NEW PRODUCT

SBR20A120CTE

20A SBR®
SUPER BARRIER RECTIFIER

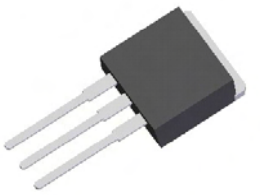
Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound**
  - **Halogen and Antimony Free. "Green" Device (Note 3)**

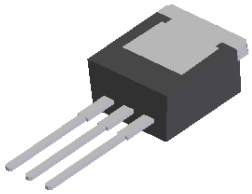
Mechanical Data

- Case: TO262
- 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 e3
- Weight: 1.355 grams (approximate)

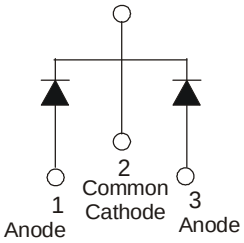
TO262



Top View



Bottom View



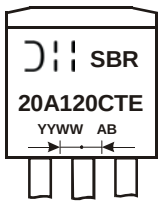
Package Pin Out Configuration

Ordering Information (Notes 4 & 5)

	Part Number	Case	Packaging
Pb	SBR20A120CTE	TO262	50 pieces/tube
Pb Green	SBR20A120CTE-G	TO262	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 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 Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR20A120CTE-G.
5. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR20A120CTE = Product Type Marking Code
AB = Foundry and Assembly Code
YYWW = Date Code Marking
YY = Last two digits of year (ex: 11 = 2011)
WW = Week (01 - 53)

NEW PRODUCT

Maximum Ratings (Per Leg) (@T_A = +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 Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_{RM}	120	V
Average Rectified Output Current Per Device	(Per Leg) (Total)	I_O	10 20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	180	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	2	ºC/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	ºC

Electrical Characteristics (Per Leg) (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	- -	0.75 0.62	0.79 0.65	V	I_F = 10A, T_J = +25ºC I_F = 10A, T_J = +125ºC
Leakage Current (Note 6)	I_R	- -	- -	0.1 20	mA	V_R = 120V, T_J = +25ºC V_R = 120V, T_J = +125ºC

Notes: 6. Short duration pulse test used to minimize self-heating effect.

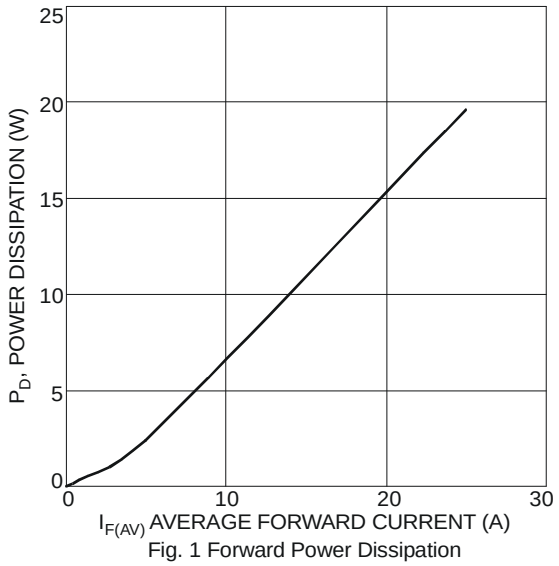


Fig. 1 Forward Power Dissipation

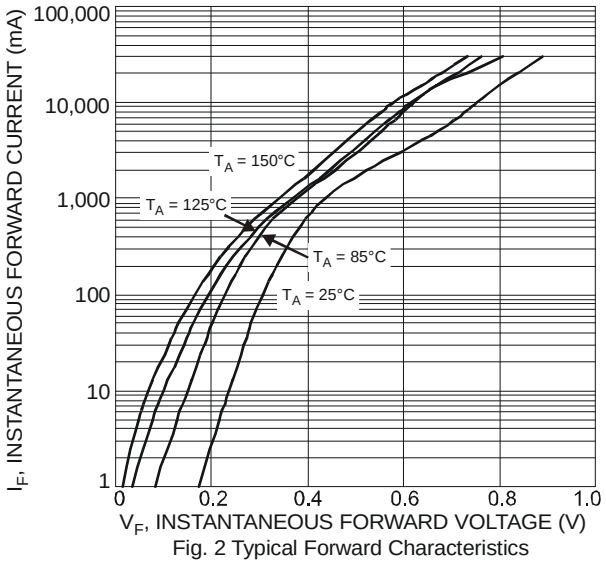


Fig. 2 Typical Forward Characteristics

NEW PRODUCT

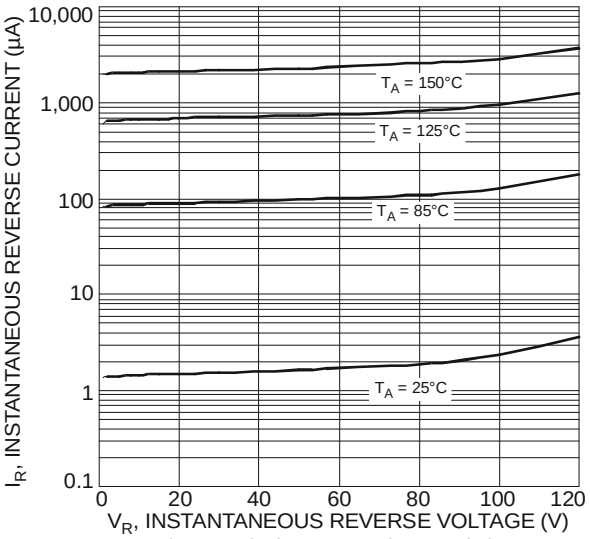


Fig. 3 Typical Reverse Characteristics

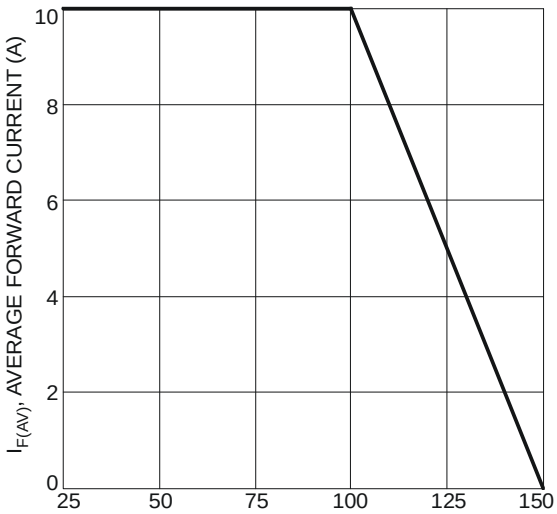


Fig. 4 Forward Current Derating Curve

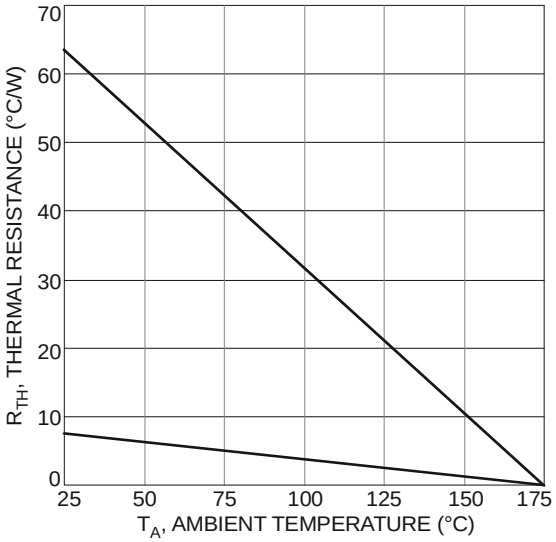
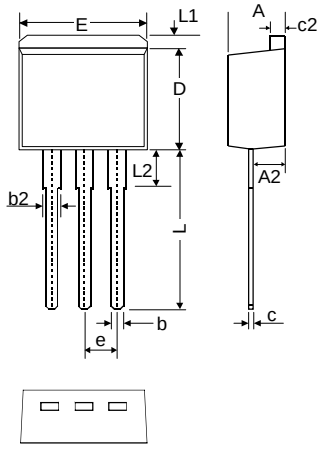


Fig. 5 Thermal Resistance vs. Ambient Temperature

Package Outline Dimensions

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



TO262			
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	-
All Dimensions in mm			

NEW PRODUCT

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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