

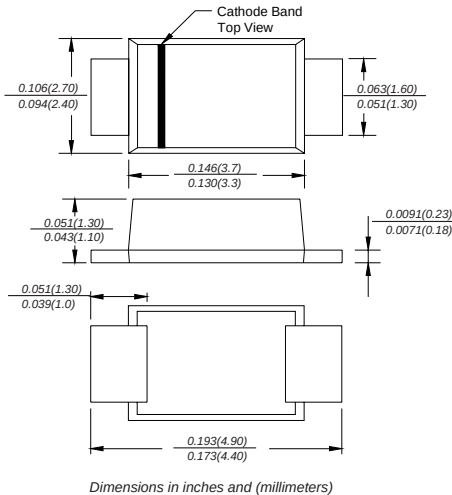


# SS52F THRU SS5200F

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 200 Volts Forward Current - 5.0 Ampere

### SMAF



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC SMAF molded plastic body

**Terminals:** leads solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.0018 ounce, 0.064 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| TWGMC Catalog Number                                                                                        | SYMBOLS           | SS52F       | SS53F | SS54F | SS55F | SS56F | SS58F       | SS510F | SS5150F | SS5200F | UNITS |
|-------------------------------------------------------------------------------------------------------------|-------------------|-------------|-------|-------|-------|-------|-------------|--------|---------|---------|-------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>  | 20          | 30    | 40    | 50    | 60    | 80          | 100    | 150     | 200     | VOLTS |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>  | 14          | 21    | 28    | 35    | 42    | 56          | 70     | 105     | 140     | VOLTS |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>   | 20          | 30    | 40    | 50    | 60    | 80          | 100    | 150     | 200     | VOLTS |
| Maximum average forward rectified current at T <sub>L</sub> (see fig.1)                                     | I <sub>(AV)</sub> | 5.0         |       |       |       |       |             |        |         |         | Amp   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method)         | I <sub>FSM</sub>  | 150.0       |       |       |       |       |             |        |         |         | Amps  |
| Maximum instantaneous forward voltage at 5.0A                                                               | V <sub>F</sub>    | 0.55        |       |       | 0.70  |       | 0.85        |        |         | 0.95    | Volts |
| Maximum DC reverse current    T <sub>A</sub> =25°C<br>at rated DC blocking voltage    T <sub>A</sub> =100°C | I <sub>R</sub>    | 0.5         |       |       |       |       |             | 0.2    |         | mA      |       |
|                                                                                                             |                   | 20.0        |       |       | 10    |       | 2.0         |        |         |         |       |
| Typical junction capacitance (NOTE 1)                                                                       | C <sub>J</sub>    | 200         |       |       |       |       |             |        |         |         | pF    |
| Typical thermal resistance (NOTE 2)                                                                         | R <sub>θJA</sub>  | 50.0        |       |       |       |       |             |        |         |         | °C/W  |
| Operating junction temperature range                                                                        | T <sub>J</sub>    | -50 to +125 |       |       |       |       | -50 to +150 |        |         |         | °C    |
| Storage temperature range                                                                                   | T <sub>STG</sub>  | -50 to +150 |       |       |       |       |             |        |         |         | °C    |

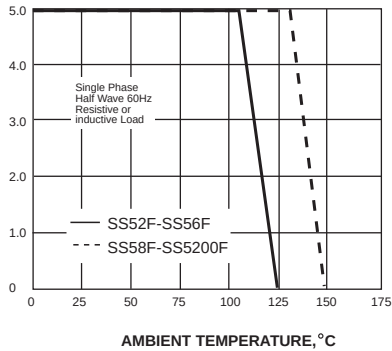
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES SS52F THRU SS5200F

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

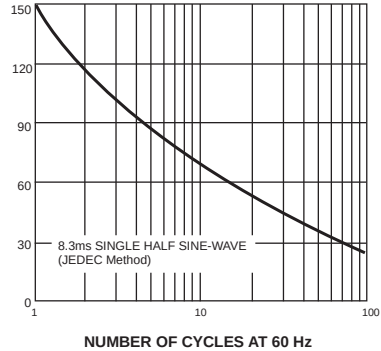


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

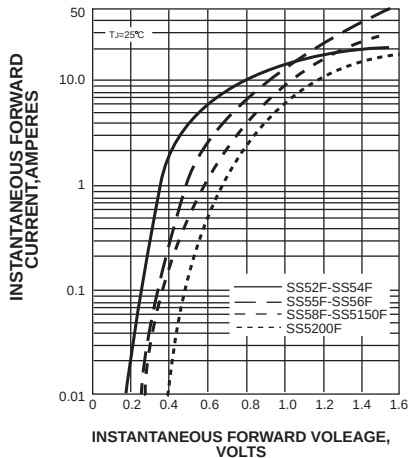


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

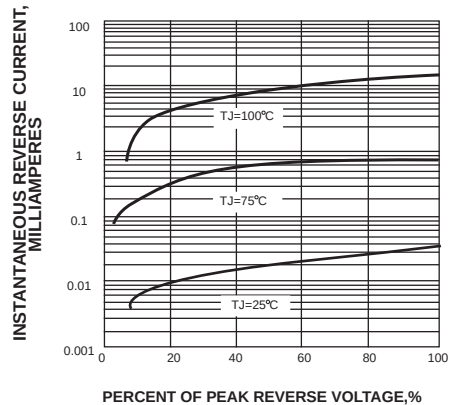
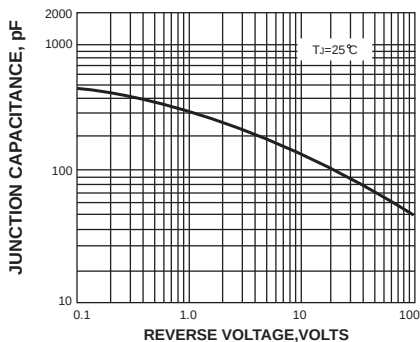


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

