

### Product Summary (Per leg)

V <sub>RRM</sub> (V)	I <sub>o</sub> (A)	V <sub>F</sub> max (V)	I <sub>R</sub> max (mA)
100	10	0.69	0.3

### Features and Benefits

- Reduced ultra-low forward voltage drop (V<sub>F</sub>); Better efficiency and cooler operation.
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation.
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

### Description

Packaged in the robust industry-standard TO220AB package, the SBRT20U100CT provides low V<sub>F</sub> and excellent reverse leakage stability at high temperatures.

### Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish; Solderable per MIL-STD-202, Method 208 <sup>Ⓔ3</sup>
- Weight: : TO-220AB – 1.85 grams (Approximate)

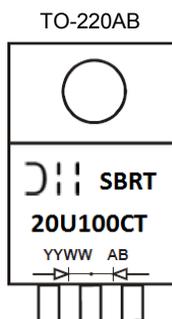


### Ordering Information (Note 4)

Part Number	Case	Packaging
SBRT20U100CT	TO-220AB	50 pieces/tube

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

### Marking Information



SBRT20U100CT = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 15 = 2015)  
 WW = Week (01-53)

**Maximum Ratings** (@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>R</sub> RM	100	V
Working Peak Reverse Voltage	V <sub>R</sub> WM		
DC Blocking Voltage	V <sub>R</sub> M		
Average Rectified Output Current (per leg) (Total)	I <sub>O</sub>	10 20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (per leg)	I <sub>FSM</sub>	200	A

**Thermal Characteristics (Per Leg)**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R <sub>θ</sub> JC	2	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°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>	—	0.6	0.69 0.62	V	I <sub>F</sub> = 10A, T <sub>J</sub> = +25°C I <sub>F</sub> = 10A, T <sub>J</sub> = +125°C
Leakage Current (Note 6)	I <sub>R</sub>	—	0.05	0.3 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: 5. Test with additional heatsink (50mm x 50mm x 23mm Al heatsink).  
6. Short duration pulse test used to minimize self-heating effect.

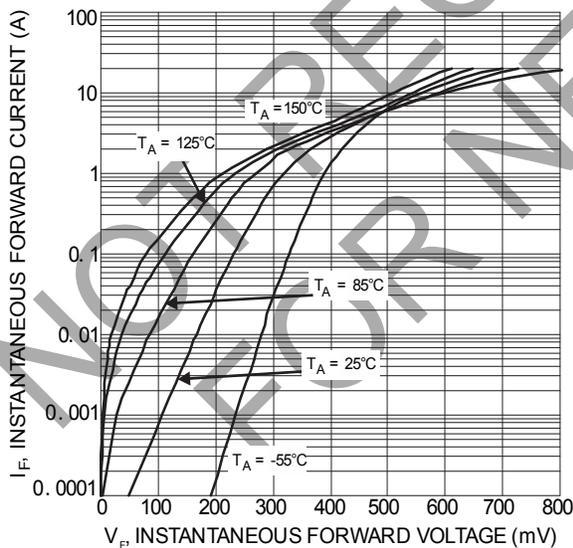


Figure 1 Typical Forward Characteristics

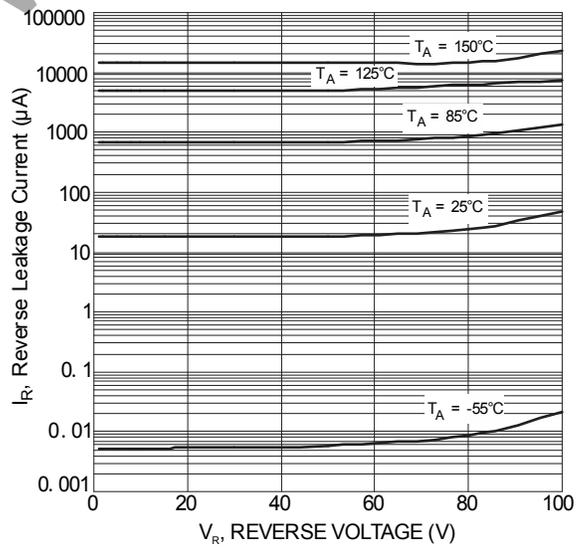


Figure 2 Typical Reverse Characteristics

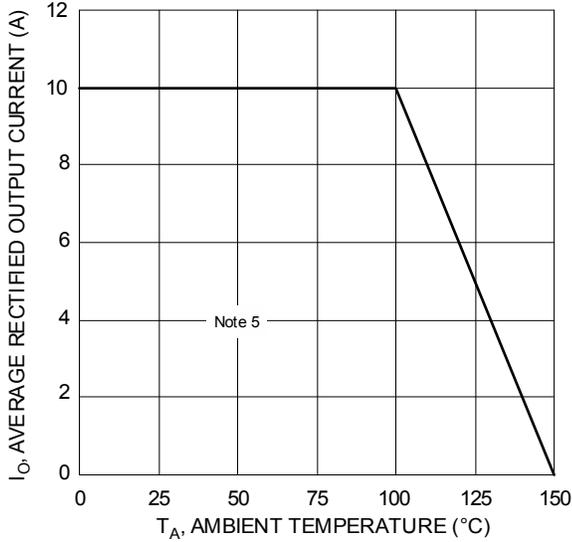


Figure 3 DC Forward Current Derating Curve

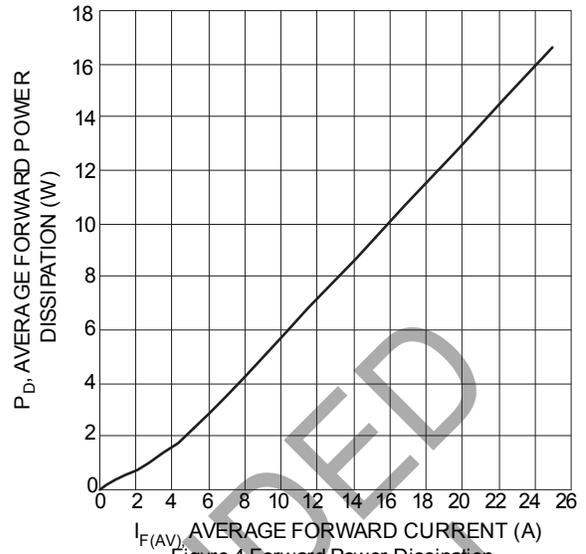


Figure 4 Forward Power Dissipation

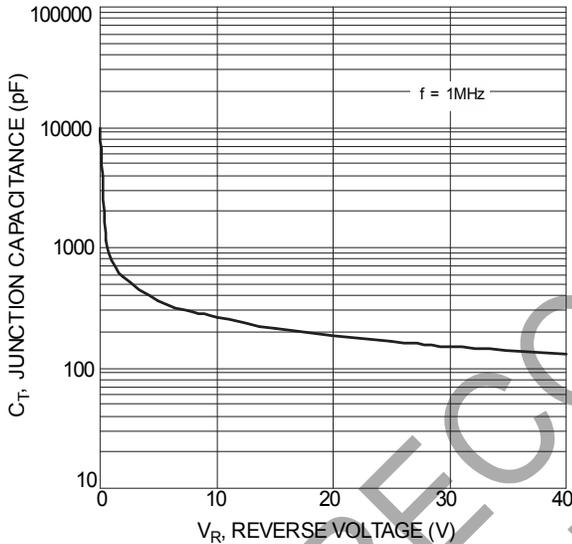
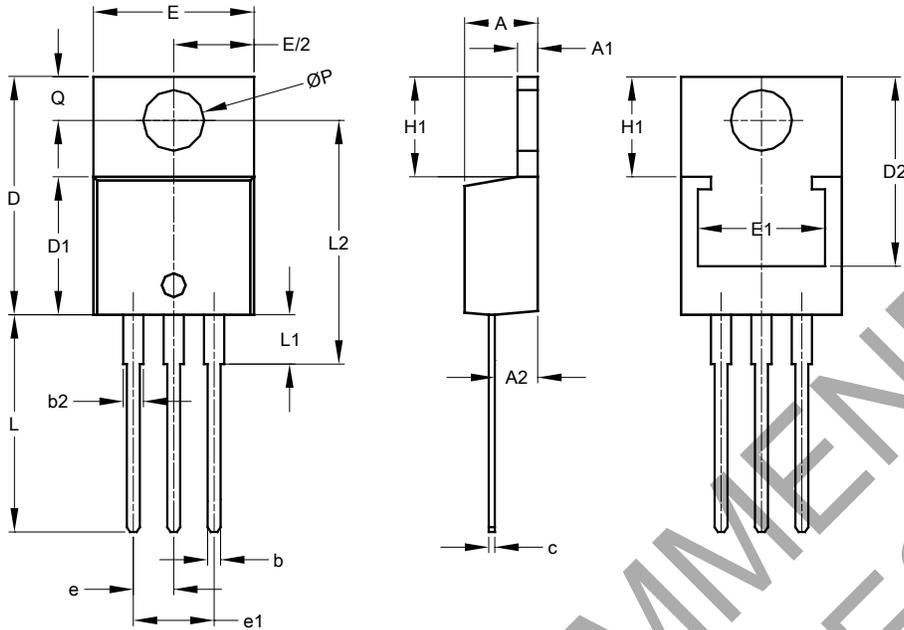


Figure 5 Typical Junction Capacitance

NOT RECOMMENDED FOR NEW DESIGN

**Package Outline Dimensions**

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version



TO220AB			
Dim	Min	Max	Typ
A	3.56	4.82	-
A1	0.51	1.39	-
A2	2.04	2.92	-
b	0.39	1.01	0.81
b2	1.15	1.77	1.24
c	0.356	0.61	-
D	14.22	16.51	-
D1	8.39	9.01	-
D2	11.45	12.87	-
e	-	-	2.54
e1	-	-	5.08
E	9.66	10.66	-
E1	6.86	8.89	-
H1	5.85	6.85	-
L	12.70	14.73	-
L1	-	6.35	-
L2	15.80	16.20	16.00
P	3.54	4.08	-
Q	2.54	3.42	-
All Dimensions in mm			

NOT RECOMMENDED FOR NEW DESIGNS

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