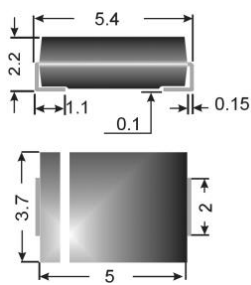


# FR 3SMB A ... FR 3SMB M



## Surface mount diode

### Fast silicon rectifier diodes

#### FR 3SMB A ... FR 3SMB M

Forward Current: 3 A

Reverse Voltage: 50 to 1000 V

#### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0

#### Mechanical Data

- Plastic case: SMB / DO-214AA
- Weight approx.: 0,1 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 3000 pieces per reel

1) Max. temperature of the terminals  $T_T = 80$  °C

2)  $I_F = 3$  A,  $T_J = 25$  °C

3)  $T_A = 25$  °C

4) Mounted on P.C. board with 50 mm<sup>2</sup> copper pads at each terminal

| Type      | Polarity color band | Repetitive peak reverse voltage<br>$V_{RRM}$<br>V | Surge peak reverse voltage<br>$V_{RSM}$<br>V | Maximum forward voltage<br>$T_j = 25$ °C<br>$I_F = 3$ A<br>$V_F^{(2)}$<br>V | Maximum reverse recovery time<br>$I_F = 0,5$ A<br>$I_R = 1$ A<br>$I_{RR} = 0,25$ A<br>$t_{rr}$<br>ns |
|-----------|---------------------|---|--|---|--|
| FR 3SMB A | -                   | 50  | 50   | 1,3   | 150  |
| FR 3SMB B | -                   | 100   | 100  | 1,3   | 150  |
| FR 3SMB D | -                   | 200   | 200  | 1,3   | 150  |
| FR 3SMB G | -                   | 400   | 400  | 1,3   | 150  |
| FR 3SMB J | -                   | 600   | 600  | 1,3   | 250  |
| FR 3SMB K | -                   | 800   | 800  | 1,3   | 500  |
| FR 3SMB M | -                   | 1000  | 1000   | 1,3   | 500  |

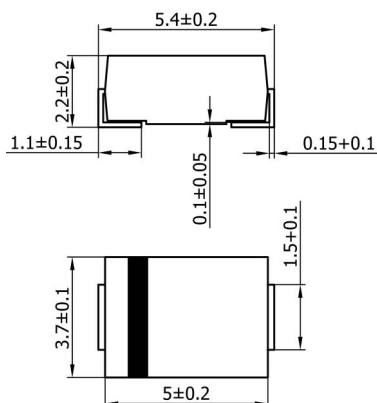
#### Absolute Maximum Ratings $T_A = 25$ °C, unless otherwise specified

| Symbol    | Conditions  | Values         | Units            |
|-----------|---|----------------|------------------|
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_T = 80$ °C <sup>1)</sup> | 3              | A                |
| $I_{FRM}$ | Repetitive peak forward current $f > 15$ Hz <sup>1)</sup>       | 15             | A                |
| $I_{FSM}$ | Peak fwd. surge current 50 Hz half sinus-wave <sup>3)</sup>     | 100            | A                |
| $I^2t$    | Rating for fusing, $t < 10$ ms <sup>3)</sup>                    | 50             | A <sup>2</sup> s |
| $R_{thA}$ | Max. thermal resistance junction to ambient <sup>4)</sup>       | 60             | K/W              |
| $R_{thT}$ | Max. thermal resistance junction to terminals                   | 15             | K/W              |
| $T_j$     | Operating junction temperature                                  | - 50 ... + 150 | °C               |
| $T_s$     | Storage temperature   | - 50 ... + 150 | °C               |

#### Characteristics $T_A = 25$ °C, unless otherwise specified

| Symbol    | Conditions   | Values | Units |
|-----------|--|--------|-------|
| $I_R$     | Maximum leakage current, $T_j = 25$ °C; $V_R = V_{RRM}$  | <5     | µA    |
|           | $T_j = 100$ °C; $V_R = V_{RRM}$  | <200   | µA    |
| $C_j$     | Typical junction capacitance (at MHz and applied reverse voltage of V)                         | -      | pF    |
| $Q_{rr}$  | Reverse recovery charge ( $U_R = V$ ; $I_F = A$ ; $dI_F/dt = A/ms$ )                           | -      | µC    |
| $E_{RSM}$ | Non repetitive peak reverse avalanche energy (L = mH; $T_j =$ °C; inductive load switched off) | -      | mJ    |

Dimensions in mm



case: SMB / DO-214AA

