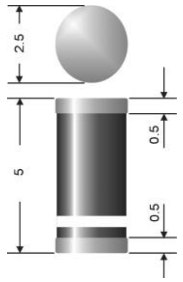
# SAM 4001 ... SAM 4007




## Surface mount diode

## Standard Avalanche Diodes

**SAM 4001 ... SAM 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 |
|---|---|---|---|---|---|
| SAM 4001 | - | 50 | 50 | 1,1 | - |
| SAM 4002 | - | 100 | 100 | 1,1 | - |
| SAM 4003 | - | 200 | 200 | 1,1 | - |
| SAM 4004 | - | 400 | 400 | 1,1 | - |
| SAM 4005 | - | 600 | 600 | 1,1 | - |
| SAM 4006 | - | 800 | 800 | 1,1 | - |
| SAM 4007 | - | 1000 | 1000 | 1,1 | - |

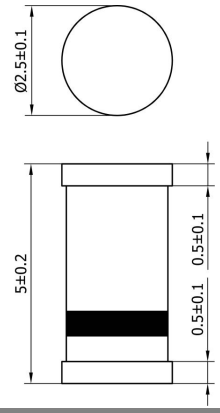
**Absolute Maximum Ratings** $T_A$ = 25 °C, unless otherwise specified

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_T$ = 75 °C 1) | 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 | $A^2s$ |
| $R_{thA}$ | 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; $V_R$ = $V_{RRM}$<br>$T_j$ = °C; $V_R$ = $V_{RRM}$ | <1,5 | 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 mH; $T_j$ = 25 °C; inductive load switched off) | 20 | mJ |

Dimensions in mm




case: Melf / DO-213AB

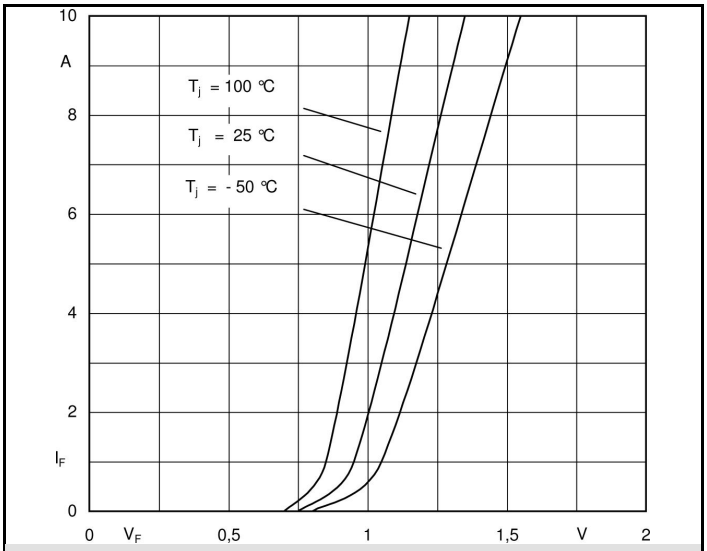



Fig. 1 Forward characteristics (typical values)

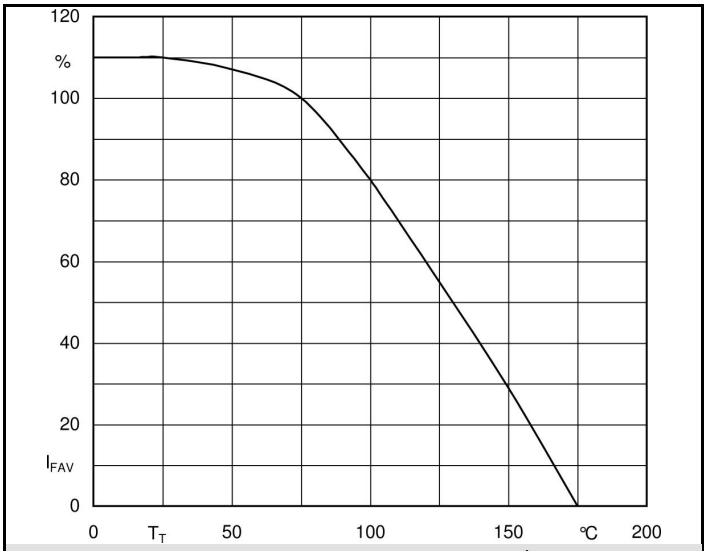



Fig. 2 Rated forward current vs. temp. of the terminals[4])