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**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  $T_T = 75\text{ °C}$

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

Type	Polarity	Repetitive peak	Surge peak	Maximum forward voltage	Maximum reverse recovery time
	color band	reverse voltage	reverse voltage	$T_j = 25\text{ °C}$ $I_F = 1\text{ A}$	$I_F = -\text{A}$ $I_R = -\text{A}$ $I_{RR} = -\text{A}$
		$V_{RRM}$ V	$V_{RSM}$ V	$V_F^{2)}$ V	$t_{rr}$ 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 $T_c = 25\text{ °C}$ , unless otherwise specified

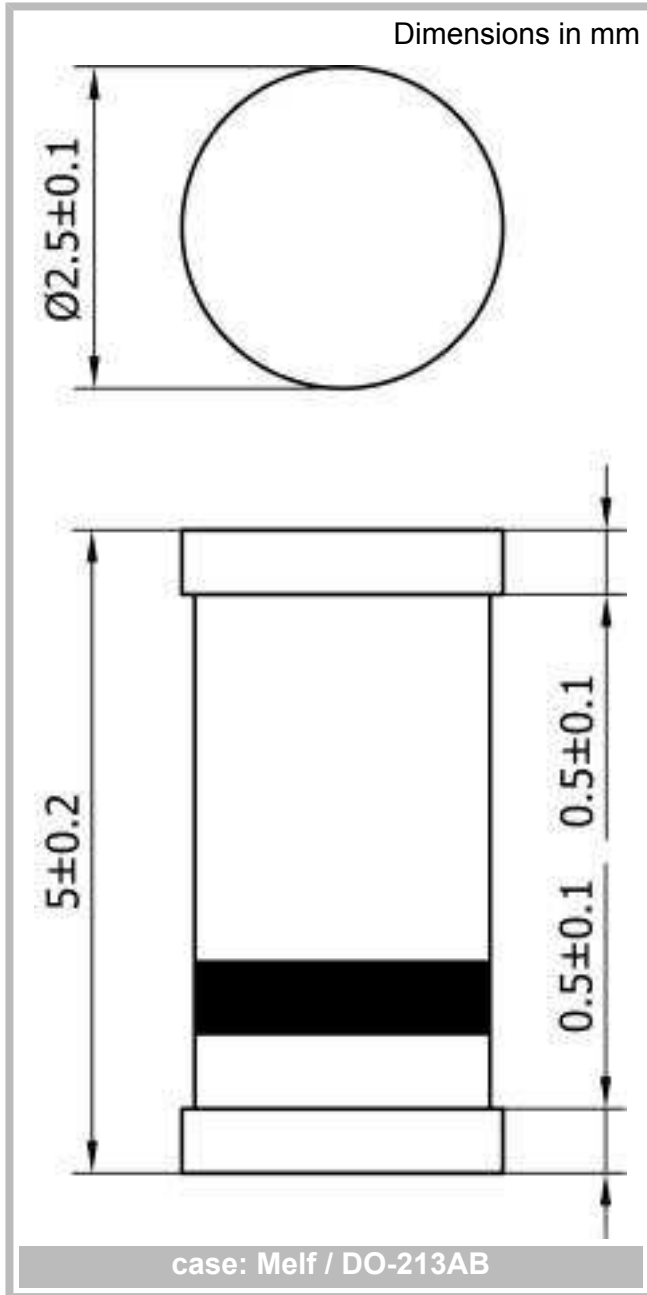
Symbol	Conditions	Values	Units
$I_{FAV}$	Max. averaged fwd. current, R-load, $T_T = 75\text{ °C}$	1	A
$I_{FRM}$	Repetitive peak forward current $f > 15\text{ Hz}^1)$	10	A
$I_{FSM}$	Peak fwd. surge current 50 Hz half sinus-wave $^3)$	40	A
$I^2t$	Rating for fusing, $t < 10\text{ ms}^3)$	8	A <sup>2</sup> 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 $T_c = 25\text{ °C}$ , unless otherwise specified

Symbol	Conditions	Values	Units
$I_R$	Maximum leakage current, $T_j = 25\text{ °C}$ ; $V_R = V_{RRM}$	<5	μA
	$T_j = 100\text{ °C}$ ; $V_R = V_{RRM}$	<50	μA
$C_J$	Typical junction capacitance (at MHz and applied reverse voltage of V)	-	pF

$Q_{rr}$	Reverse recovery charge ( $U_R = V$ ; $I_F = A$ ; $dI_F/dt = A/ms$ )	-	$\mu C$
$E_{RSM}$	Non repetitive peak reverse avalanche energy ( $I_R = mA$ ; $T_j = ^\circ C$ ; inductive load switched off)	-	mJ

## Cases / Circuits



## Diagrams

diagramme/21/sm4001\_01.tif Fig. 1 Forward characteristics ( typical values )  
 diagramme/21/sm4001\_02.tif Fig. 2 Rated forward current vs. temp. of the terminals

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