

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

3) $T_A = 25 \text{ °C}$

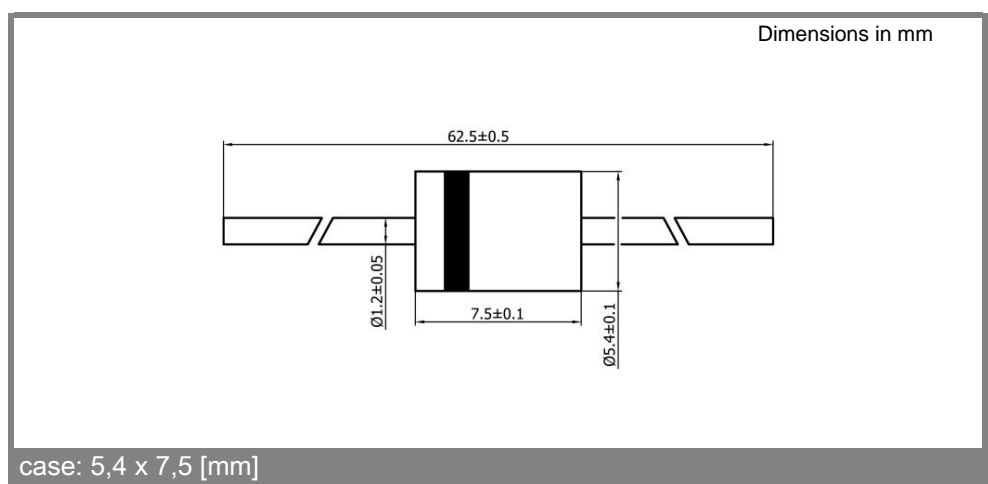
4) Thermal resistance from junction to lead/terminal at a distance 0 mm from case

5) Max. junction temperature $T_j \leq 200 \text{ °C}$ 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 $I_F = -A$ $I_R = -A$ $I_{RR} = -A$ 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		$T_A = 25 \text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, $T_A = 50 \text{ °C}^{(1)}$	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 ($T_j \leq 200 \text{ °C}$ in bypass mode $^{(5)}$)	°C
T_s	Storage temperature	-50 ... +175	°C

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



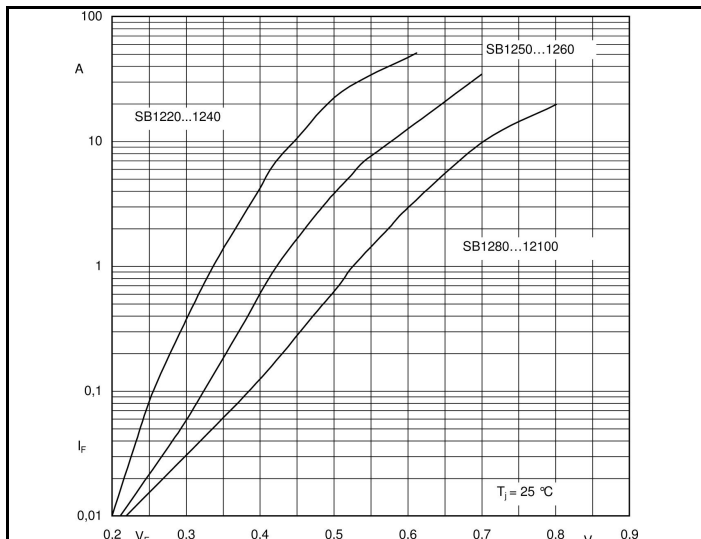


Fig. 1, Forward characteristics (typical values)

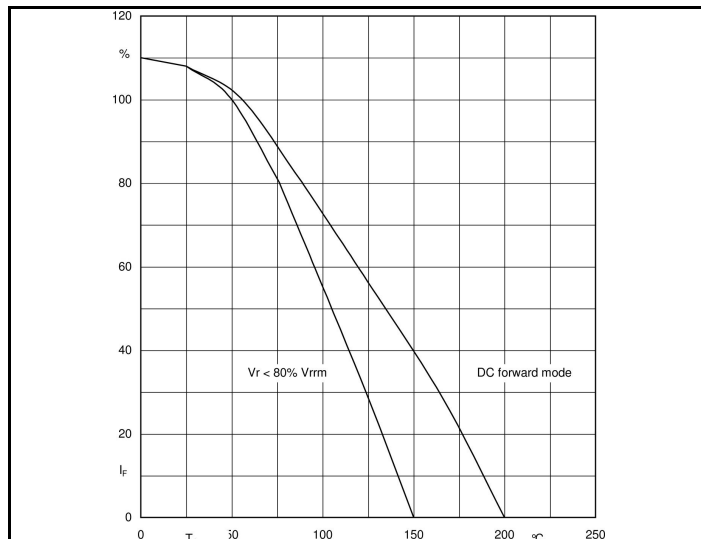


Fig. 2, Rated forward current vs. ambient temperature ¹⁾

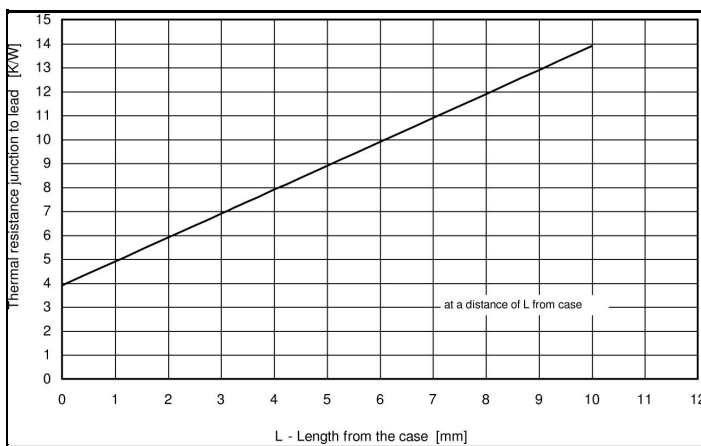


Fig. 3, Thermal resistance versus distance from case - typical values