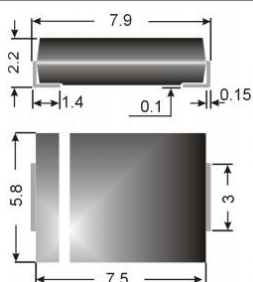


# FRA 3A ... FRA 3M



## Surface mount diode

## Fast Avalanche Diodes

### FRA 3A ... FRA 3M

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: SMC / DO-214AB
- Weight approx.: 0,21 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 3000 pieces per reel

1) Max. temperature of the terminals  $T_T = 100\text{ °C}$

2)  $I_F = 3\text{ A}$ ,  $T_J = 25\text{ °C}$

3)  $T_A = 25\text{ °C}$

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>$T_J = 25\text{ °C}$<br>$I_F = 3\text{ A}$<br>$V_F^{(2)}$<br>V | Maximum reverse recovery time<br>$I_F = 0,5\text{ A}$<br>$I_R = 1\text{ A}$<br>$I_{RR} = 0,25\text{ A}$<br>$t_{rr}$<br>ns |
|--------|---------------------|---------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| FRA 3A | -                   | 50                                                | 50                                           | 1,3                                                                                       | 150                                                                                                                       |
| FRA 3B | -                   | 100                                               | 100                                          | 1,3                                                                                       | 150                                                                                                                       |
| FRA 3D | -                   | 200                                               | 200                                          | 1,3                                                                                       | 150                                                                                                                       |
| FRA 3G | -                   | 400                                               | 400                                          | 1,3                                                                                       | 150                                                                                                                       |
| FRA 3J | -                   | 600                                               | 600                                          | 1,3                                                                                       | 250                                                                                                                       |
| FRA 3K | -                   | 800                                               | 800                                          | 1,3                                                                                       | 500                                                                                                                       |
| FRA 3M | -                   | 1000                                              | 1000                                         | 1,3                                                                                       | 500                                                                                                                       |

### Absolute Maximum Ratings

$T_A = 25\text{ °C}$ , unless otherwise specified

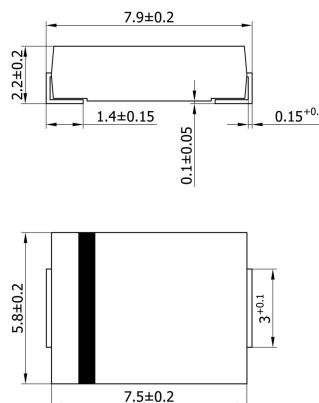
| Symbol    | Conditions                                                   | Values         | Units            |
|-----------|--------------------------------------------------------------|----------------|------------------|
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_T = 100\text{ °C}$ 1)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

### Characteristics

$T_A = 25\text{ °C}$ , unless otherwise specified

| Symbol    | Conditions                                                                                                                 | Values | Units |
|-----------|----------------------------------------------------------------------------------------------------------------------------|--------|-------|
| $I_R$     | Maximum leakage current, $T_J = 25\text{ °C}$ ; $V_R = V_{RRM}$<br>$T_J = \text{°C}$ ; $V_R = V_{RRM}$                     | <3     | µA    |
| $C_J$     | Typical junction capacitance<br>(at MHz and applied reverse voltage of V)                                                  | -      | pF    |
| $Q_{rr}$  | Reverse recovery charge<br>( $U_R = V$ ; $I_F = A$ ; $dI_F/dt = A/ms$ )                                                    | -      | µC    |
| $E_{RSM}$ | Non repetitive peak reverse avalanche energy<br>( $L = 40\text{ mH}$ ; $T_J = 25\text{ °C}$ ; inductive load switched off) | 20     | mJ    |

Dimensions in mm



case: SMC / DO-214AB

