

## Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead Free Finish, RoHS Compliant (Note 2)**
- **Also Available in Green Molding Compound (Note 4)**

## Mechanical Data

- Case: TO-262
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 <sup>(3)</sup>
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 1.355 grams (approximate)

## Maximum Ratings (Per Leg) @T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	71	V
Average Rectified Output Current Per Device	I <sub>O</sub>	10	A
(Per Leg) (Total)		20	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	200	A

## Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	R <sub>θJC</sub>	2	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

## Electrical Characteristics (Per Leg) @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	-	-	0.70	V	I <sub>F</sub> = 10A, T <sub>J</sub> = 25°C
			0.57	0.63		I <sub>F</sub> = 10A, T <sub>J</sub> = 125°C
			-	0.82		I <sub>F</sub> = 20A, T <sub>J</sub> = 25°C
Leakage Current (Note 1)	I <sub>R</sub>	-	-	0.5 25	mA	V <sub>R</sub> = 100V, T <sub>J</sub> = 25°C V <sub>R</sub> = 100V, T <sub>J</sub> = 125°C

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
  2. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html).

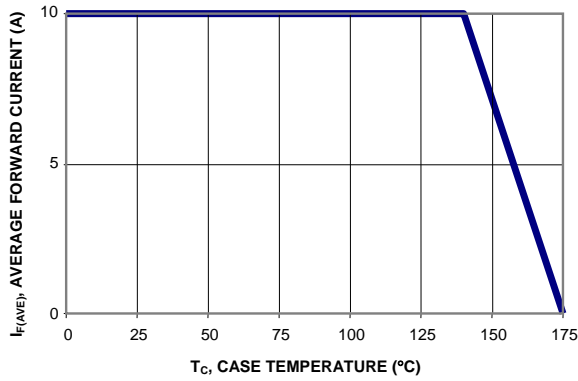


Figure 1: Current Derating Curve, Per Element

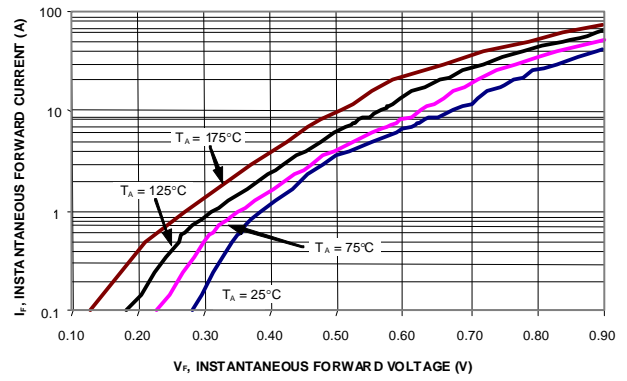


Figure 2: Typical Forward Characteristics, Per Element

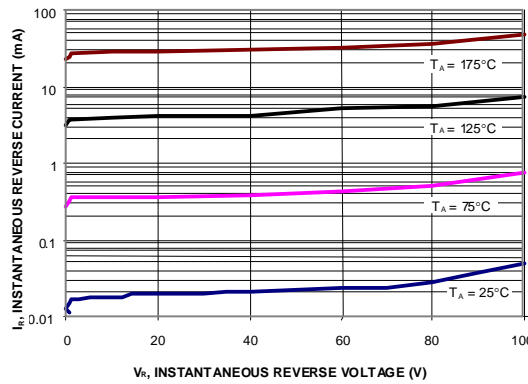


Figure 3: Typical Reverse Characteristics, Per Element

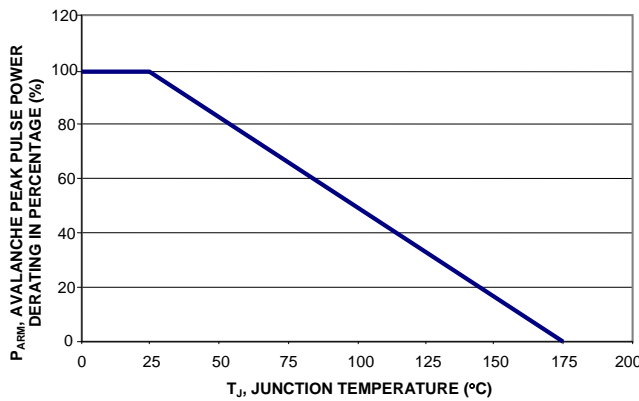


Figure 4: Pulse Derating Curve, Per Element

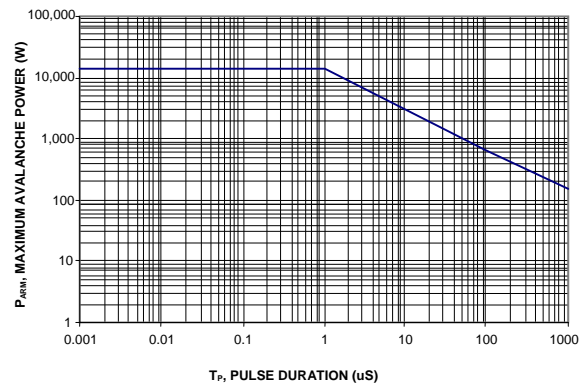


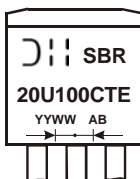
Figure 5: Maximum Avalanche Power Curve, Per Element

**Ordering Information** (Notes 3 & 4)

Part Number	Case	Packaging
SBR20U100CTE	TO-262	50 pieces/tube
SBR20U100CTE-G	TO-262	50 pieces/tube

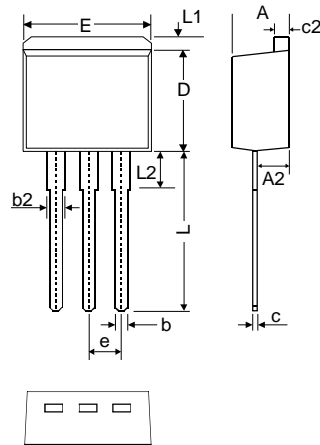
Notes: 3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
4. For Green Molding Compound Version part number, add "-G" suffix to part number above. (Ex. SBR20U100CTE-G)

**Marking Information**



SBR20U100CTE = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 08 = 2008)  
 WW = Week (01-52)

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**Package Outline Dimensions**


TO-262			
Dim	Min	Max	Typ
A	4.06	4.83	4.57
A2	2.03	2.79	2.67
b	0.64	0.99	-
b2	1.14	1.40	1.24
c	0.35	0.74	-
c2	1.14	1.40	1.27
D	8.64	9.65	8.70
E	9.65	10.29	10.11
e	2.54 Typ		
L	12.70	14.73	13.60
L1	-	1.67	-
L2	-	4.00	-
<b>All Dimensions in mm</b>			

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