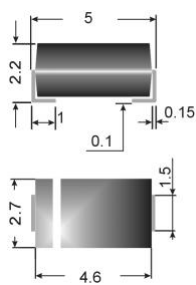


FRA 1A ... FRA 1M



Surface mount diode

Fast Avalanche Diodes

FRA 1A ... FRA 1M

Forward Current: 1 A

Reverse Voltage: 50 to 1000 V

Features

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

Mechanical Data

- Plastic case: SMA / DO-214AC
- Weight approx.: 0,07 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 7500 pieces per reel

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

2) $I_F = 1\text{ A}$, $T_J = 25\text{ °C}$

3) $T_A = 25\text{ °C}$

4) Mounted on P.C. board with 25 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 $T_J = 25\text{ °C}$ $I_F = 1\text{ A}$ $V_F^{(2)}$ 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 |
|--------|---------------------|---|--|---|---|
| FRA 1A | - | 50 | 50 | 1,3 | 150 |
| FRA 1B | - | 100 | 100 | 1,3 | 150 |
| FRA 1D | - | 200 | 200 | 1,3 | 150 |
| FRA 1G | - | 400 | 400 | 1,3 | 150 |
| FRA 1J | - | 600 | 600 | 1,3 | 250 |
| FRA 1K | - | 800 | 800 | 1,3 | 500 |
| FRA 1M | - | 1000 | 1000 | 1,3 | 500 |

Absolute Maximum Ratings

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

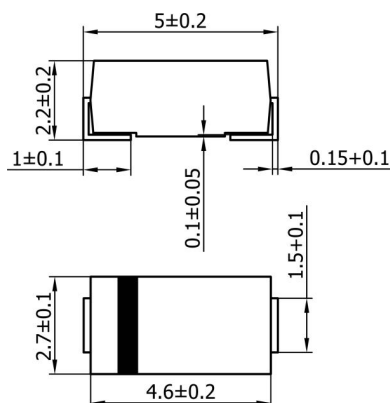
| Symbol | Conditions | Values | Units |
|-----------|--|----------------|------------------|
| I_{FAV} | Max. averaged fwd. current, R-load, $T_T = 100\text{ °C}$ 1) | 1 | A |
| I_{FRM} | Repetitive peak forward current $f > 15\text{ Hz}$ 1) | 6 | A |
| I_{FSM} | Peak fwd. surge current 50 Hz half sinus-wave 3) | 30 | A |
| I^2t | Rating for fusing, $t < 10\text{ ms}$ 3) | 4,5 | A ² s |
| R_{thA} | Max. thermal resistance junction to ambient 4) | 70 | K/W |
| R_{thT} | Max. thermal resistance junction to terminals | 30 | 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, $T_J = 25\text{ °C}$; $V_R = V_{RRM}$ $T_J = \text{°C}$; $V_R = V_{RRM}$ | <3 | 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 ($L = 40\text{ mH}$; $T_J = 25\text{ °C}$; inductive load switched off) | 20 | mJ |

Dimensions in mm



case: SMA / DO-214AC

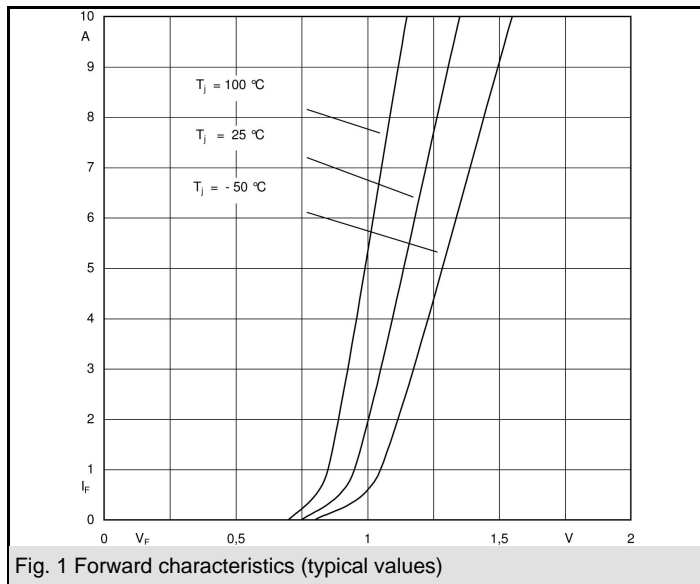


Fig. 1 Forward characteristics (typical values)

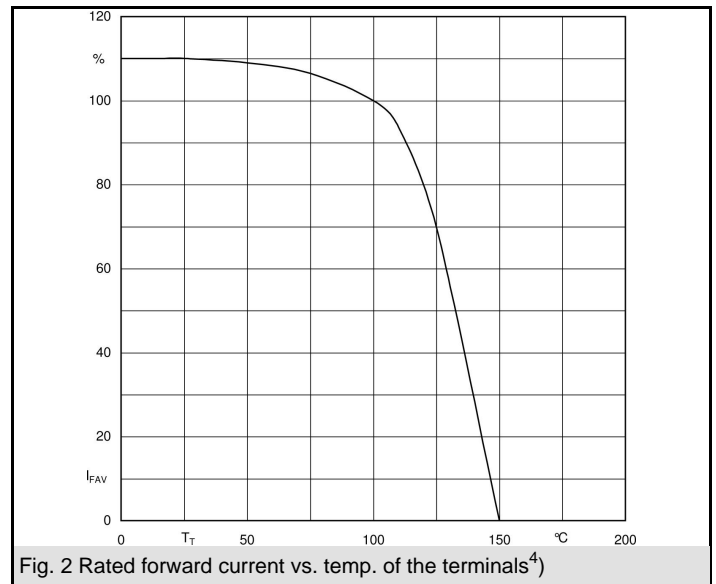


Fig. 2 Rated forward current vs. temp. of the terminals⁴⁾