BORN SEMICONDUCTOR

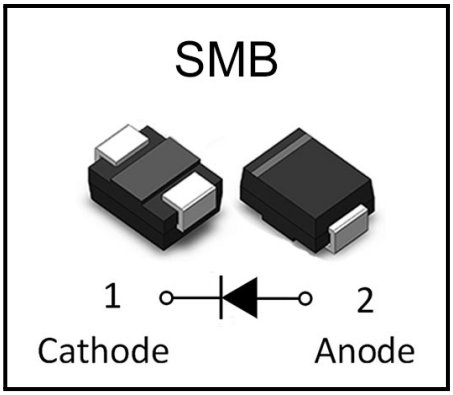
# RS3A-RS3M

**Fast Recovery Rectifier Diode**

## Features

- Low reverse leakage
- High forward surge capability
- High reliability
- High temperature soldering guaranteed: 260°/10seconds
- Lead and body according with RoHS standard

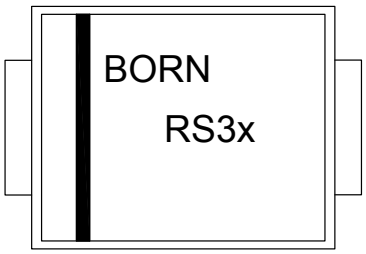
## Package




## General Description

- Case:molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Polarity:Color band denotes cathode
- Lead: Pure tin plated, lead free
- Package: SMB Plastic Package

## Making Code




## Ordering information

| Part Number | RS3A | RS3B | RS3D | RS3G | RS3J | RS3K | RS3M |
|---|---|---|---|---|---|---|---|
| Marking | RS3A | RS3B | RS3D | RS3G | RS3J | RS3K | RS3M |
| Base qty | 3K | 3K | 3K | 3K | 3K | 3K | 3K |

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# RS3A-RS3M

**Fast Recovery Rectifier Diode**

**Maximum Ratings (@$T_A$=25°C unless otherwise noted)**

| Symbol | Characteristics | | RS3A | RS3B | RS3D | RS3G | RS3J | RS3K | RS3M | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| $V_{RRM}$ | Maximum Repetitive Peak Reverse Voltage | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| $V_{RMS}$ | Maximum RMS Voltage | | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| $V_{DC}$ | Maximum DC Blocking Voltage | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| $I_{F(AV)}$ | Maximum Average Forward Rectified Current | | 3.0 | | | | | | | A |
| $I_{FSM}$ | Non-repetitive peak forward surge current 8.3 ms singlehalf sine-wave | | 80 | | | | | | | A |
| $V_F$ | Maximum Forward Voltage @$I_F$=3.0A | | 1.3 | | | | | | | V |
| $I_R$ | Maximum DC Reverse Current | $T_A$ = 25°C | 10 | | | | | | | uA |
| | | $T_A$ = 125°C | 100 | | | | | | | |
| $t_{rr}$ | Maximum Reverse Recovery Time(1) | | 150 | | | | 250 | 500 | | nS |
| $C_J$ | Typical Junction Capacitance@$V_R$=4.0V,f=1MHz | | 45 | | | | | | | pF |
| $R_{\theta JA}$ | Typical Thermal Resistance(2) | | 55 | | | | | | | °C/W |
| $T_J$ | Operating Junction Temperature Range | | -55 to +150 | | | | | | | °C |
| $T_{STG}$ | Storage Temperature Range | | -55 to +150 | | | | | | | °C |

Notes:

(1)Measured with $I_F$=0.5A,$I_R$=1A,$I_{RR}$=0.25A.

(2)Thermal resistance from junction to ambient, PCB mounted.

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# RS3A-RS3M

Fast Recovery Rectifier Diode

## Typical Performance Characteristics($T_J$ = 25 °C, unless otherwise noted)

**Figure 1: Typical Forward Characteristics**

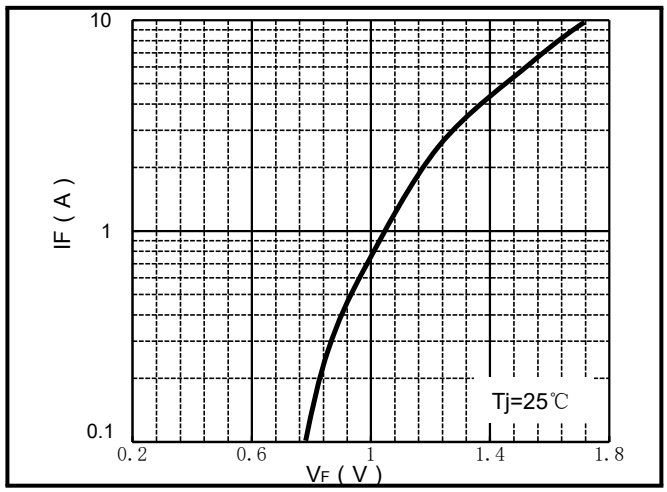



**Figure 2: Forward Current Derating Curve**

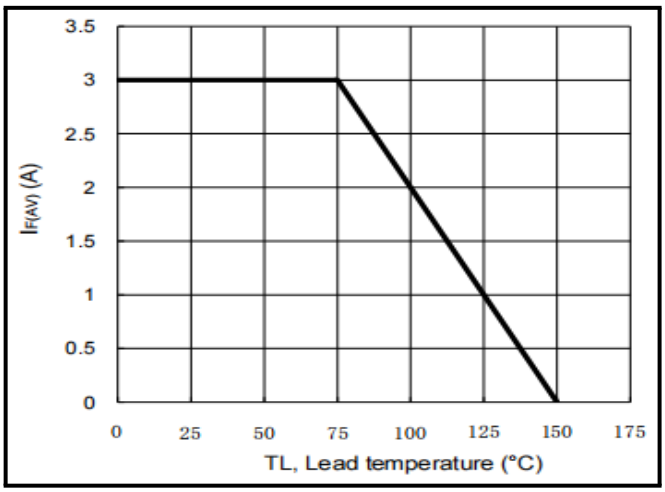



**Figure 3: Maximum Non-Repetitive Peak Forward Surge Current**

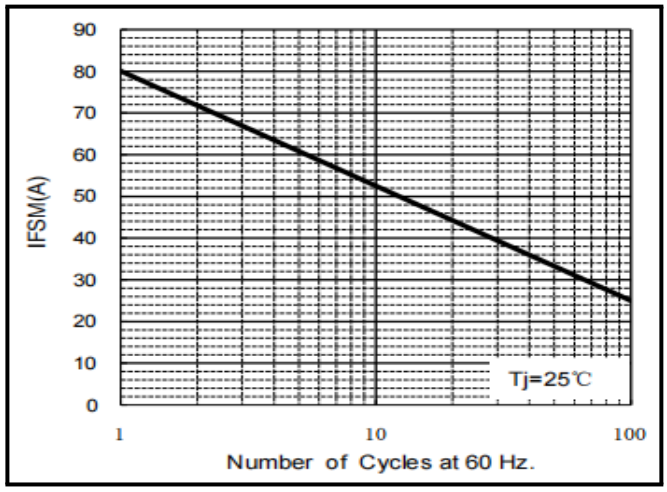
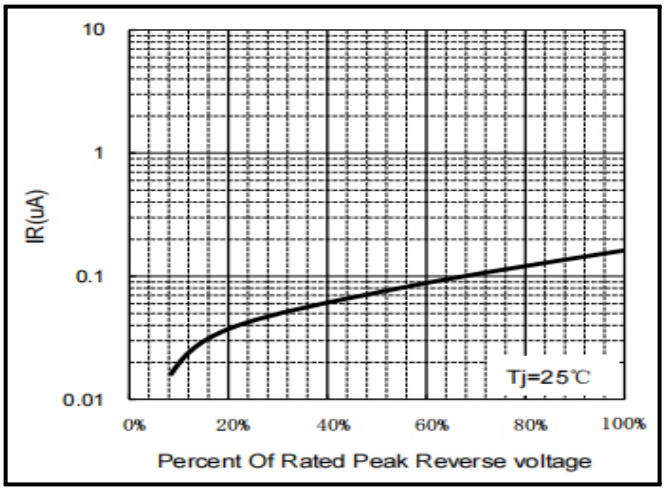



**Figure 4: Typical Reverse Characteristics**




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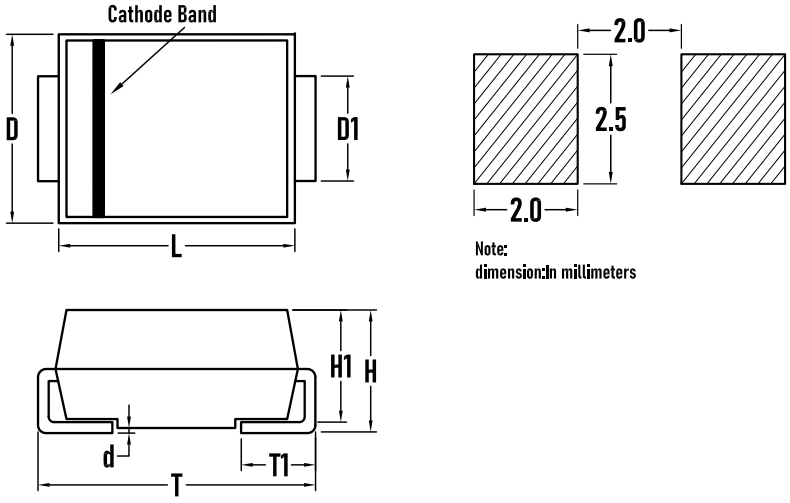
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# RS3A-RS3M

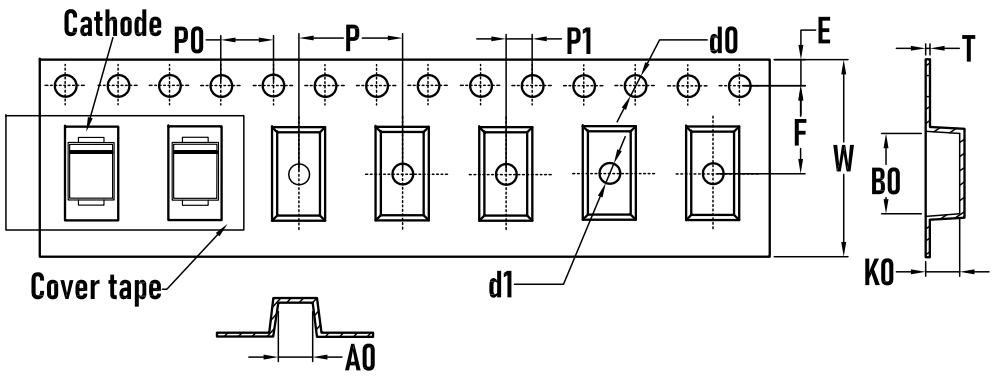
**Fast Recovery Rectifier Diode**

## Outline Drawing - SMB



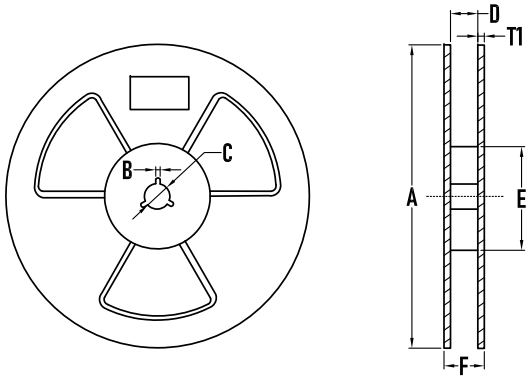

| SYMBOL | MILLIMETER | | Inches | |
|---|---|---|---|---|
| | MIN. | MAX. | MIN. | MAX. |
| D | 3.3 | 3.9 | 0.130 | 0.154 |
| D1 | 1.7 | 2.3 | 0.067 | 0.091 |
| T | 5.1 | 5.7 | 0.201 | 0.224 |
| T1 | 0.8 | 1.6 | 0.031 | 0.063 |
| d | – | 0.3 | – | 0.012 |
| H1 | 2.0 | 2.4 | 0.079 | 0.094 |
| H | 2.1 | 2.5 | 0.083 | 0.098 |
| L | 4.0 | 4.7 | 0.157 | 0.185 |

## Packaging Tape - SMB




| SYMBOL | MILLIMETER |
|---|---|
| A0 | 3.60±0.1 |
| B0 | 5.45±0.1 |
| d0 | 1.50±0.1 |
| d1 | 1.50±0.1 |
| E | 1.75±0.1 |
| F | 5.50±0.1 |
| K0 | 2.30±0.1 |
| P | 8.00±0.1 |
| P0 | 4.00±0.1 |
| P1 | 2.00±0.1 |
| W | 12.00±0.1 |
| T | 0.22±0.02 |

## Packaging Reel




| SYMBOL | MILLIMETER |
|---|---|
| A | 323±2 |
| B | 3.0±0.2 |
| C | 15.0±0.5 |
| D | 13±2 |
| E | 73±2 |
| T1 | 2.2±0.2 |
| Quantity | 3000PCS |

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