

# 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 mm<sup>2</sup> copper pads at each terminal

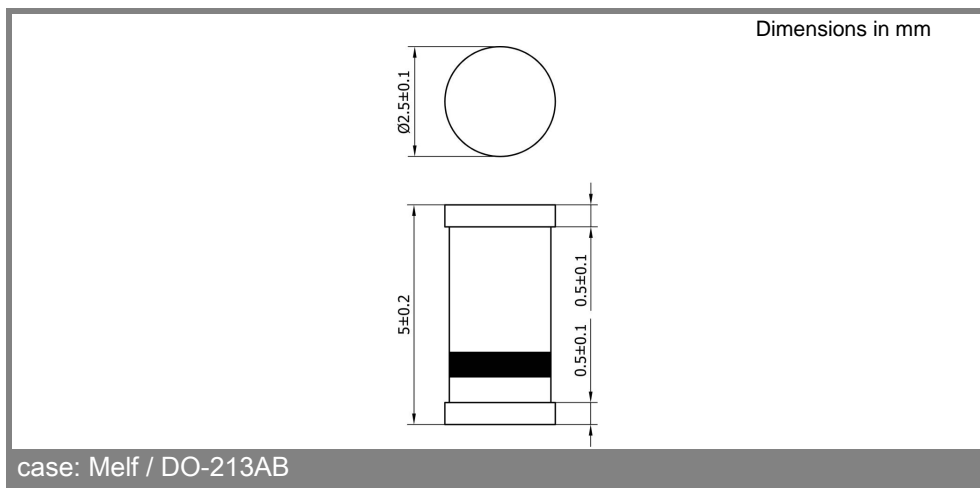
Type	Polarity color band	Repetitive peak reverse voltage $V_{RRM}$ V	Surge peak reverse voltage $V_{RSM}$ V	Maximum forward voltage $T_j = 25$ °C $I_F = 1$ A $V_F^{(2)}$ V	Maximum reverse recovery time $I_F = -A$ $I_R = -A$ $I_{RR} = -A$ $t_{rr}$ ns
SAM 4001	-	50	50	1,1	-
SAM 4002	-	100	100	1,1	-
SAM 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 <sup>1)</sup>	1	A
$I_{FRM}$	Repetitive peak forward current $f > 15$ Hz <sup>1)</sup>	10	A
$I_{FSM}$	Peak fwd. surge current 50 Hz half sinus-wave <sup>3)</sup>	40	A
$I^2t$	Rating for fusing, $t < 10$ ms <sup>3)</sup>	8	A <sup>2</sup> s
$R_{thA}$	Max. thermal resistance junction to ambient <sup>4)</sup>	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; $V_R = V_{RRM}$ $T_j =$ °C; $V_R = V_{RRM}$	<1	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 ( $I_R = 1$ mA; $T_j = 25$ °C; inductive load switched off)	20	mJ



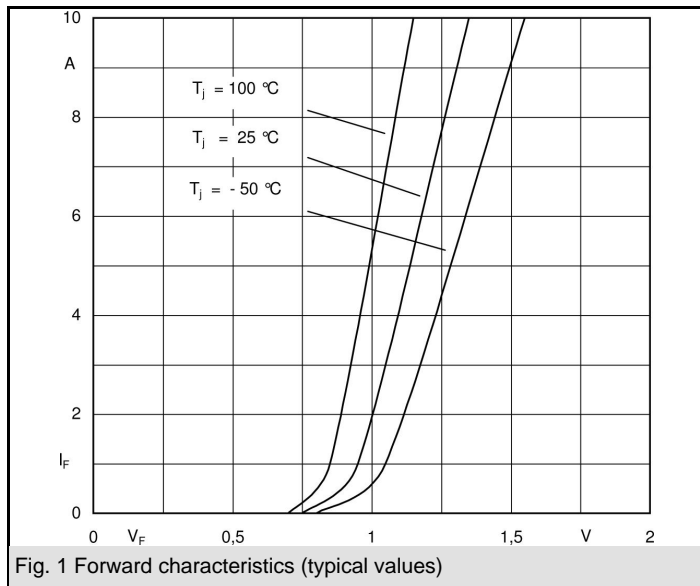


Fig. 1 Forward characteristics (typical values)

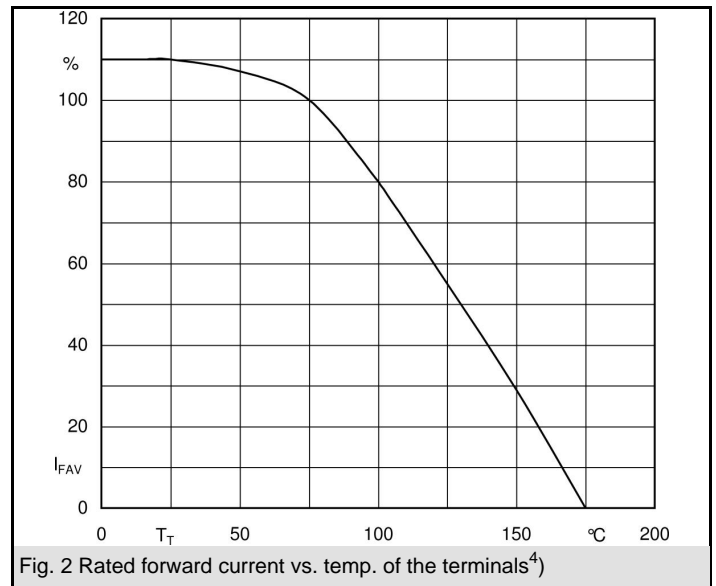


Fig. 2 Rated forward current vs. temp. of the terminals<sup>4)</sup>