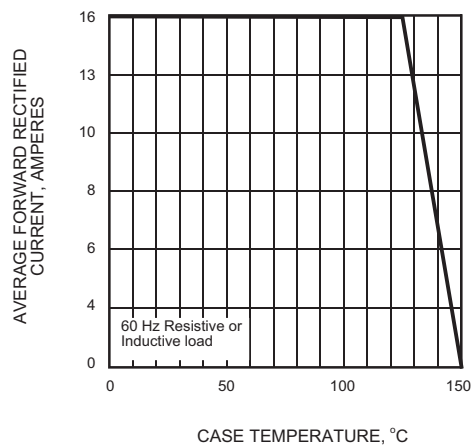


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

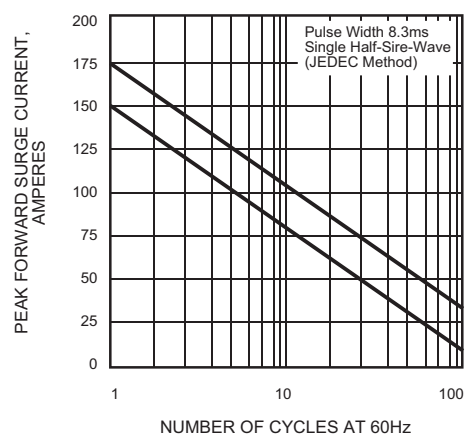


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

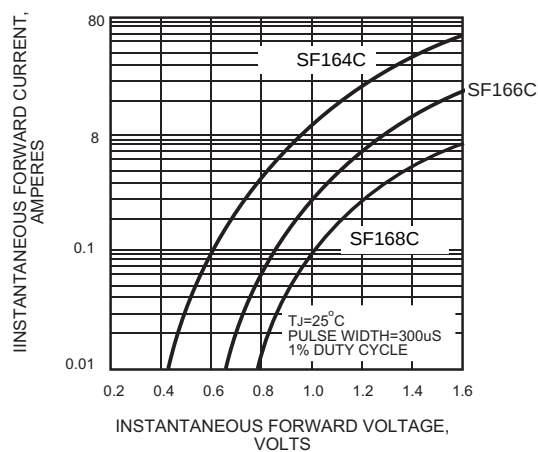


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

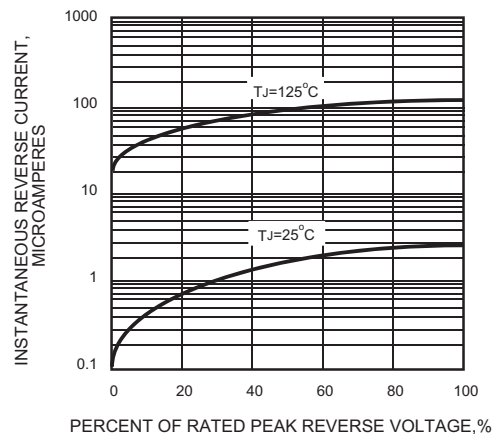


FIG.5 - TYPICAL JUNCTION CAPACITANCE

