

## Features

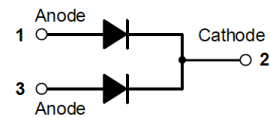
- Ultra low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-220AB

## Mechanical Data

- Case: Epoxy, molded
- Finish: All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C max. for 10 sec
- Shipped 50 units per plastic tube



Schematic Diagram

## Applications

- SMPS
- Adapter
- Server Power

## Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	SBR20100CT	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum RMS Voltage	V <sub>RMS</sub>	70	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	100	V
Maximum Average Forward	I <sub>F(AV)</sub>	20	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load Per Diode	I <sub>FSM</sub>	150	A
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	2	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	62.5	°C/W

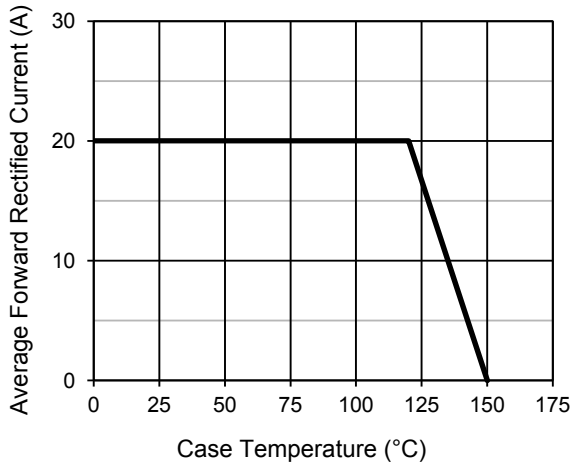
## Electrical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward Drop Voltage <sup>1</sup>	V <sub>F</sub>	I <sub>F</sub> =10A, T <sub>J</sub> =25°C	0.64	0.69	V
		I <sub>F</sub> =10A, T <sub>J</sub> =125°C	-	0.60	
Reverse Leakage Current @ V <sub>R</sub> <sup>2</sup>	I <sub>R</sub>	T <sub>J</sub> =25°C	-	200	μA
		T <sub>J</sub> =100°C	-	15	mA

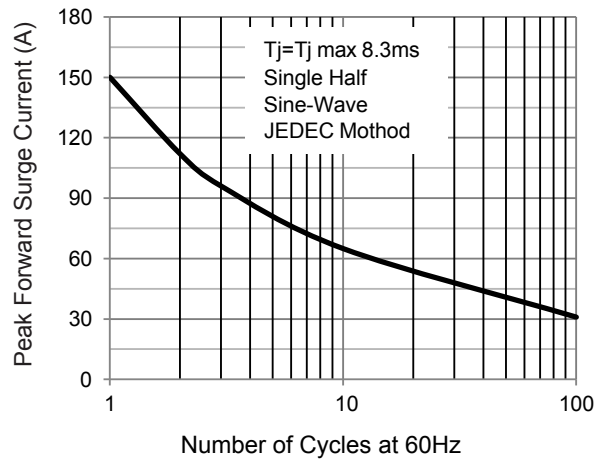
Notes:

1. Pulse test with P<sub>W</sub>=0.3ms, duty cycle=2%.
2. Pulse test with P<sub>W</sub>=30ms.

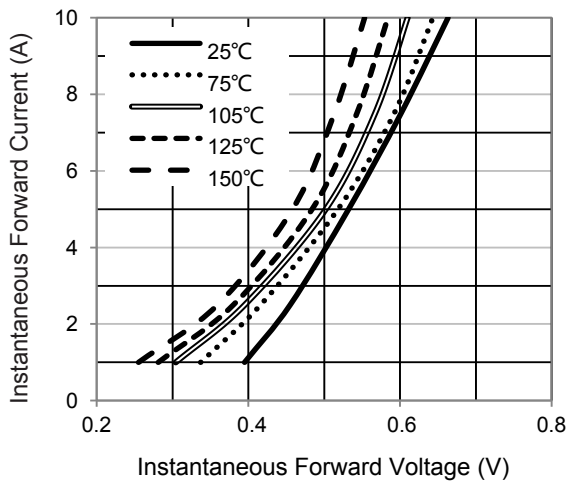
## Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)



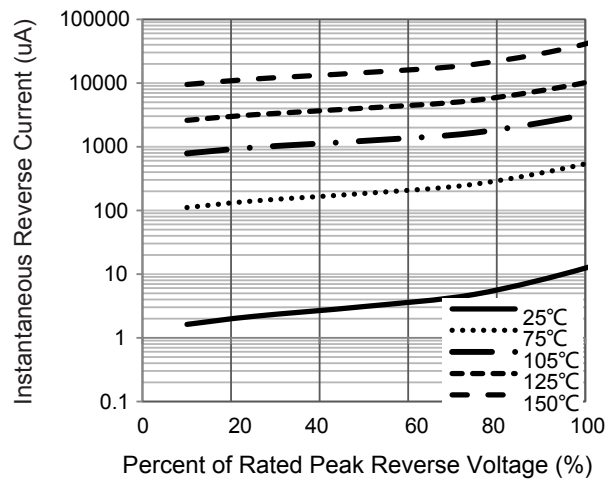
**Figure 1. Forward Current Derating Curve**



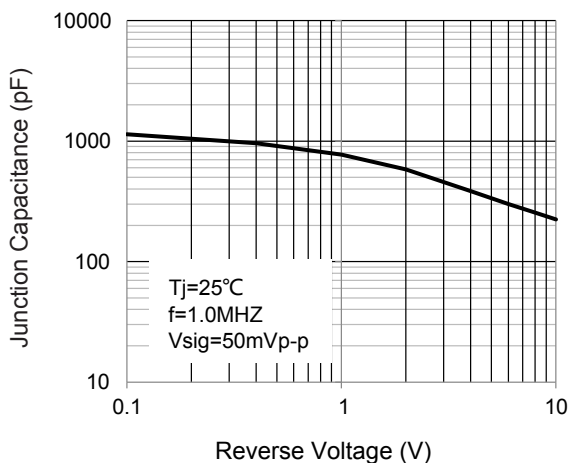
**Figure 2. Maximum Non-Repetitive Surge Current**



**Figure 3. Typical Forward Voltage Characteristics**

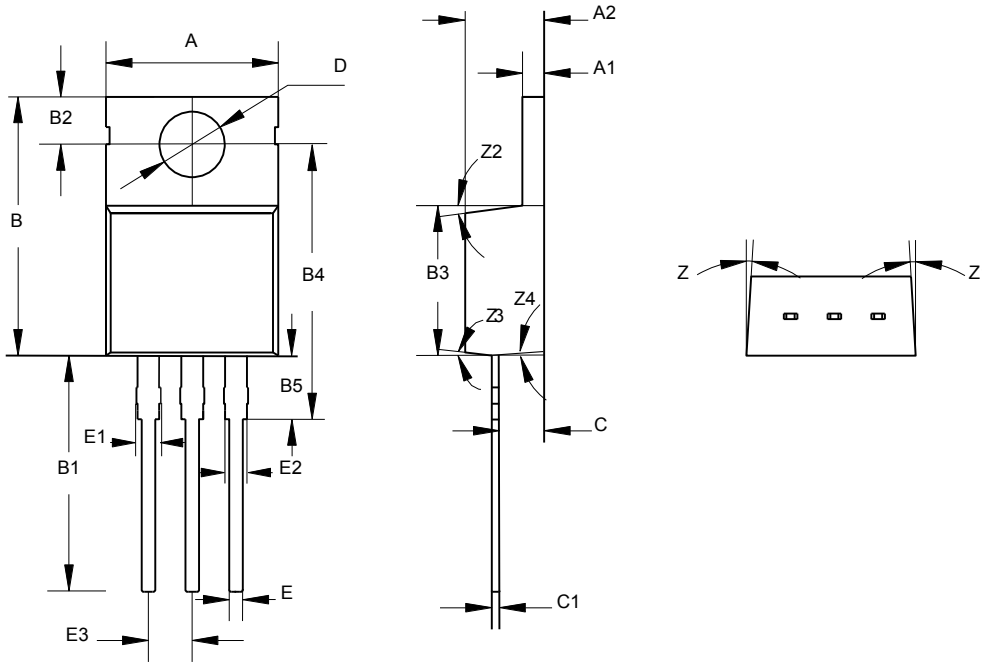


**Figure 4. Typical Reverse Current Characteristics**



**Figure 5. Typical Junction Capacitance**

## Package Outline Dimensions (TO-220AB)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.80	10.20	0.386	0.402
A1	1.17	1.37	0.046	0.054
A2	4.50	4.70	0.177	0.185
B	14.50	15.50	0.571	0.610
B1	13.20	14.20	0.520	0.559
B2	2.65	2.85	0.104	0.112
B3	8.50	8.90	0.335	0.350
B4	15.50	16.50	0.610	0.650
B5	3.40	4.00	0.134	0.157
C	2.30	2.90	0.091	0.114
C1	0.28	0.48	0.011	0.019
D	3.70	3.90	0.146	0.154
E	0.68	0.88	0.027	0.035
E1	1.20	1.60	0.047	0.063
E2	1.17	1.37	0.046	0.054
E3	2.44	2.64	0.096	0.104
Z	3° Nom		3° Nom	
Z1	3° Nom		3° Nom	
Z2	7° Nom		7° Nom	
Z3	7° Nom		7° Nom	
Z4	1.5° Nom		1.5° Nom	