

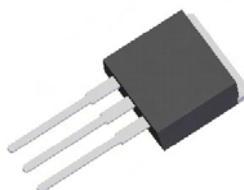
Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Also Available in Green Molding Compound (Note 1)**

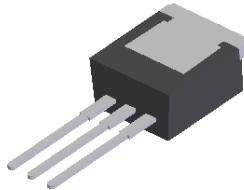
Mechanical Data

- 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 (3)
- Weight: 1.355 grams (approximate)

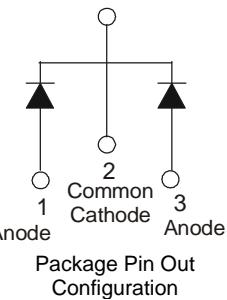
TO262



Top View



Bottom View



Package Pin Out Configuration

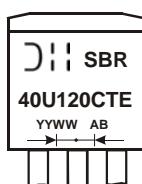
Ordering Information (Notes 2 & 3)

Part Number	Case	Packaging
SBR40U120CTE	TO262	50 pieces/tube
SBR40U120CTE-G	TO262	50 pieces/tube

Notes:

1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
2. For Green Molding Compound version part numbers, add "G" suffix to part number above. Examples: SBR40U120CTE-G.
3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



SBR40U120CTE = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 09 = 2009)
 WW = Week (01 - 53)

Maximum Ratings (Per Leg) @ $T_A = 25^\circ\text{C}$ 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_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	120	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current (Per Leg) (Total)	I_O	20 40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	300	A

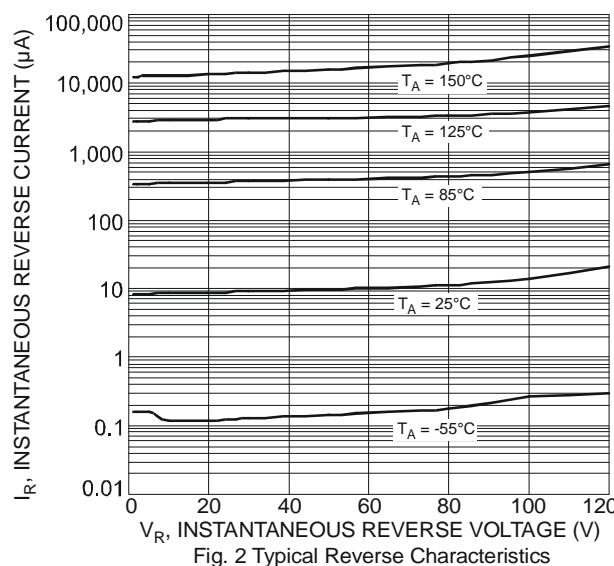
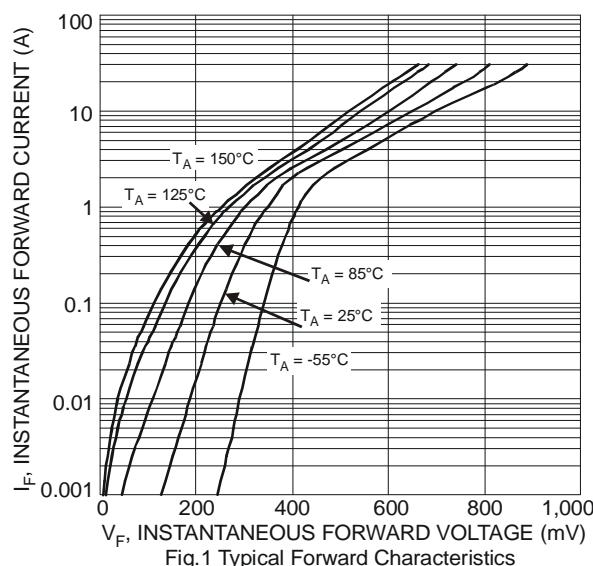
Thermal Characteristics (Per Leg) @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	3	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics (Per Leg) @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (per leg)	V_F	-	-	0.86 0.71	V	$I_F = 20\text{A}, T_J = 25^\circ\text{C}$ $I_F = 20\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	-	0.5 40	mA	$V_R = 120\text{V}, T_J = 25^\circ\text{C}$ $V_R = 120\text{V}, T_J = 125^\circ\text{C}$

Notes:
 4. Using heatsink (by Black Aluminurn 45mm*20mm*12mm)
 5. Short duration pulse test used to minimize self-heating effect.



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SBR40U120CTE

Document number: DS31808 Rev. 4 - 2

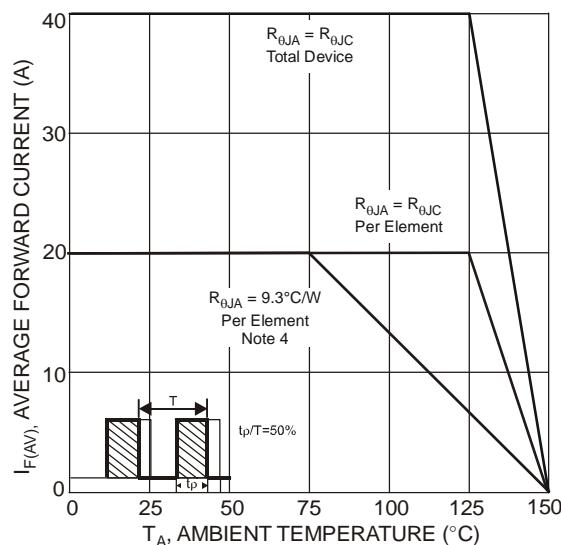
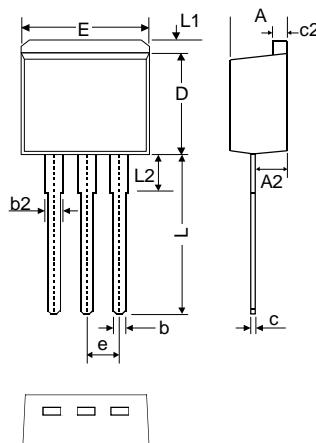


Fig. 3 Forward Current Derating Curve

Package Outline Dimensions



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

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