

# SM 513, SM 516, SM 518, SM 2000



## Surface mount diode

### Standard silicon rectifier diodes

SM 513, SM 516, SM 518, SM 2000

Forward Current: 1 A

Reverse Voltage: 1300 to 2000 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

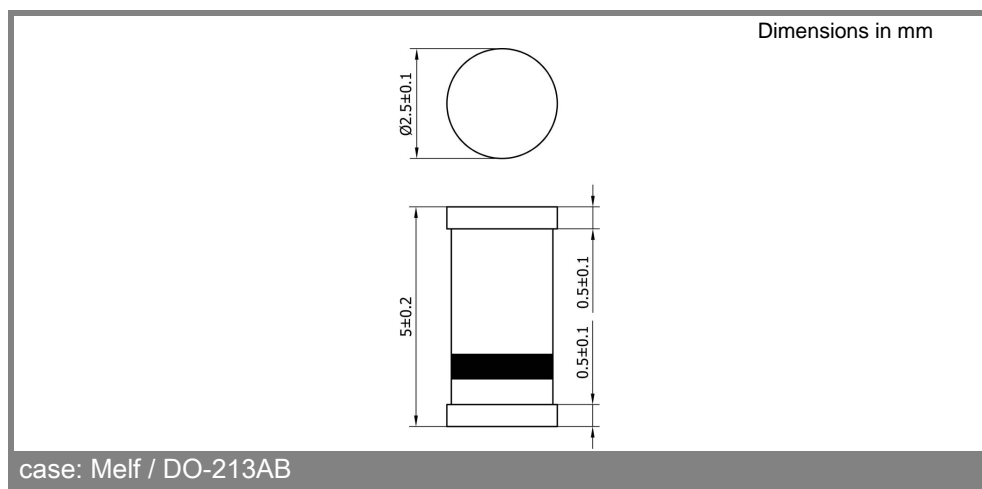
3)  $T_A = 25$  °C

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
SM 513	-	1300	1300	1,1	-
SM 516	-	1600	1600	1,1	-
SM 518	-	1800	1800	1,1	-
SM 2000	-	2000	2000	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 <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; $V_R = V_{RRM}$ $T_j = 100$ °C; $V_R = V_{RRM}$	<5 <50	$\mu$ A $\mu$ A
$C_j$	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 ( $I_R = mA$ ; $T_j =$ °C; inductive load switched off)	-	mJ



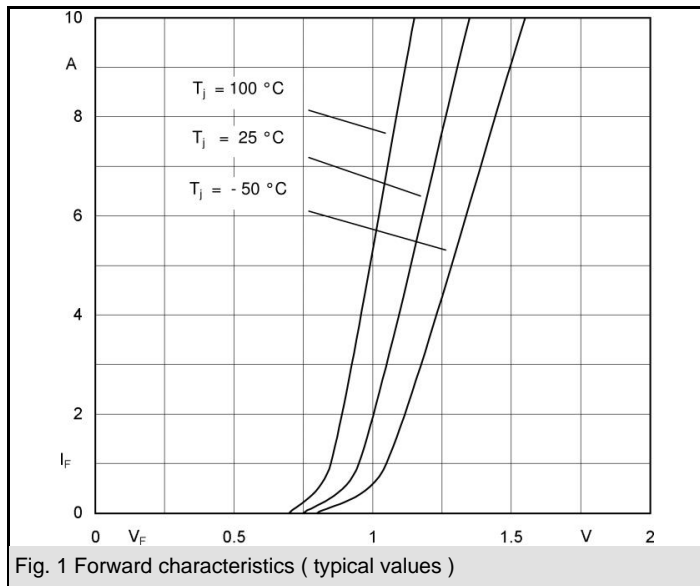


Fig. 1 Forward characteristics ( typical values )

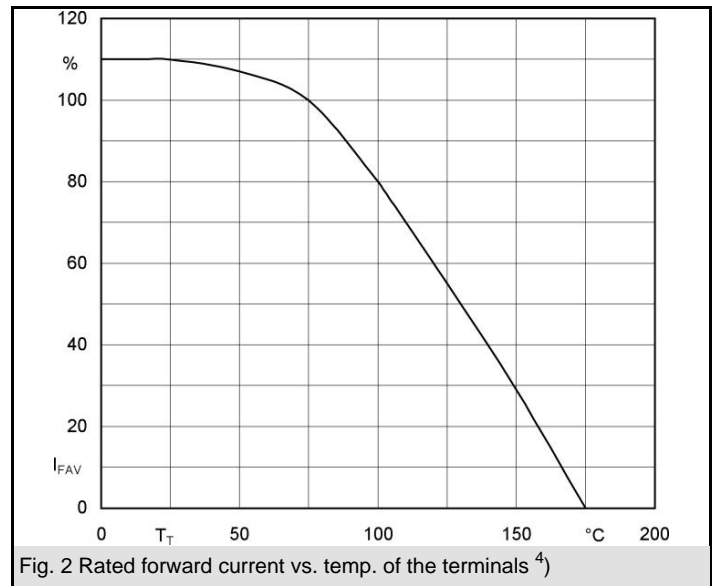


Fig. 2 Rated forward current vs. temp. of the terminals <sup>4)</sup>