



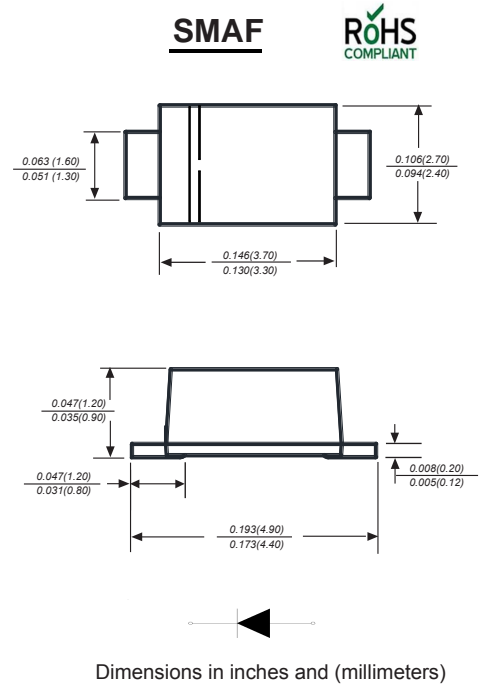
SS52F THRU SS5200F

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

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

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: 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%.

| Parameter | SYMBOLS | SS52F | SS53F | SS54F | SS55F | SS56F | SS58F | SS510F | SS5150F | SS5200F | UNITS | |
|--|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|----------------|----------------|-------|----|
| | | MDD SS52F | MDD SS53F | MDD SS54F | MDD SS55F | MDD SS56F | MDD SS58F | MDD SS510F | MDD SS5150F | MDD SS5200F | | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | 105 | 140 | V | |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V | |
| Maximum average forward rectified current at TL (see fig.1) | $I_{(AV)}$ | 5.0 | | | | | | | | | A | |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150 | | | | | | | | | A | |
| Maximum instantaneous forward voltage at 5.0A | V_F | 0.55 | | | 0.70 | | 0.85 | | 0.95 | | V | |
| Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=125^\circ C$ | I_R | 0.5 | | | | | | 0.2 | | 2.0 | | mA |
| Typical junction capacitance (NOTE 1) | C_J | 200 | | | | | | | | | pF | |
| Typical thermal resistance (NOTE 2) | $R_{\theta JA}$ | 50.0 | | | | | | | | | °C/W | |
| Operating junction temperature range | T_J | -50 to +125 | | | | | -50 to +150 | | | | | °C |
| Storage temperature range | T_{STG} | -55 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



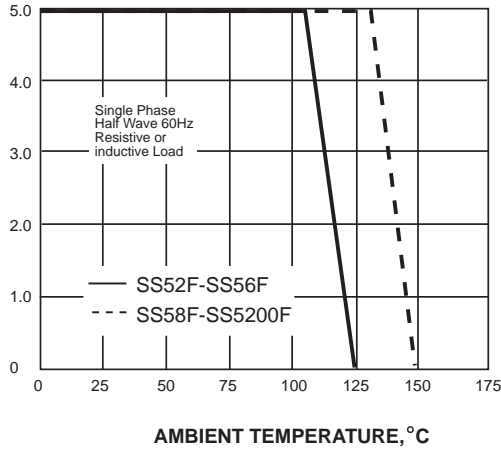
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Typical Characteristics

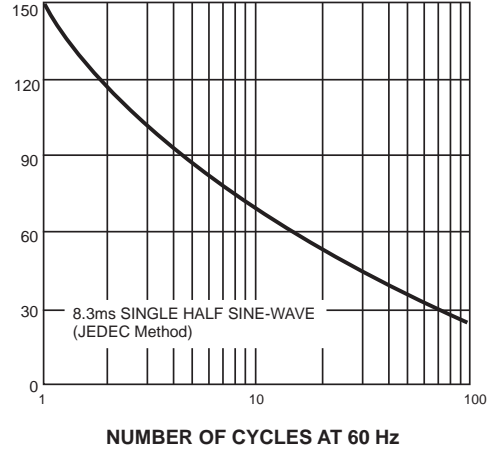
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



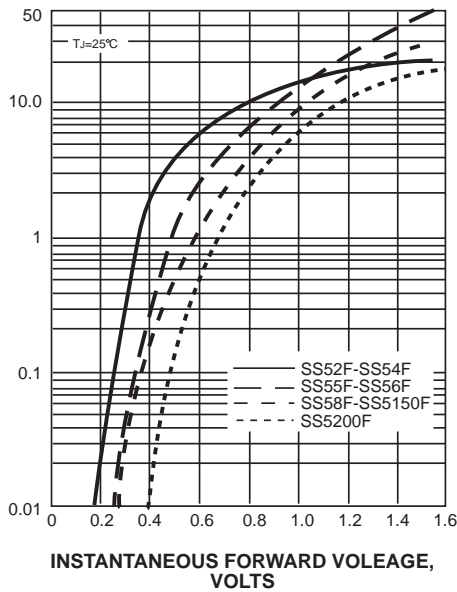
PEAK FORWARD SURGE CURRENT, AMPERES

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



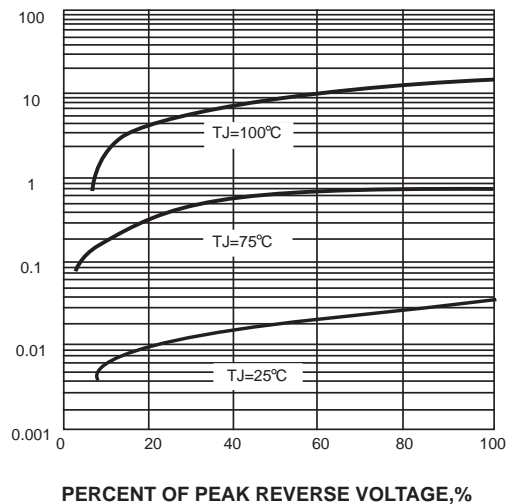
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



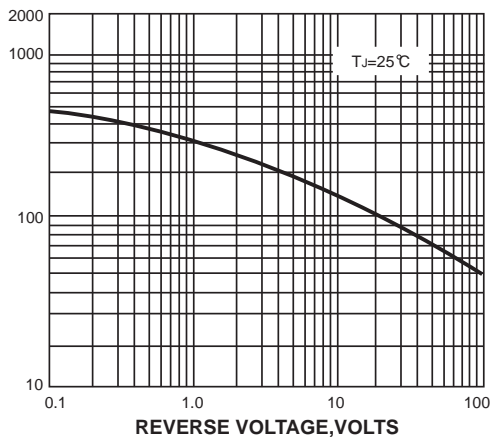
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4- TYPICAL REVERSE CHARACTERISTICS



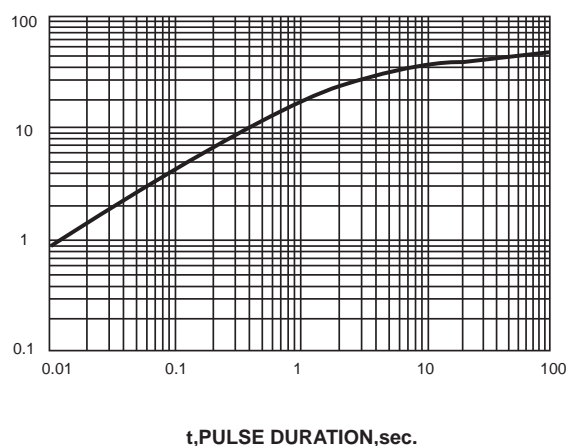
JUNCTION CAPACITANCE, pF

FIG. 5- TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.



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Packing information



unit:mm

| Item | Symbol | Tolerance | SMAF |
|--------------------------|----------------|-----------|--------|
| Carrier width | A | 0.1 | 2.80 |
| Carrier length | B | 0.1 | 4.75 |
| Carrier depth | C | 0.1 | 1.42 |
| Sprocket hole | d | 0.05 | 1.50 |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | D ₁ | min | 54.40 |
| Feed hole diameter | D ₂ | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 5.05 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P ₀ | 0.1 | 4.00 |
| Embossment center | P ₁ | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.30 |
| Tape width | W | 0.3 | 8.00 |
| Reel width | W ₁ | 1.0 | 12.30 |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SMAF | 7" | 3,000 | 4.0 | 6,000 | 210*208*203 | 178 | 400*265*400 | 120,000 | 10.0 |

Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.8 | 0.071 |
| B | 1.6 | 0.063 |
| C | 3.8 | 0.150 |
| D | 2.2 | 0.087 |
| E | 5.4 | 0.213 |

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