

SM 4001...SM 4007



Surface mount diode

Standard silicon rectifier diodes

SM 4001...SM 4007

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 Melf / DO-213AB
- Weight approx.: 0,12 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position : any
- Standard packaging: 5000 pieces per reel

1) Max. temperature of the terminals $T_T = 75$ °C

2) $I_F = 1$ A, $T_j = 25$ °C

3) $T_A = 25$ °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 $T_j = 25$ °C $I_F = 1$ A $V_F^{(2)}$ V | Maximum reverse recovery time $I_F = -A$ $I_R = -A$ $I_{RR} = -A$ t_{rr} ns |
|---------|---------------------|---|--|---|--|
| SM 4001 | - | 50 | 50 | 1,1 | - |
| SM 4002 | - | 100 | 100 | 1,1 | - |
| SM 4003 | - | 200 | 200 | 1,1 | - |
| SM 4004 | - | 400 | 400 | 1,1 | - |
| SM 4005 | - | 600 | 600 | 1,1 | - |
| SM 4006 | - | 800 | 800 | 1,1 | - |
| SM 4007 | - | 1000 | 1000 | 1,1 | - |

Absolute Maximum Ratings

$T_A = 25$ °C, unless otherwise specified

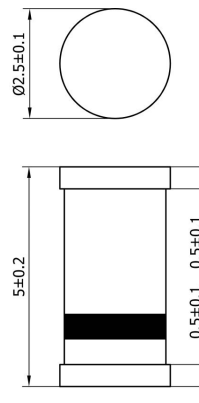
| Symbol | Conditions | Values | Units |
|-----------|---|------------|------------------|
| I_{FAV} | Max. averaged fwd. current, R-load, $T_T = 75$ °C | 1 | A |
| I_{FRM} | Repetitive peak forward current $f > 15$ Hz ¹⁾ | 10 | A |
| I_{FSM} | Peak fwd. surge current 50 Hz half sinus-wave ³⁾ | 40 | A |
| I^2t | Rating for fusing, $t < 10$ ms ³⁾ | 8 | A ² s |
| R_{thA} | Max. thermal resistance junction to ambient ⁴⁾ | 45 | K/W |
| R_{thT} | Max. thermal resistance junction to terminals | 10 | K/W |
| T_j | Operating junction temperature | -50...+175 | °C |
| T_s | Storage temperature | -50...+175 | °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; $V_R = V_{RRM}$ | <50 | 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 ($I_R = mA$; $T_j =$ °C; inductive load switched off) | - | mJ |

Dimensions in mm



case: Melf / DO-213AB

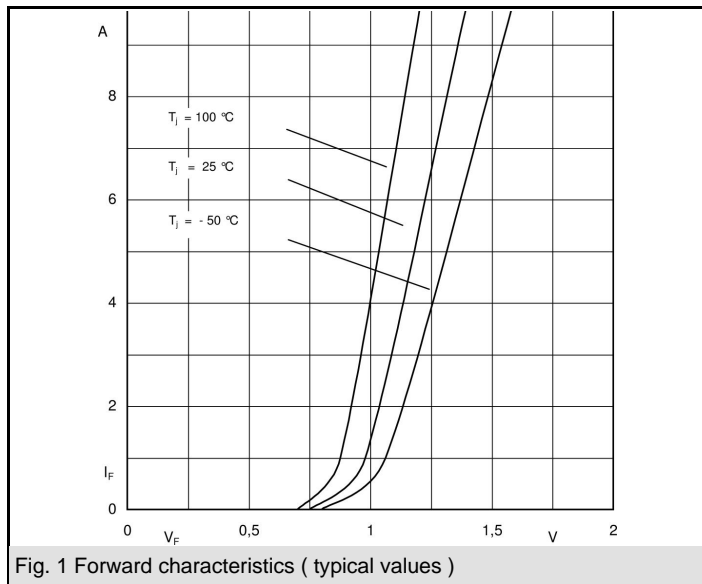


Fig. 1 Forward characteristics (typical values)

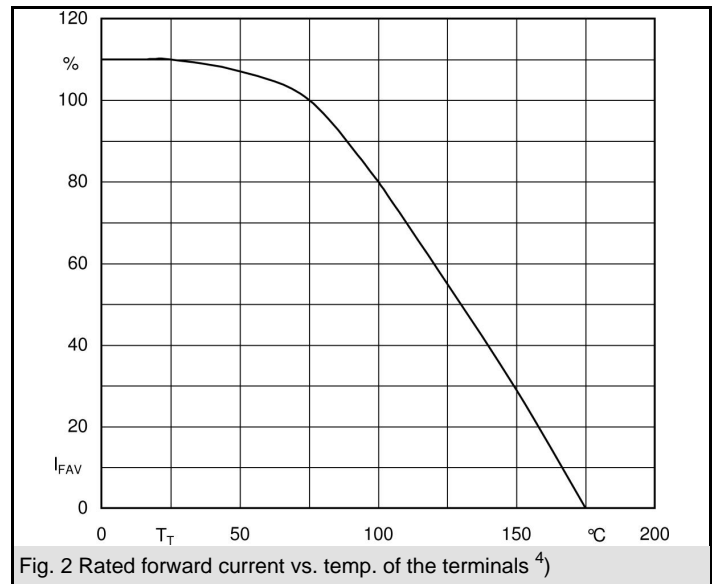


Fig. 2 Rated forward current vs. temp. of the terminals ⁴⁾