

# RS5AB THRU RS5MB



## Fast Recovery Rectifiers

Reverse Voltage: 50 to 1000 Volts

Forward Current: 5.0 Ampere

RoHS Device

Halogen Free



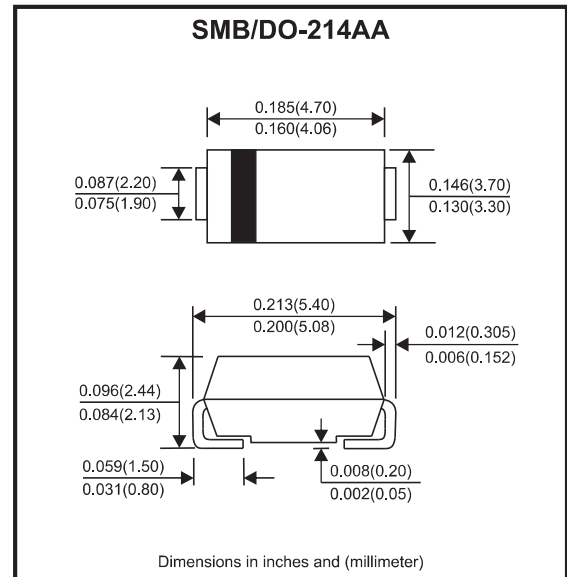
### Features

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

### 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                              | RS5AB      | RS5BB | RS5DB | RS5GB | RS5JB | RS5KB | RS5MB | Units |    |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------|------------|-------|-------|-------|-------|-------|-------|-------|----|
| Maximum repetitive peak reverse voltage                                                                      | V <sub>RRM</sub>                     | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |    |
| Maximum RMS voltage                                                                                          | V <sub>RMS</sub>                     | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V     |    |
| Maximum DC blocking voltage                                                                                  | V <sub>DC</sub>                      | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V     |    |
| Maximum average forward rectified current                                                                    | I <sub>F(AV)</sub>                   | 5          |       |       |       |       |       |       | A     |    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                           | I <sub>FSM</sub>                     | 120        |       |       |       |       |       |       | A     |    |
| Max. forward voltage at 5A                                                                                   | V <sub>F</sub>                       | 1.3        |       |       |       |       |       |       | V     |    |
| Maximum DC reverse current<br>T <sub>a</sub> = 25°C<br>at rated DC blocking voltage<br>T <sub>a</sub> =125°C | I <sub>R</sub>                       | 5<br>150   |       |       |       |       |       |       | μA    |    |
| Typical junction capacitance<br>at V <sub>R</sub> = 4V, f = 1MHz                                             | C <sub>j</sub>                       | 45         |       |       |       |       |       |       | pF    |    |
| Maximum reverse recovery time (Note 1)                                                                       | t <sub>rr</sub>                      | 150        |       |       |       | 250   |       | 500   |       | ns |
| Typical thermal resistance (Note 2)                                                                          | R <sub>θJA</sub><br>R <sub>θJC</sub> | 48<br>16   |       |       |       |       |       |       | °C/W  |    |
| Operating and storage temperature range                                                                      | T <sub>j</sub> , T <sub>slg</sub>    | -55 ~ +150 |       |       |       |       |       |       | °C    |    |

Notes: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$ .

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.

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## Rating and Characteristic Curves

Fig.1 - Forward Current Derating Curve

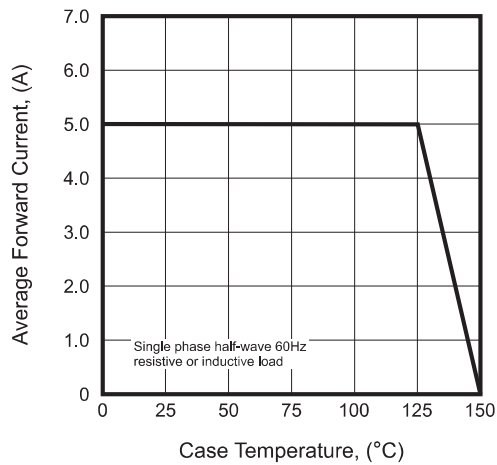


Fig.2 - Typical Reverse Characteristics

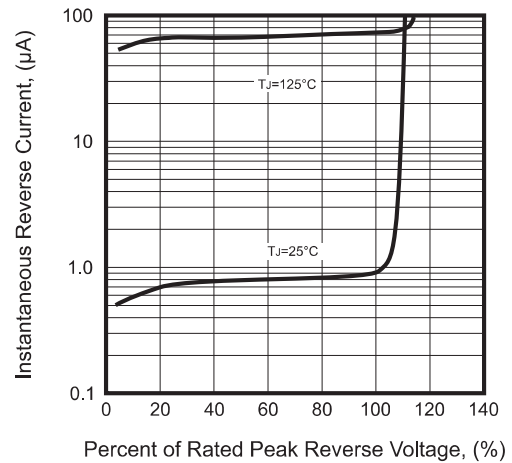


Fig.3 - Typical Instantaneous Forward Characteristic

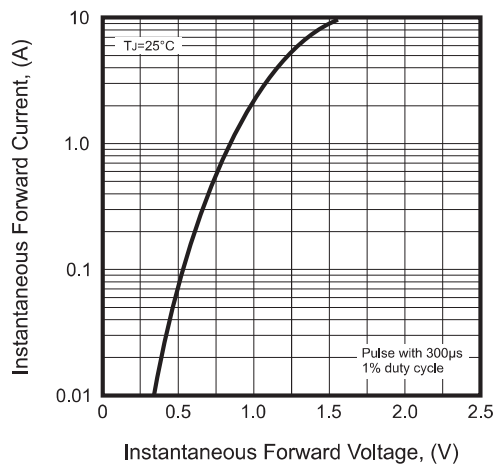


Fig.4 - Typical Junction Capacitance

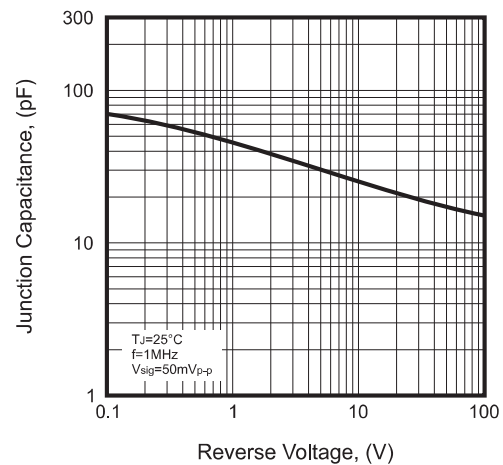
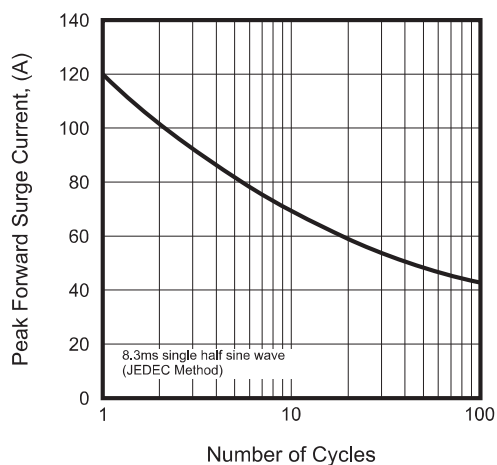
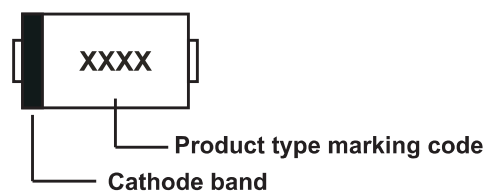


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current



## Marking Code

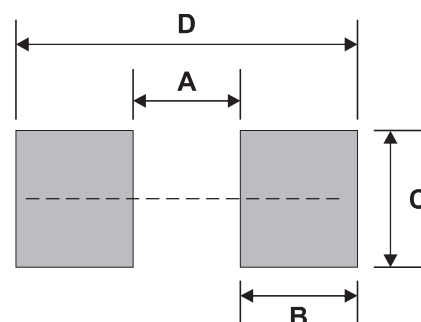
| Part Number | Marking Code |
|-------------|--------------|
| RS5AB       | RS5A         |
| RS5BB       | RS5B         |
| RS5DB       | RS5D         |
| RS5GB       | RS5G         |
| RS5JB       | RS5J         |
| RS5KB       | RS5K         |
| RS5MB       | RS5M         |



xxxx = Product type marking code

## 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.

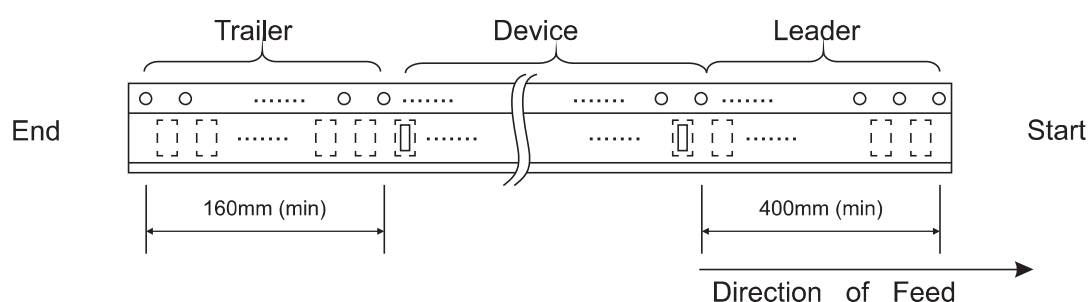
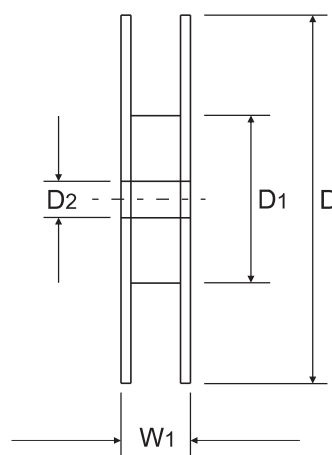
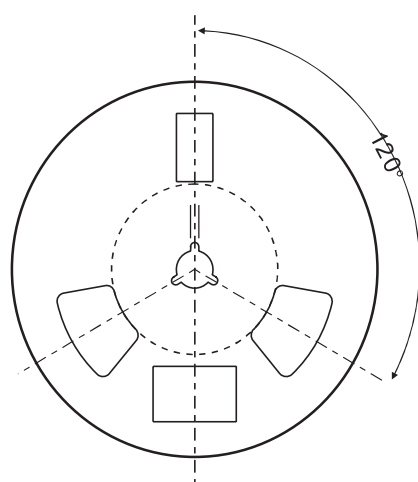
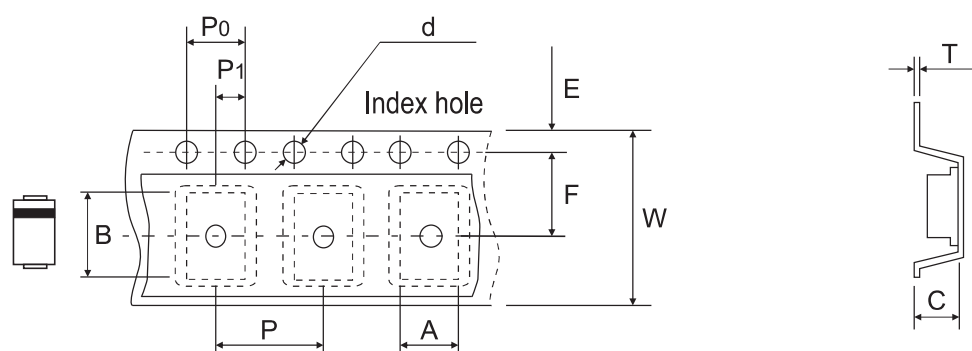
## Standard Packaging

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

# RS5AB THRU RS5MB



## Reel Taping Specification



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

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

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