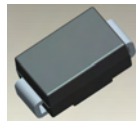


Features

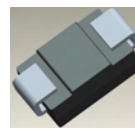
- Low Leakage Current
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 150°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

Mechanical Data

- Case: SMA
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish.) Solderable per MIL-STD-202, Method 208 ^{Ⓔ3}
- Polarity Indicator: Cathode Band
- Weight: 0.064 grams (approximate)



Top View



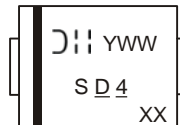
Bottom View

Ordering Information (Note 3)

Part Number	Case	Packaging
SBR1A40SA-13	SMA	5000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
 2. No purposefully added lead. Halogen and Antimony Free.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



S D 4 = Product Type Marking Code
SD4 = Manufacturers' code marking
YWW = Date Code Marking
Y = Last digit of year (ex: 9 for 2009)
WW = Week code (01 - 53)

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Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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}	40	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current (See Figure 1)	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	25	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 4)	$R_{\theta JA}$	116	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V_F	-	-	0.5	V	$I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$
				0.45		$I_F = 1.0\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 5)	I_R	-	-	500	μA	$V_R = 40\text{V}, T_J = 25^\circ\text{C}$
				100		$V_R = 40\text{V}, T_J = 100^\circ\text{C}$

Notes: 4. Device mounted on Polyimide substrate, with 1" x 1", 2 oz. Copper, double-sided PCB board.
5. Short duration pulse test used to minimize self-heating effect.

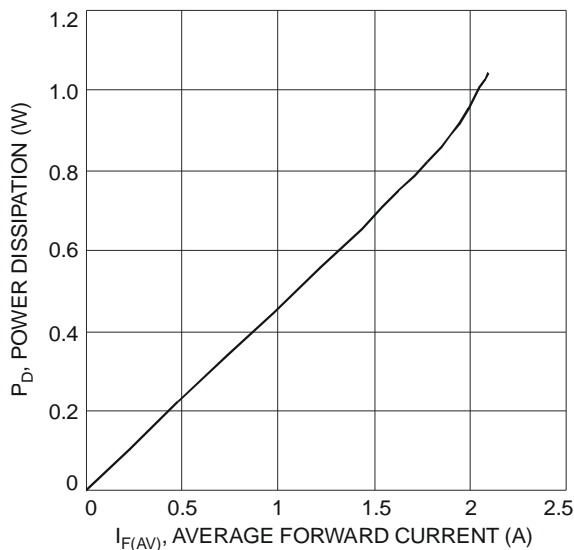


Fig. 1 Forward Power Dissipation

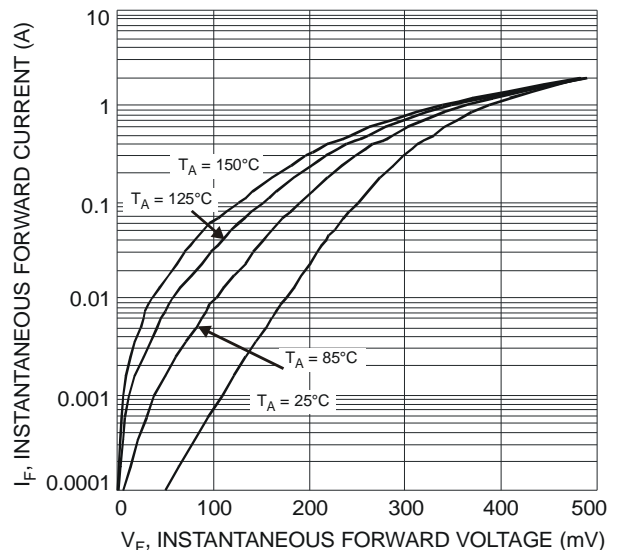
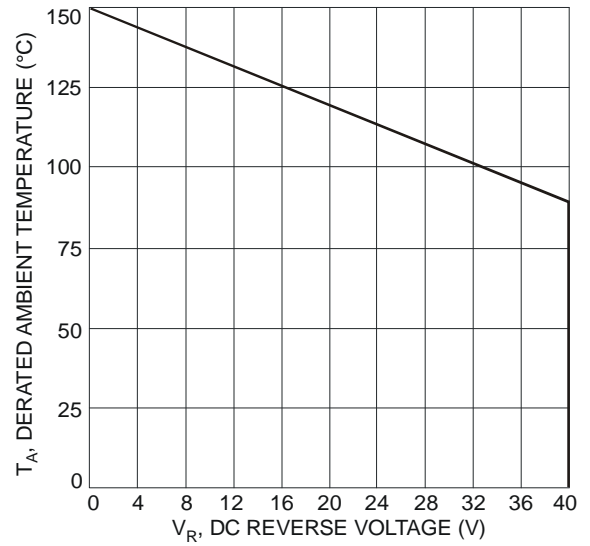
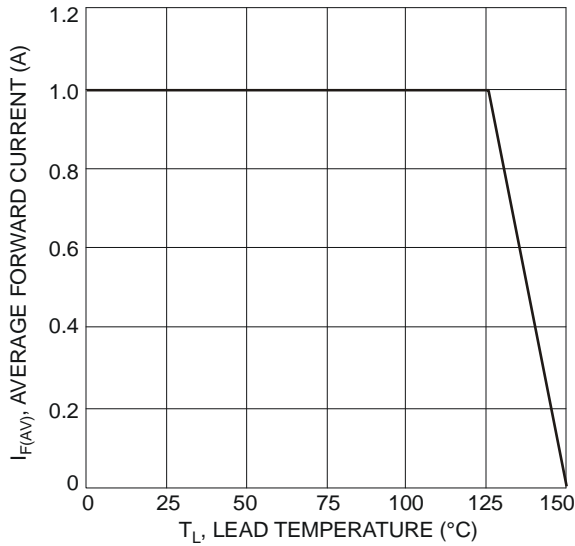
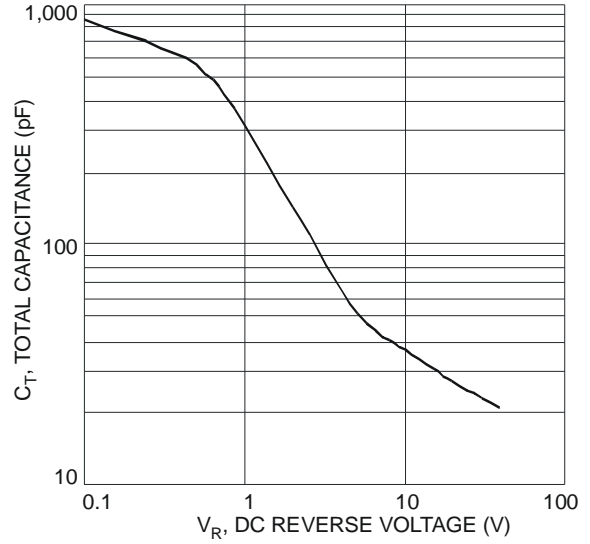
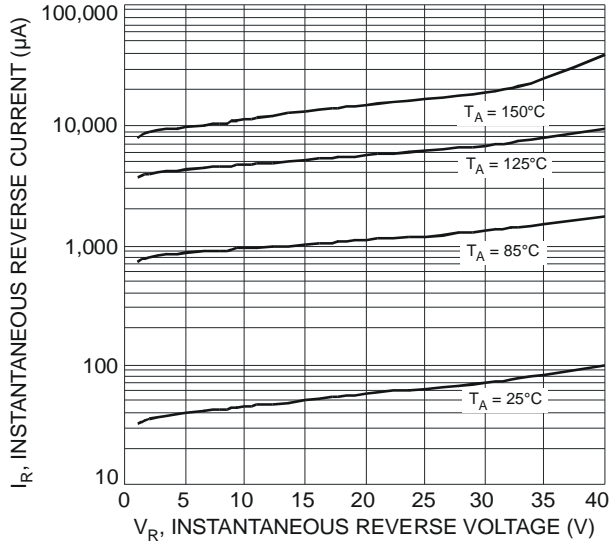
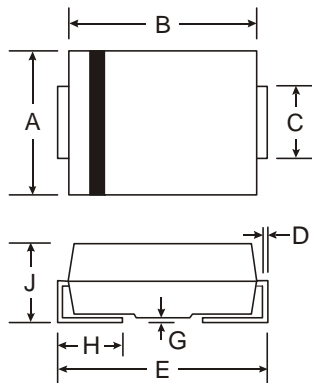


Fig. 2 Typical Forward Characteristics

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Package Outline Dimensions

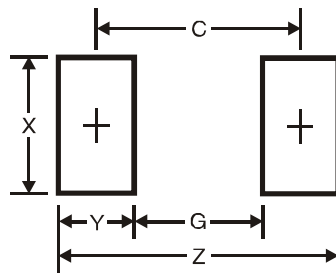


SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30

All Dimensions in mm

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Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.5
G	1.5
X	1.7
Y	2.5
C	4.0

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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.
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