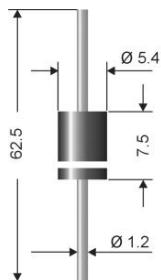


SB 1220 ... SB 12100



Axial lead diode

Schottky barrier rectifiers diodes

SB 1220 ... SB 12100

Forward Current: 12 A

Reverse Voltage: 20 to 100 V

Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0

Mechanical Data

- Plastic case: 5,4 x 7,5 [mm]
- Weight approx.: 1,4 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 1250 pieces per ammo or per reel

1) Valid, if leads are kept at T_A at a distance of 10 mm from case

2) $I_F = 5 \text{ A}$, $V_F < 0,49 \text{ V}$ @ $I_F = 12 \text{ A}$, $T_j = 25^\circ\text{C}$

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

4) Thermal resistance from junction to lead/terminal at a distance 0 mm from case

5) Max. junction temperature $T_j \leq 200^\circ\text{C}$ in bypass mode / DC forward mode

| Type | Repetitive peak reverse voltage V_{RRM} V | Surge peak reverse voltage V_{RSM} V | Max. reverse recovery time t_{rr} ns | Max. forward voltage $V_F^{(2)}$ |
|----------|---|--|--|-------------------------------------|
| SB 1220 | 20 | 20 | - | 0,45 |
| SB 1230 | 30 | 30 | - | 0,45 |
| SB 1240 | 40 | 40 | - | 0,45 |
| SB 1245 | 45 | 45 | - | 0,48 |
| SB 1250 | 50 | 50 | - | 0,61 |
| SB 1260 | 60 | 60 | - | 0,61 |
| SB 1290 | 90 | 90 | - | 0,75 |
| SB 12100 | 100 | 100 | - | 0,75 |

Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$, unless otherwise specified

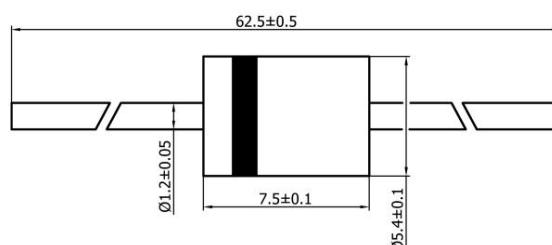
| Symbol | Conditions | Values | Units |
|-----------|--|--|------------------|
| I_{FAV} | Max. averaged fwd. current, R-load, $T_A = 50^\circ\text{C}$ ¹⁾ | 12 | A |
| I_{FRM} | Repetitive peak forward current $f > 15 \text{ Hz}^1)$ | 55 | A |
| I_{FSM} | Peak forward surge current 50 Hz half sinus-wave ³⁾ | 280 | A |
| i^2t | Rating for fusing, $t < 10 \text{ ms}$ ³⁾ | 390 | A ² s |
| R_{thA} | Max. thermal resistance junction to ambient ¹⁾ | | K/W |
| R_{thL} | Max. thermal resistance junction to terminals ⁴⁾ | 4 | K/W |
| T_j | Operating junction temperature | -50 ... +150 ($T_j \leq 200^\circ\text{C}$ in bypass mode ⁵⁾) | °C |
| T_s | Storage temperature | -50 ... +175 | °C |

Characteristics

$T_A = 25^\circ\text{C}$, unless otherwise specified

| Symbol | Conditions | Values | Units |
|-----------|---|--------|-------|
| I_R | Maximum leakage current, $T_j = 25^\circ\text{C}$; $V_R = V_{RRM}$ | <500 | µA |
| | $T_j = 100^\circ\text{C}$; $V_R = V_{RRM}$ | <20 | mA |
| C_J | Typical junction capacitance (at MHz and applied reverse voltage of V) | - | pF |
| Q_{rr} | Reverse recovery charge ($U_R = V$; $I_F = A$; $dI_F/dt = A/\text{ms}$) | - | µC |
| E_{RSM} | Non repetitive peak reverse avalanche energy ($I_R = mA$; $T_j = {}^\circ\text{C}$; inductive load switched off) | - | mJ |

Dimensions in mm



case: 5,4 x 7,5 [mm]

SB 1220 ... SB 12100

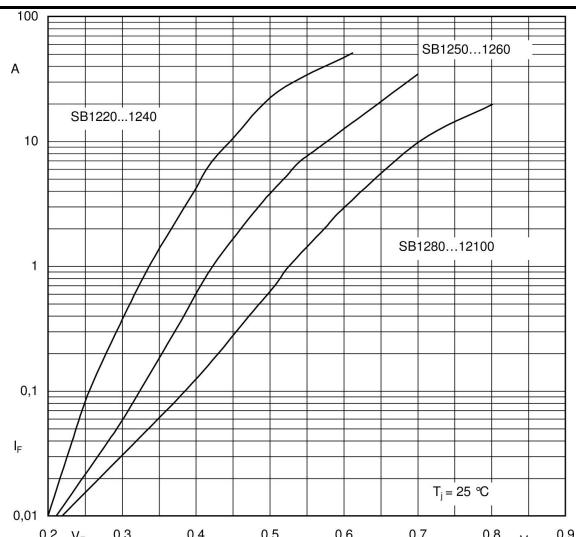


Fig. 1, Forward characteristics (typical values)

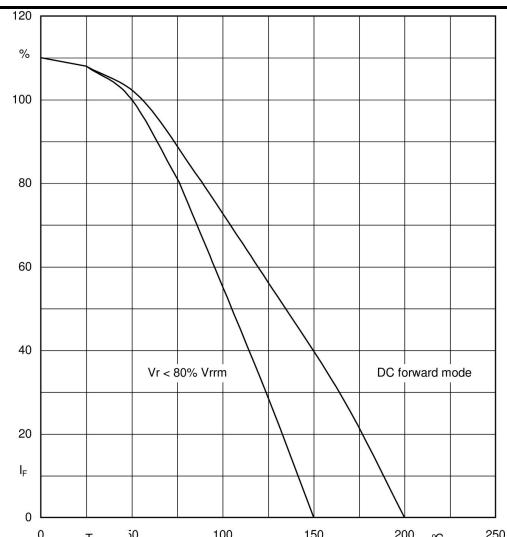


Fig. 2, Rated forward current vs. ambient temperature ¹⁾

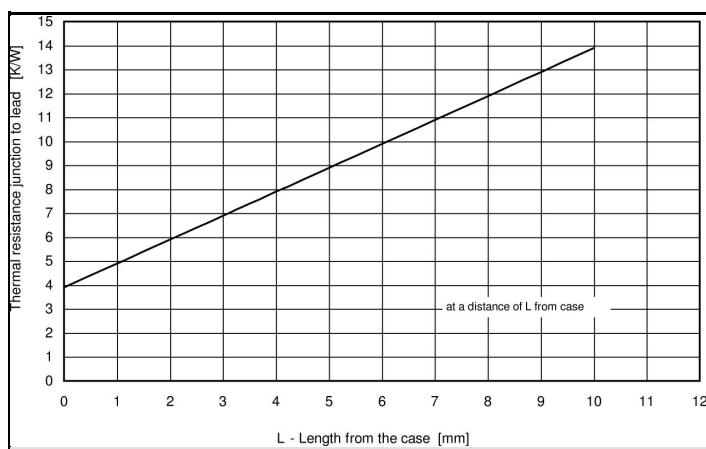


Fig. 3, Thermal resistance versus distance from case - typical values