

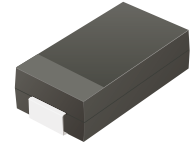
SS54-HF Thru. SS520-HF

Reverse Voltage: 40 to 200 Volts

Forward Current: 5.0 Amp

RoHS Device

Halogen Free

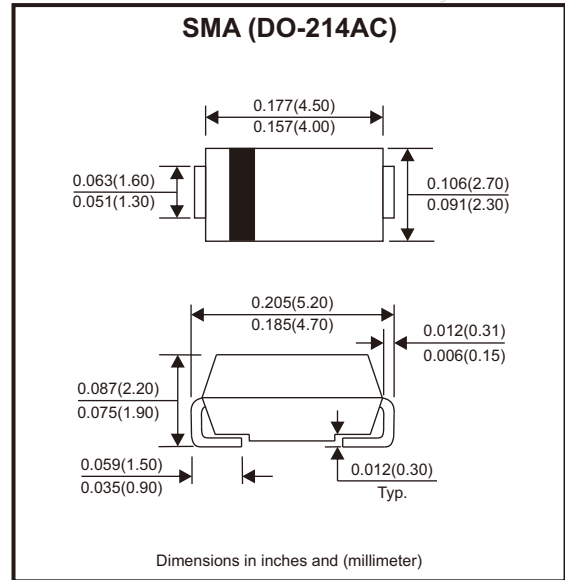


Features

- 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: SMA
- 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 | SS54-HF | SS56-HF | SS510-HF | SS515-HF | SS520-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 | 500 | 300 | | | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ | 60 | | | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_j | -55 ~ +150 | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 ~ +150 | | | | | $^\circ\text{C}$ |

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 (SS54-HF Thru. SS520-HF)

Fig.1 - Forward Current Derating Curve

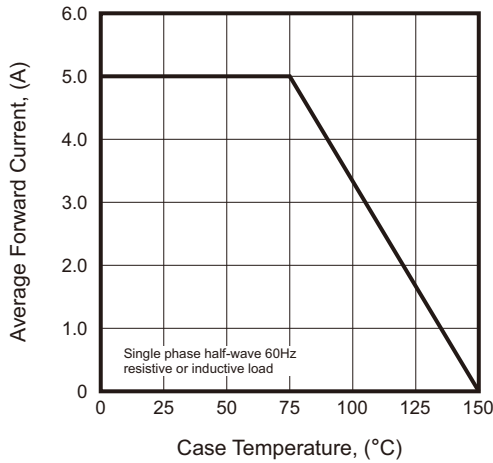


Fig.2 - Typical Reverse Characteristics

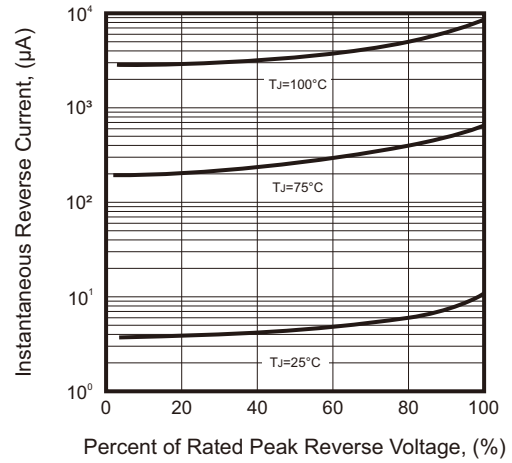


Fig.3 - Typical Forward Characteristic

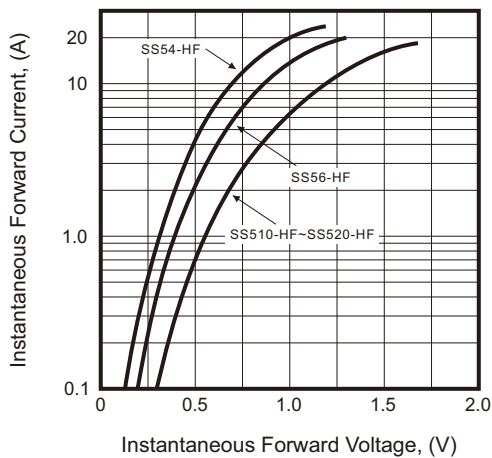


Fig.4 - Typical Junction Capacitance

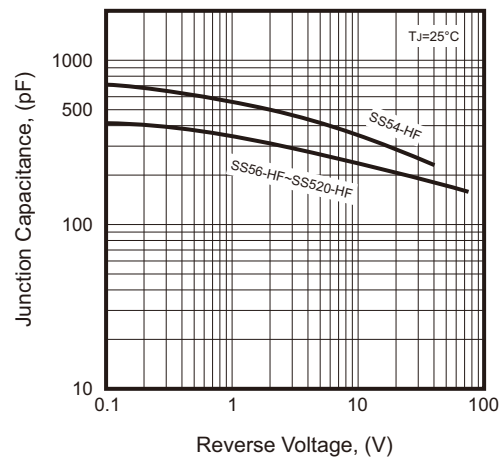


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current

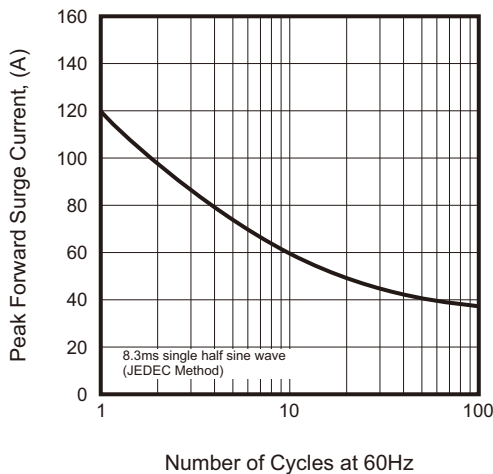
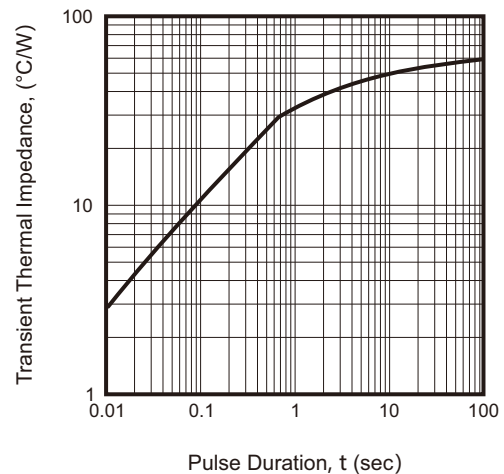
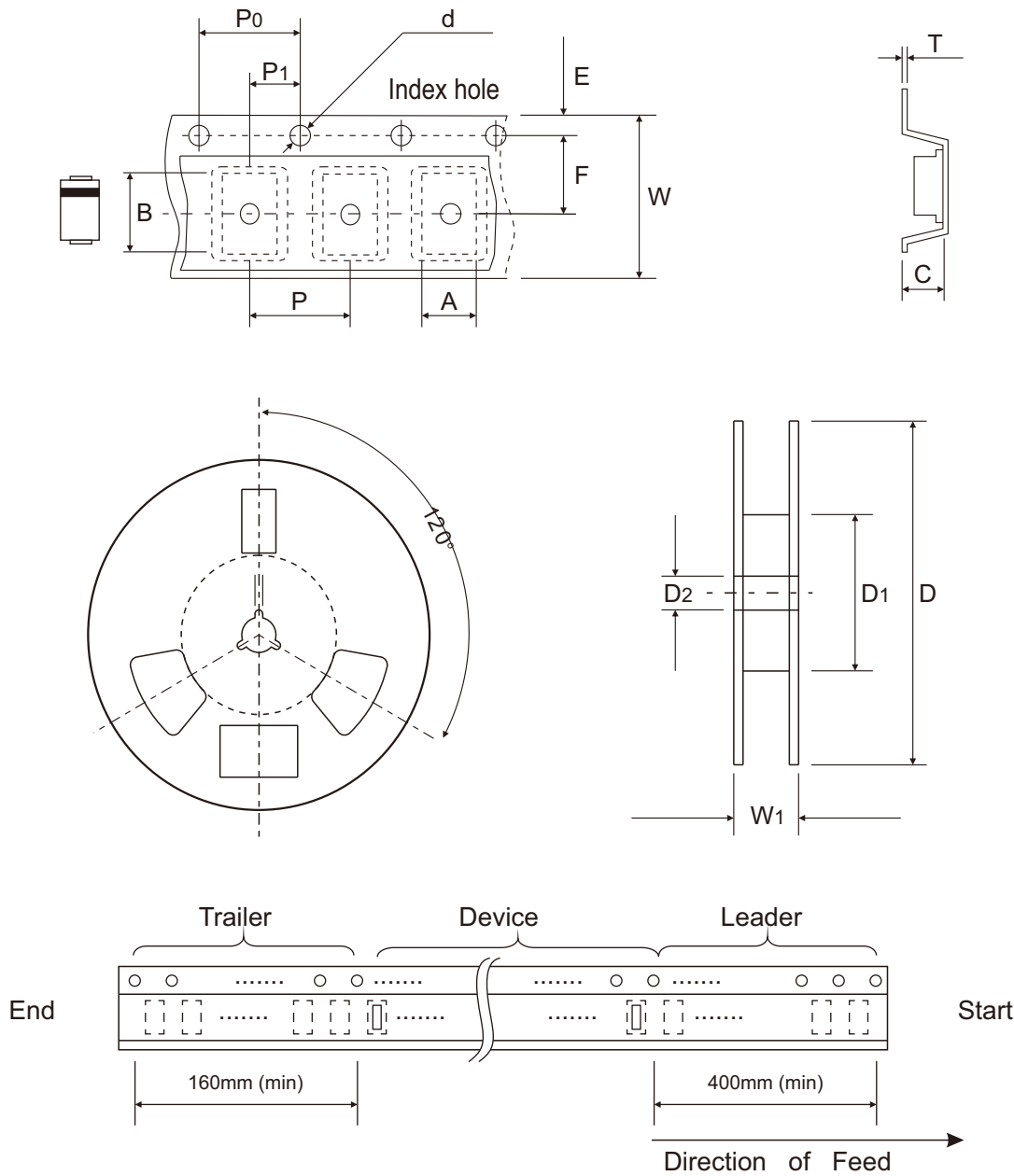


Fig.6 - Typical Transient Thermal Impedance



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Reel Taping Specification



| DO-214AC (SMA) | SYMBOL | A | B | C | d | D | D1 | D2 |
|-------------------|--------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|
| | (mm) | 2.70 ± 0.10 | 5.33 ± 0.10 | 2.35 ± 0.10 | 1.55 ± 0.05 | 330 ± 2.00 | 75.00 ± 1.00 | 13.00 ± 0.20 |
| | (inch) | 0.106 ± 0.004 | 0.210 ± 0.004 | 0.093 ± 0.004 | 0.061 ± 0.002 | 12.992 ± 0.079 | 2.953 ± 0.039 | 0.512 ± 0.008 |

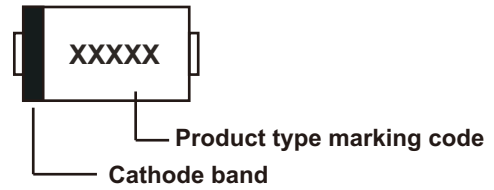
| DO-214AC (SMA) | SYMBOL | E | F | P | P0 | P1 | T | W | W1 |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
| | (mm) | 1.75 ± 0.10 | 5.50 ± 0.05 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 0.20 ± 0.03 | 12.00 ± 0.30 | 14.70 + 2.00 - 1.00 |
| | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.008 ± 0.001 | 0.472 ± 0.012 | 0.579 + 0.079 - 0.039 |

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REV:A

Marking Code

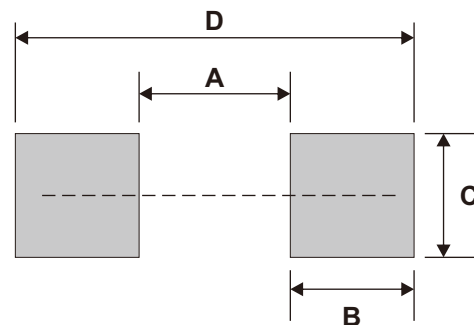
| Part Number | Marking Code |
|-------------|--------------|
| SS54-HF | SS54 |
| SS56-HF | SS56 |
| SS510-HF | SS510 |
| SS515-HF | SS515 |
| SS520-HF | SS520 |



xxxx/xxxxx = Product type marking code

Suggested PAD Layout

| SIZE | DO-214AC (SMA) | |
|------|----------------|--------|
| | (mm) | (inch) |
| A | 2.20 | 0.087 |
| B | 1.80 | 0.071 |
| C | 1.80 | 0.071 |
| D | 5.80 | 0.228 |



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

Standard Packaging

| Case Type | REEL PACK | |
|-------------------|-----------------|---------------------|
| | REEL (pcs) | Reel Size (inch) |
| DO-214AC (SMA) | 5,000 | 13 |

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