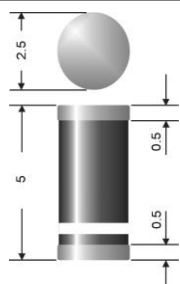


SM 513, SM 516, SM 518, SM 2000



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 $T_T = 75^\circ\text{C}$

2) $I_F = 1\text{ A}$, $T_j = 25^\circ\text{C}$

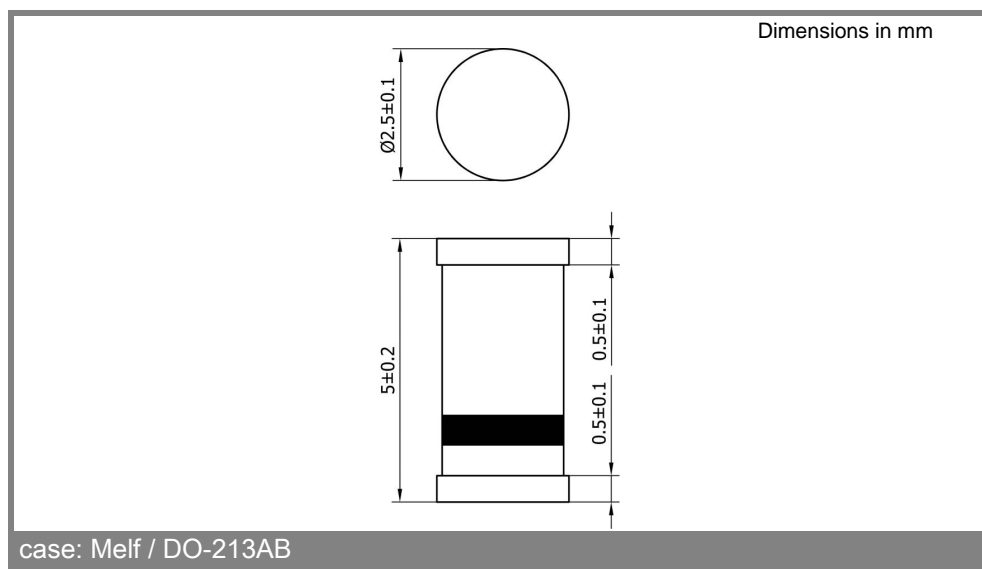
3) $T_A = 25^\circ\text{C}$

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 $T_j = 25^\circ\text{C}$ $I_F = 1\text{ A}$ $V_F^{(2)}$ V | Maximum reverse recovery time $I_F = -\text{A}$ $I_R = -\text{A}$ $I_{RR} = -\text{A}$ 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 | | $T_c = 25^\circ\text{C}$, unless otherwise specified | |
|--------------------------|--|---|------------------|
| Symbol | Conditions | Values | Units |
| I_{FAV} | Max. averaged fwd. current, R-load, $T_T = 75^\circ\text{C}$ | 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 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 | | $T_c = 25^\circ\text{C}$, unless otherwise specified | |
|-----------------|---|---|--------------------------------|
| Symbol | Conditions | Values | Units |
| I_R | Maximum leakage current, $T_j = 25^\circ\text{C}$; $V_R = V_{RRM}$ $T_j = 100^\circ\text{C}$; $V_R = V_{RRM}$ | <5 <50 | μA 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 ($I_R = \text{mA}$; $T_j = ^\circ\text{C}$; inductive load switched off) | - | mJ |



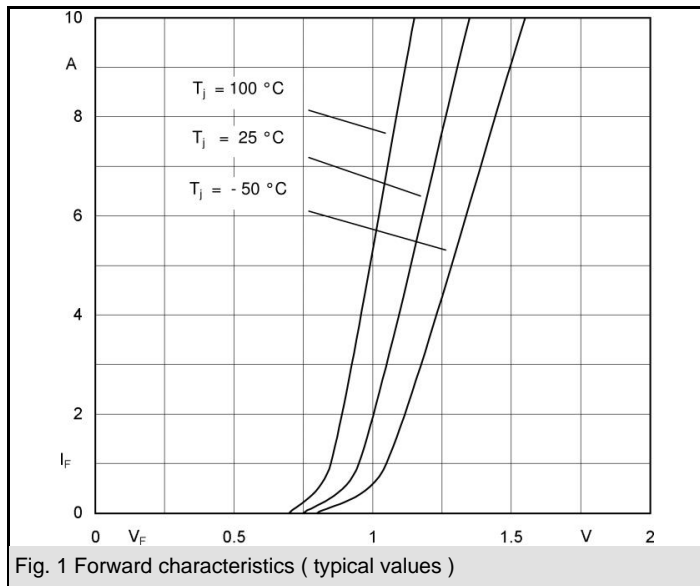


Fig. 1 Forward characteristics (typical values)

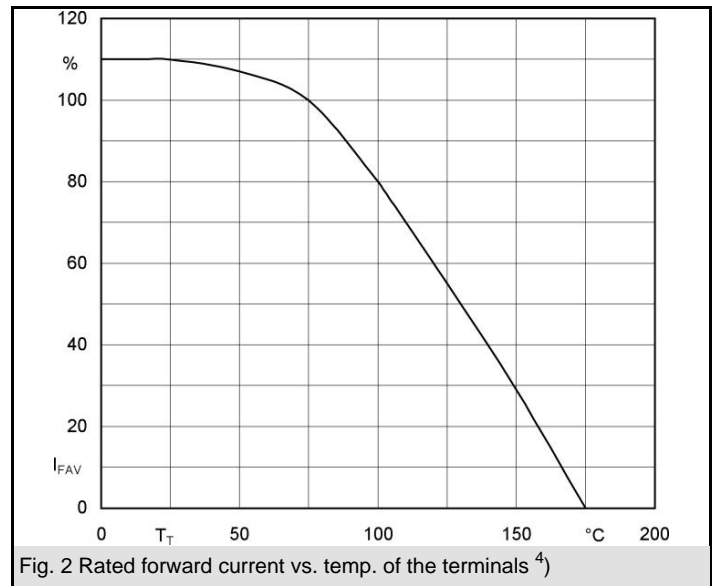


Fig. 2 Rated forward current vs. temp. of the terminals ⁴⁾