40A SBR®
SUPER BARRIER RECTIFIER

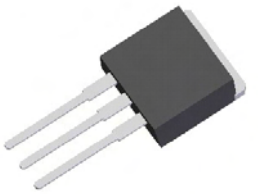
Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150ºC Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Also Available in Green Molding Compound (Note 2)**

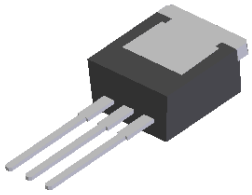
Mechanical Data

- 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)

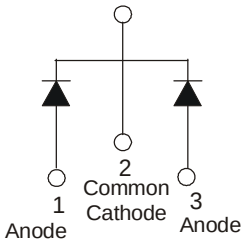
TO262



Top View



Bottom View



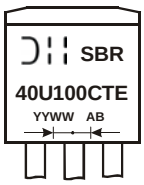
Package Pin Out Configuration

Ordering Information (Notes 2 & 3)

Part Number	Case	Packaging
SBR40U100CTE	TO262	50 pieces/tube
SBR40U100CTE-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: SBR40U100CTE-G.
3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



SBR40U100CTE = 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 - 53)

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}	100	V
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}	240	A

Thermal Characteristics (Per Leg) @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (per leg) (Note 4)	$R_{\theta JC}$	3	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 (per leg)	V_F	-	0.72 -	0.78 0.67	V	I_F = 20A, T_J = 25ºC I_F = 20A, T_J = 125ºC
Leakage Current (Note 5)	I_R	-	-	0.5 40	mA	V_R = 100V, T_J = 25ºC V_R = 100V, T_J = 125ºC

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

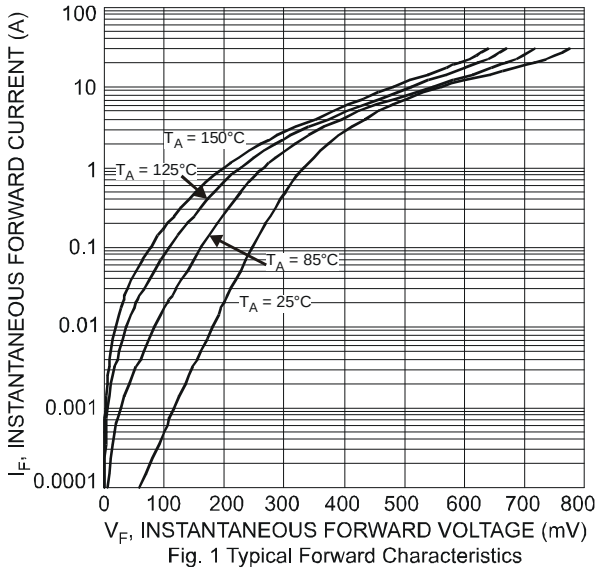


Fig. 1 Typical Forward Characteristics

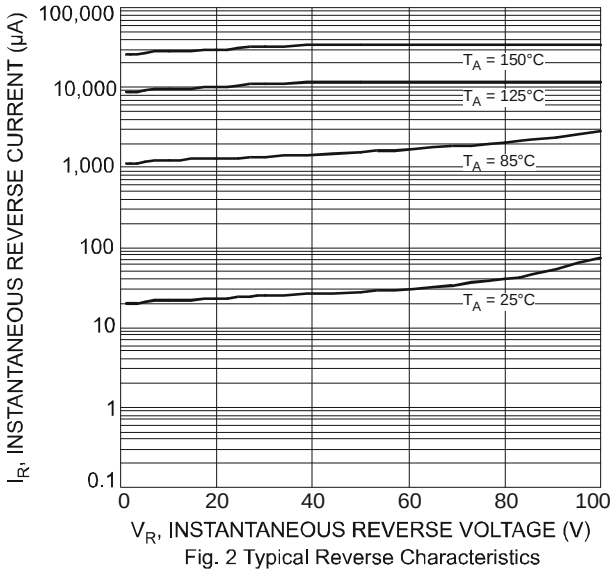


Fig. 2 Typical Reverse Characteristics

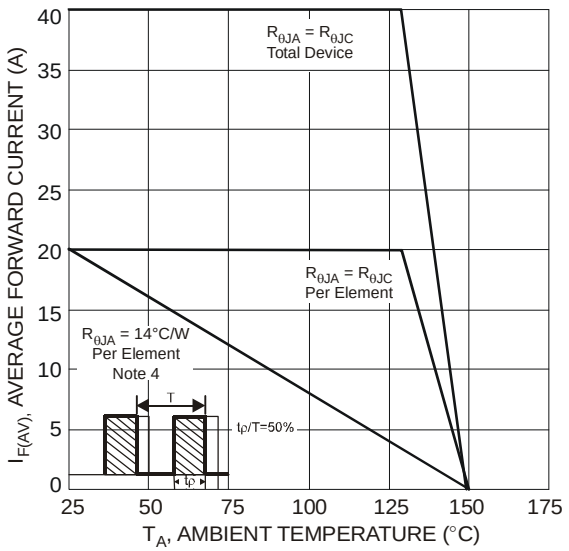
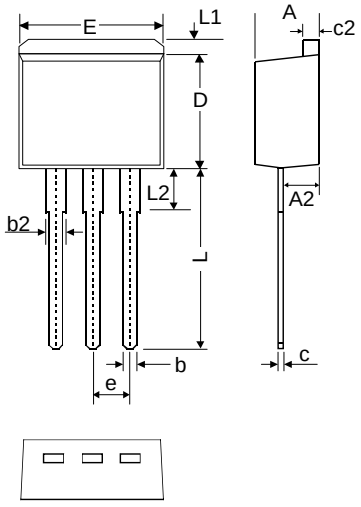


Fig. 3 Forward Current Derating Curve

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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