

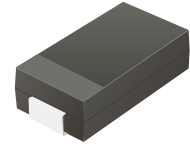
## S3AB-HF Thru. S3MB-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 3.0 Amp

RoHS Device

Halogen Free

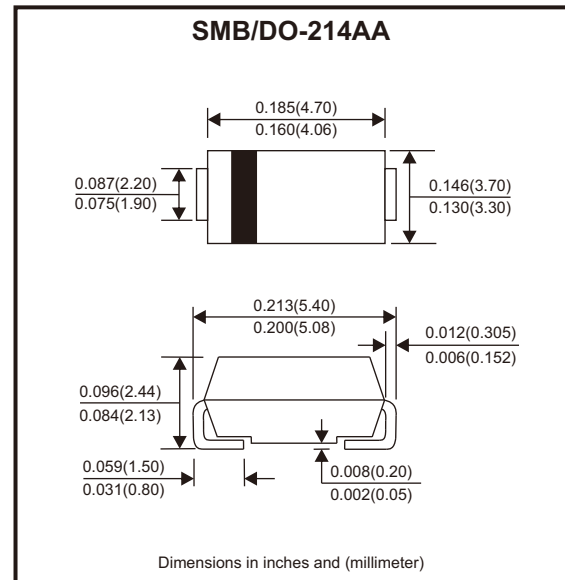


### Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.
- Easy to pick and place.

### Mechanical data

- Case: SMB
- 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                            | S3AB-HF    | S3BB-HF | S3DB-HF | S3GB-HF | S3JB-HF | S3KB-HF | S3MB-HF | Units              |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------|------------|---------|---------|---------|---------|---------|---------|--------------------|
| Maximum repetitive peak reverse voltage                                                                             | $V_{RRM}$                          | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum RMS voltage                                                                                                 | $V_{RMS}$                          | 35         | 70      | 140     | 280     | 420     | 560     | 700     | V                  |
| Maximum DC blocking voltage                                                                                         | $V_{DC}$                           | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V                  |
| Maximum average forward rectified current                                                                           | $I_{F(AV)}$                        | 3          |         |         |         |         |         |         | A                  |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                                  | $I_{FSM}$                          | 90         |         |         |         |         |         |         | A                  |
| Max instantaneous forward voltage at 3A                                                                             | $V_F$                              | 1.1        |         |         |         |         |         |         | V                  |
| Maximum DC reverse current<br>$T_a = 25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_a = 125^\circ\text{C}$ | $I_R$                              | 5<br>100   |         |         |         |         |         |         | $\mu\text{A}$      |
| Typical junction capacitance (Note 1)                                                                               | $C_j$                              | 35         |         |         |         |         |         |         | pF                 |
| Typical thermal resistance (Note 2)                                                                                 | $R_{\theta JA}$<br>$R_{\theta JC}$ | 48<br>16   |         |         |         |         |         |         | $^\circ\text{C/W}$ |
| Operating and storage temperature range                                                                             | $T_j, T_{stg}$                     | -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.

Rating and Characteristic Curves (S3AB-HF Thru. S3MB-HF)

Fig.1 - Forward Current Derating Curve

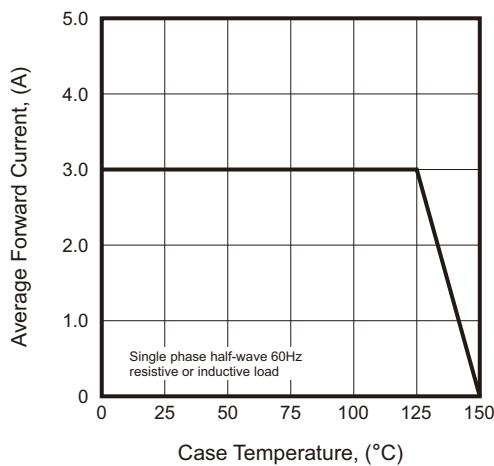


Fig.2 - Typical Instantaneous Reverse Characteristics

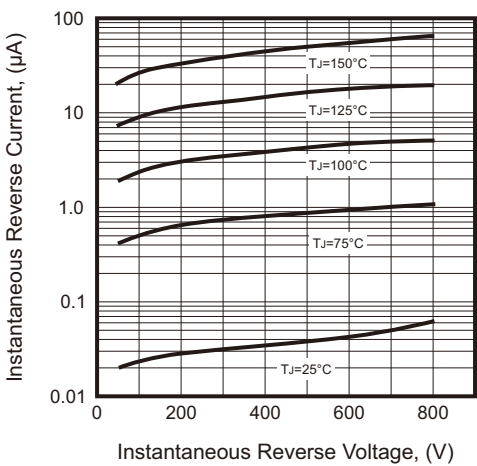


Fig.3 - Typical Forward Characteristic

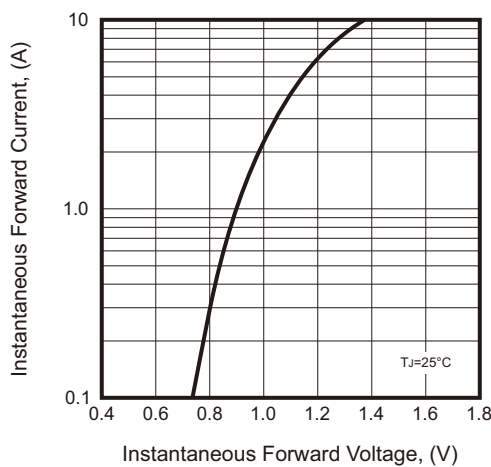


Fig.4 - Typical Junction Capacitance

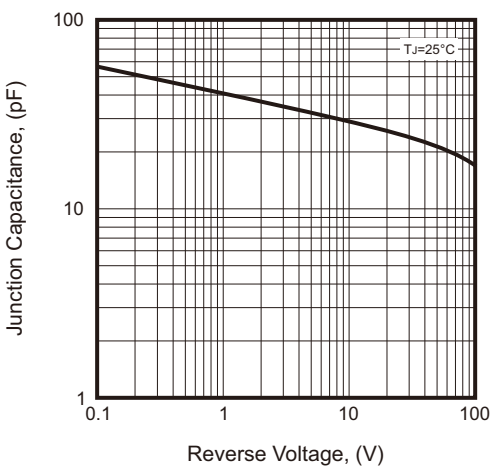
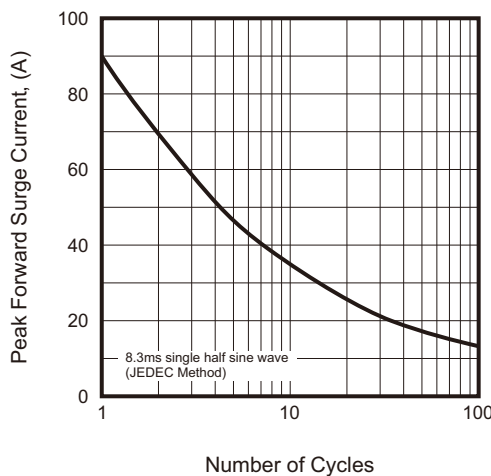
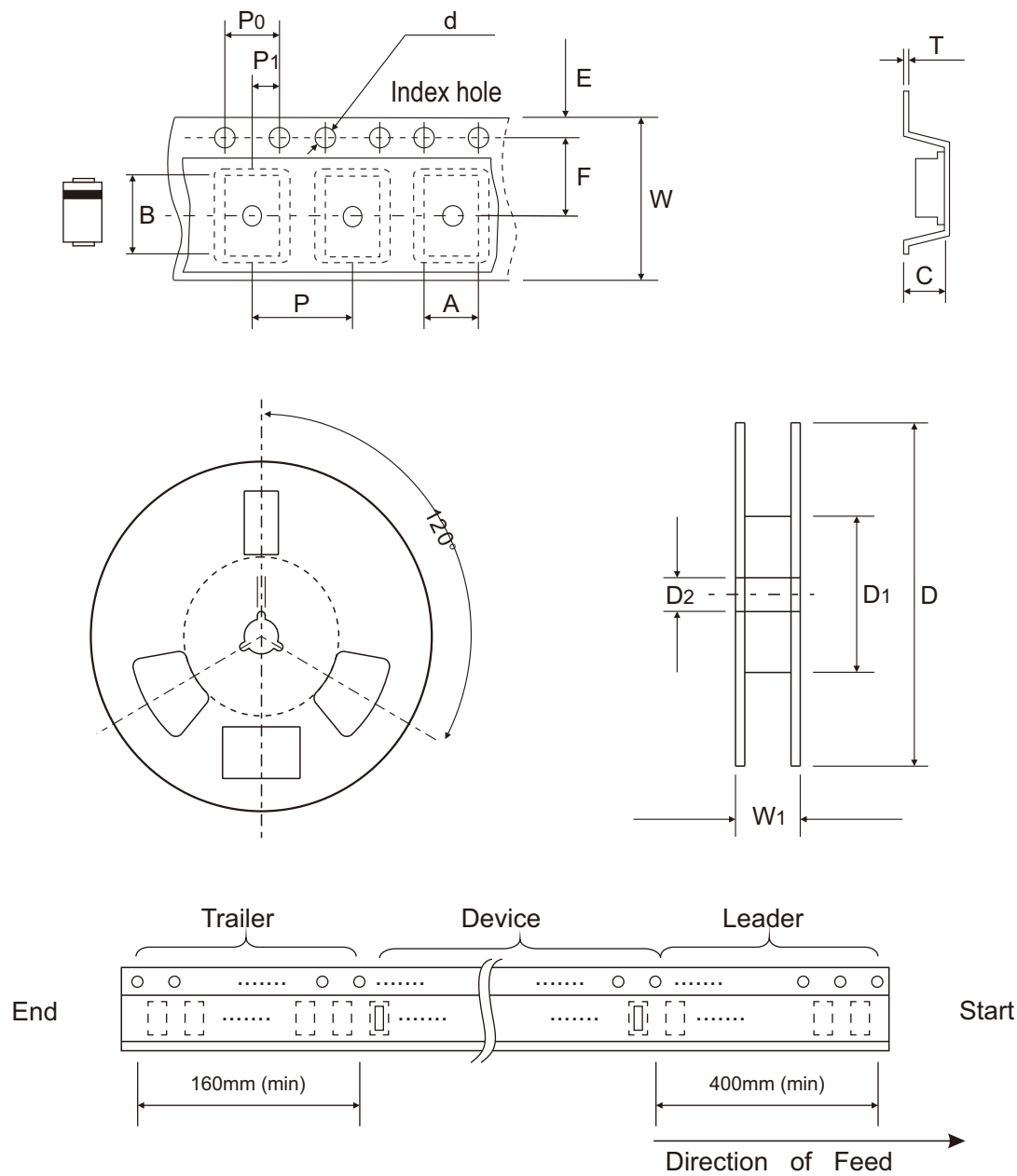


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current



Reel Taping Specification

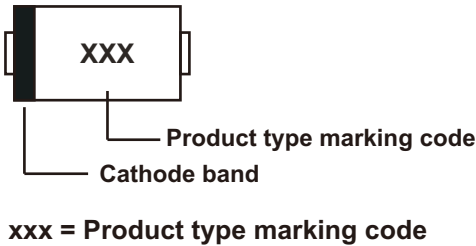


| DO-214AA<br>(SMB) | SYMBOL | A             | B                        | C             | d             | D              | D1            | D2            |
|-------------------|--------|---------------|--------------------------|---------------|---------------|----------------|---------------|---------------|
|                   | (mm)   | 3.80 ± 0.10   | 5.50 + 0.05<br>- 0.10    | 2.45 ± 0.05   | 1.55 ± 0.05   | 330 ± 2.00     | 100 ± 1.00    | 13.00 ± 0.20  |
|                   | (inch) | 0.150 ± 0.004 | 0.217 + 0.002<br>- 0.004 | 0.096 ± 0.002 | 0.061 ± 0.002 | 12.992 ± 0.079 | 3.937 ± 0.039 | 0.512 ± 0.008 |

| DO-214AA<br>(SMB) | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1                       |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
|                   | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 8.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.25 ± 0.05   | 12.00 ± 0.15  | 18.00 + 2.00<br>- 1.00   |
|                   | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.010 ± 0.002 | 0.472 ± 0.006 | 0.709 + 0.079<br>- 0.039 |

Marking Code

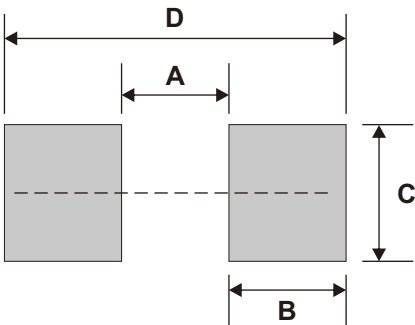
| Part Number | Marking Code |
|-------------|--------------|
| S3AB-HF     | S3A          |
| S3BB-HF     | S3B          |
| S3DB-HF     | S3D          |
| S3GB-HF     | S3G          |
| S3JB-HF     | S3J          |
| S3KB-HF     | S3K          |
| S3MB-HF     | S3M          |



Suggested PAD Layout

| SIZE | DO-214AA (SMB) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 2.20           | 0.087  |
| B    | 2.40           | 0.094  |
| C    | 2.80           | 0.110  |
| D    | 7.00           | 0.276  |

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



Standard Packaging

| Case Type         | REEL PACK       |                     |
|-------------------|-----------------|---------------------|
|                   | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DO-214AA<br>(SMB) | 3,000           | 13                  |