

FR 3A ... FR 3M



Dimensions in mm

Fast silicon rectifier diodes

FR 3A...FR 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 $T_T = 100^\circ\text{C}$
- 2) $I_F = 3\text{ A}$, $T_J = 25^\circ\text{C}$
- 3) $T_A = 25^\circ\text{C}$
- 4) Mounted on P.C. board with 50 mm² copper pads at each terminal

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

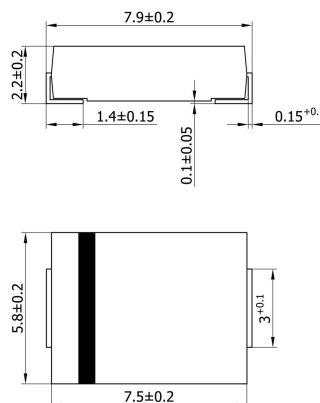
Absolute Maximum Ratings $T_A = 25^\circ\text{C}$, unless otherwise specified

| Symbol | Conditions | Values | Units |
|-----------|---|------------|------------------|
| I_{FAV} | Max. averaged fwd. current, R-load, $T_T = 100^\circ\text{C}$ | 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 ² 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 $T_A = 25^\circ\text{C}$, unless otherwise specified

| Symbol | Conditions | Values | Units |
|-----------|---|--------|-------|
| I_R | Maximum leakage current, $T_j = 25^\circ\text{C}$; $V_R = V_{RRM}$ | <5 | µA |
| | $T_j = 100^\circ\text{C}$; $V_R = V_{RRM}$ | <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; $T_j = ^\circ\text{C}$; inductive load switched off) | - | mJ |

Dimensions in mm



case: SMC / DO-214AB

