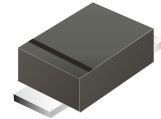


SS54BF-HF Thru. SS520BF-HF

Reverse Voltage: 40 to 200 Volts

Forward Current: 5.0 Amp

RoHS Device
Halogen Free

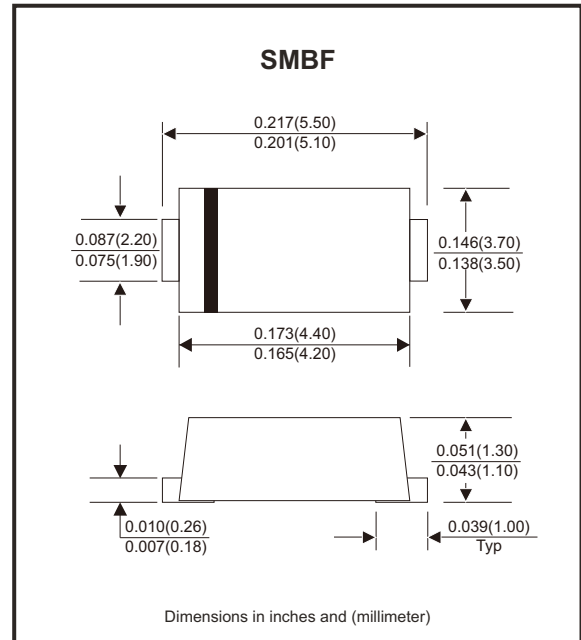


Features

- Metal silicon junction, majority carrier conduction.
- For surface mounted applications.
- Low power loss, high efficiency.
- High forward surge current capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

Mechanical data

- Case: SMBF
- Terminals: Solderable per MIL-STD-750, method 2026.



Circuit Diagram



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, derate by 20%

| Parameter | Symbols | SS54BF-HF | SS56BF-HF | SS510BF-HF | SS515BF-HF | SS520BF-HF | Units |
|--------------------------------------------------------------------------------------------------------------------|-----------------|------------|-----------|------------|------------|------------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 40 | 60 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 28 | 42 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 40 | 60 | 100 | 150 | 200 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 5 | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 120 | | | | | A |
| Max instantaneous forward voltage at 5A | V_F | 0.55 | 0.70 | 0.85 | | | V |
| Maximum DC reverse current $T_j = 25^\circ\text{C}$ at rated DC reverse voltage $T_j = 100^\circ\text{C}$ | I_R | 1.0 | | | 50 | | mA |
| Typical junction capacitance (Note 1) | C_j | 800 | 500 | | | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ | 45 | | | | | °C/W |
| Operating junction temperature range | T_j | -55 ~ +150 | | | | | °C |
| Storage temperature range | T_{stg} | -55 ~ +150 | | | | | °C |

Notes: 1. Measured at 1 MHz and applied reverse voltage of 4 V D.C
2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Company reserves the right to improve product design , functions and reliability without notice.

REV:A

Rating and Characteristic Curves (SS54BF-HF Thru. SS520BF-HF)

Fig.1 - Forward Current Derating Curve

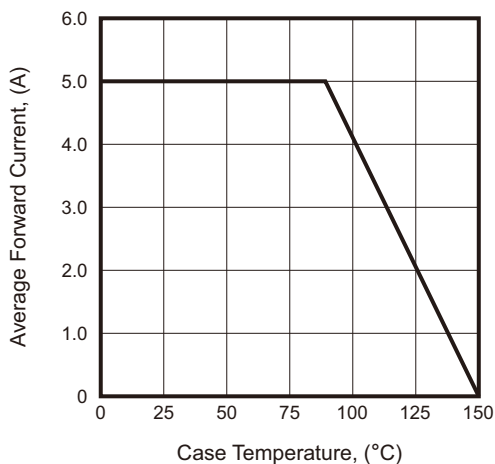


Fig.2 - Typical Reverse Characteristics

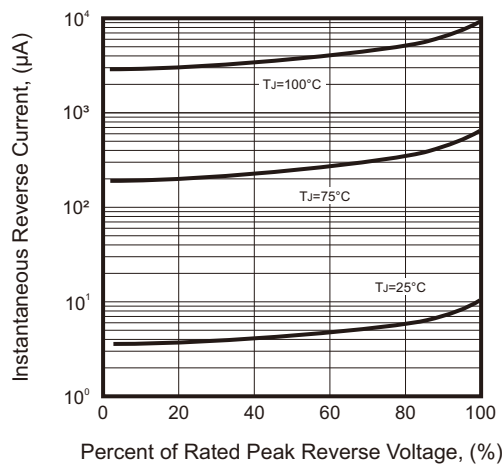


Fig.3 - Typical Forward Characteristic

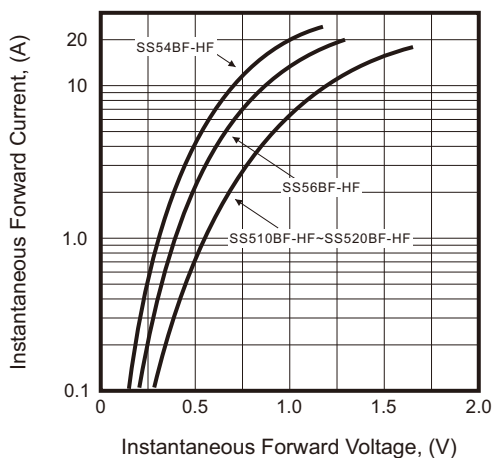


Fig.4 - Typical Junction Capacitance

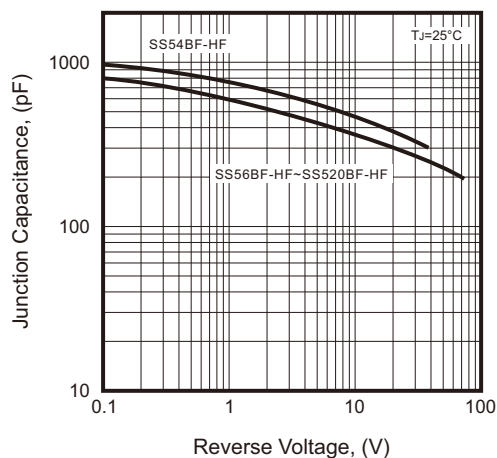


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current

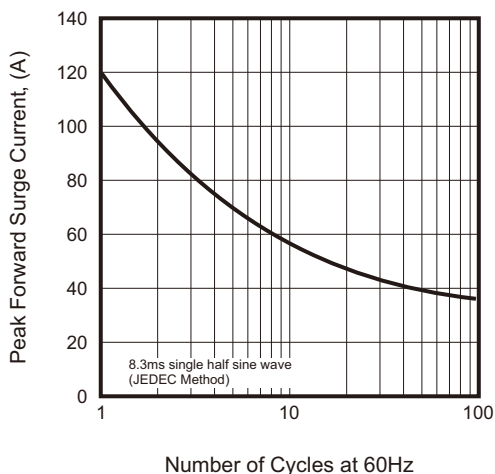
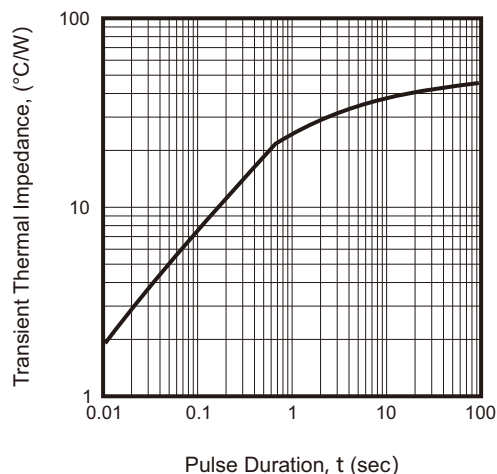


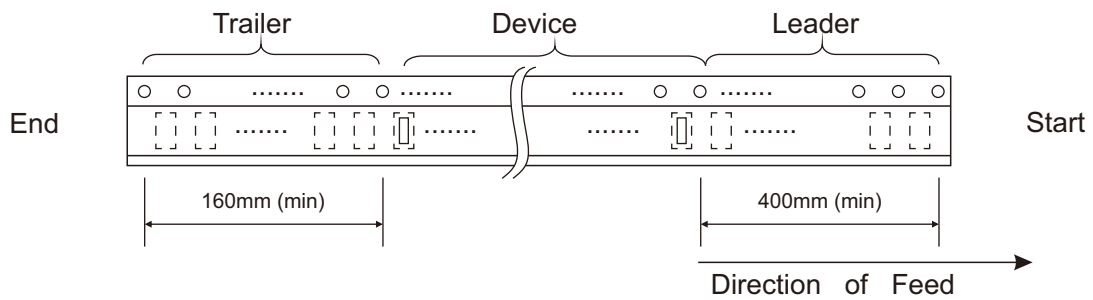
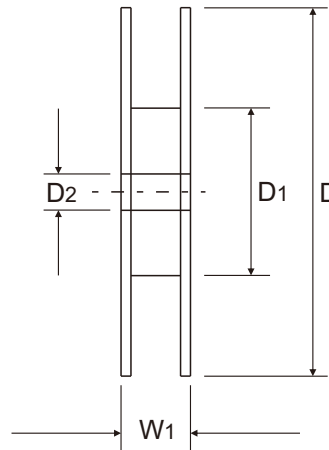
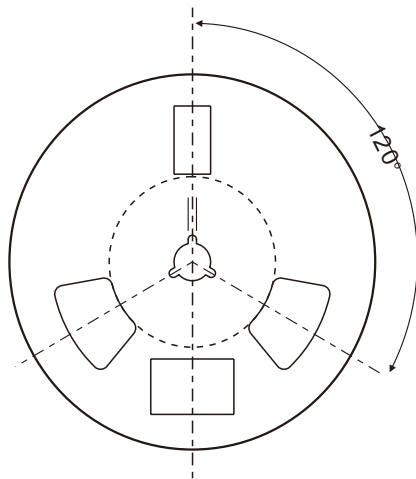
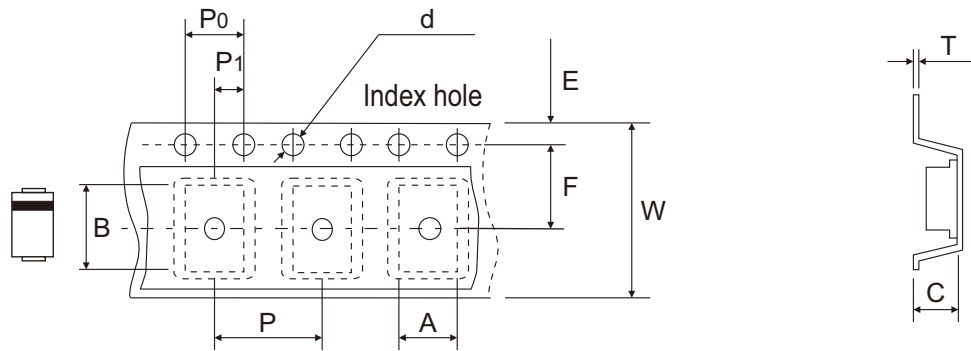
Fig.6 - Typical Transient Thermal Impedance



Company reserves the right to improve product design, functions and reliability without notice.

REV:A

Reel Taping Specification



| SMBF | SYMBOL | A | B | C | d | D | D1 | D2 |
|------|--------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
| | (mm) | 3.80 ± 0.10 | 5.75 ± 0.10 | 1.40 ± 0.10 | 1.55 ± 0.05 | 330 ± 2.00 | 75 ± 1.00 | 13.00 ± 0.20 |
| | (inch) | 0.150 ± 0.004 | 0.226 ± 0.004 | 0.055 ± 0.004 | 0.061 ± 0.002 | 12.992 ± 0.079 | 2.953 ± 0.039 | 0.512 ± 0.008 |

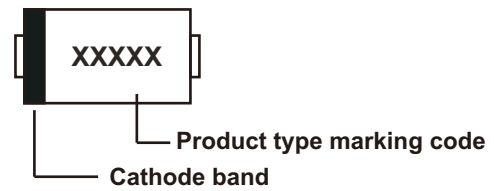
| SMBF | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.10 | 8.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.05 | 0.23 ± 0.02 | 12.00 ± 0.10 | 14.70 + 2.00 - 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.004 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.009 ± 0.001 | 0.472 ± 0.004 | 0.579 + 0.079 - 0.039 |

Company reserves the right to improve product design, functions and reliability without notice.

REV:A

Marking Code

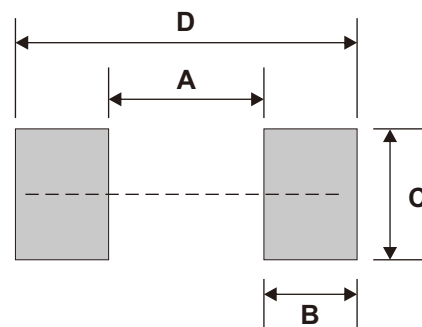
| Part Number | Marking Code |
|-------------|--------------|
| SS54BF-HF | S54B |
| SS56BF-HF | S56B |
| SS510BF-HF | S510B |
| SS515BF-HF | S515B |
| SS520BF-HF | S520B |



xxxx/xxxxx = Product type marking code

Suggested PAD Layout

| SIZE | SMBF | |
|------|------|--------|
| | (mm) | (inch) |
| A | 3.00 | 0.118 |
| B | 1.80 | 0.071 |
| C | 2.54 | 0.100 |
| D | 6.60 | 0.260 |



Note: 1. The pad layout is for reference purpose only.

Standard Packaging

| Case Type | REEL PACK | |
|-----------|-----------------|---------------------|
| | REEL (pcs) | Reel Size (inch) |
| SMBF | 5,000 | 13 |