

Axial lead diode

Schottky barrier rectifiers diodes

SB1220TL...SB12100TL

Forward Current: 12 A

Reverse Voltage: 20 to 100 V

Preliminary Data

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.: 1,8 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 0 mm from case

2) $I_F = 5 \text{ A}$, $V_F < 490 \text{ mV}$ @ $I_F = 12 \text{ A}$, $T_J = 25^\circ\text{C}$

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 $I_F = -A$ $I_R = -A$ $I_{RR} = -A$ t_{rr} ns	Max. forward voltage $V_F^{2)}$
SB1220TL	20	20	-	0,45
SB1230TL	30	30	-	0,45
SB1240TL	40	40	-	0,45
SB1245TL	45	45	-	0,45
SB1250TL	50	50	-	0,61
SB1260TL	60	60	-	0,61
SB1290TL	90	90	-	0,75
SB12100TL	100	100	-	0,75

Absolute Maximum Ratings

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

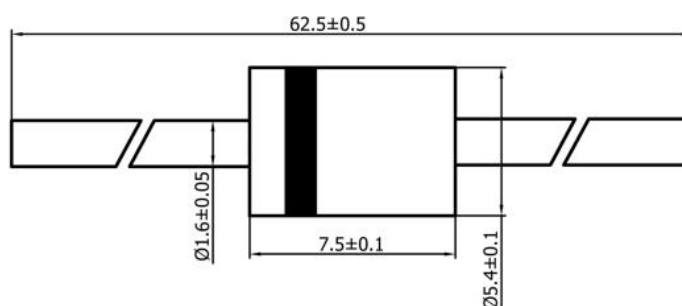
Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, $T_A = 75^\circ\text{C}$ 1)	12	A
I_{FRM}	Repetitive peak forward current $f > 15 \text{ Hz}$ 1)	55	A
I_{FSM}	Peak forward surge current 50 Hz half sinus-wave 3)	300	A
i^2t	Rating for fusing, $t < 10 \text{ ms}$ 3)	450	A ² s
R_{thA}	Max. thermal resistance junction to ambient 1)		K/W
R_{thL}	Max. thermal resistance junction to terminals 4)	2	K/W
T_J	Operating junction temperature	-50...+150 ($T_J \leq 200^\circ\text{C}$ in bypass mode 5)	$^\circ\text{C}$
T_s	Storage temperature	-50... +175	$^\circ\text{C}$

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 ($U_R = V$; $I_F = A$; $dI_F/dt = A/ms$)	-	μC
E_{RSM}	Non repetitive peak reverse avalanche energy ($I_R = \text{mA}$; $T_J = ^\circ\text{C}$; inductive load switched off)	-	mJ

Dimensions in mm



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

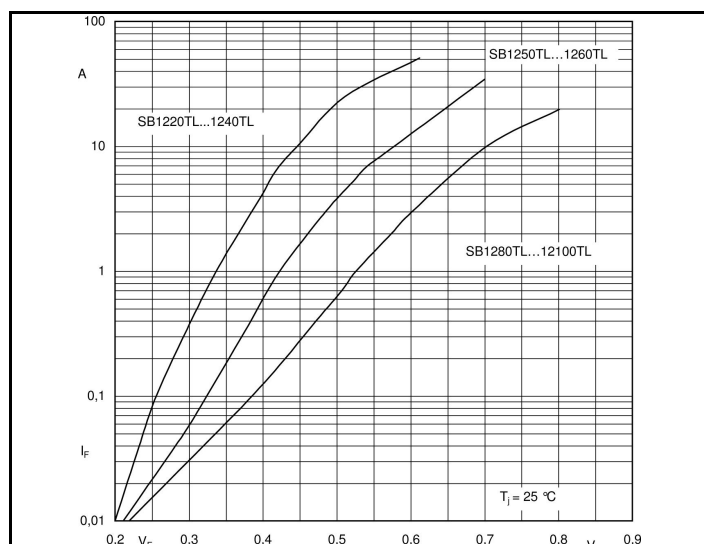


Fig. 1, Forward characteristic (typical values)

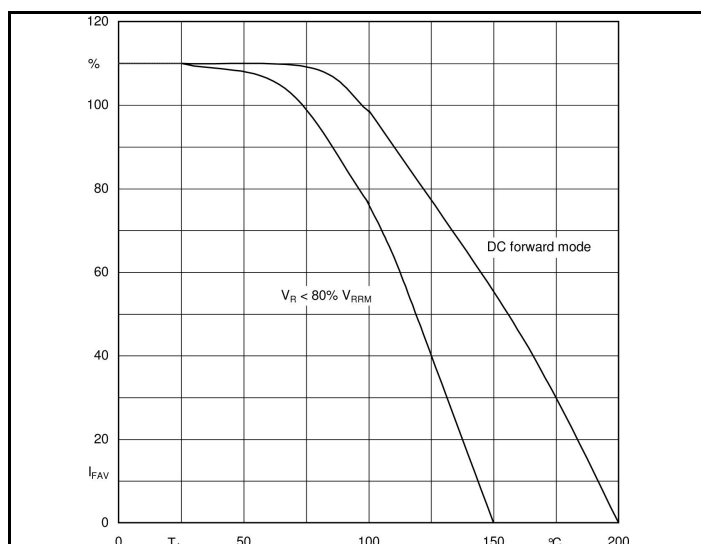


Fig. 2, Rated forward current vs. ambient temperature ¹⁾

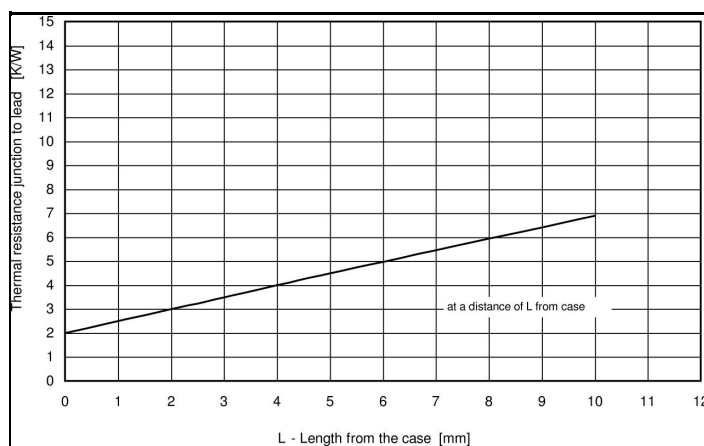


Fig. 3, Thermal resistance versus distance from case