

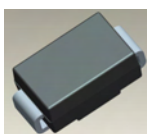
Features

- Ultra Low Forward Voltage Drop
- Excellent High Temperature Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- 175°C Operating Junction Temperature
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

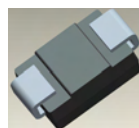
Mechanical Data

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

SMA



Top View



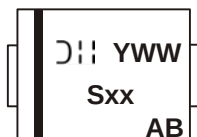
Bottom View

Ordering Information (Note 3)

Part Number	Case	Packaging
SBR2U150SA-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. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



S D B or S Q B = Product Type Marking Code
 = Manufacturers' code marking
 YWW = Date Code Marking
 Y = Last digit of year (ex: 9 for 2009)
 WW = Week code (01 – 53)
 AB = Foundry and Assembly Code

Maximum Ratings @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	V _{RRM}	150	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current (See Figure 1)	I _O	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I _{FSM}	42	A
Single Half Sine-Wave Superimposed on Rated Load			
Maximum Voltage Rate of Change (Rated V _R)	dv/dt	10,000	V/μs

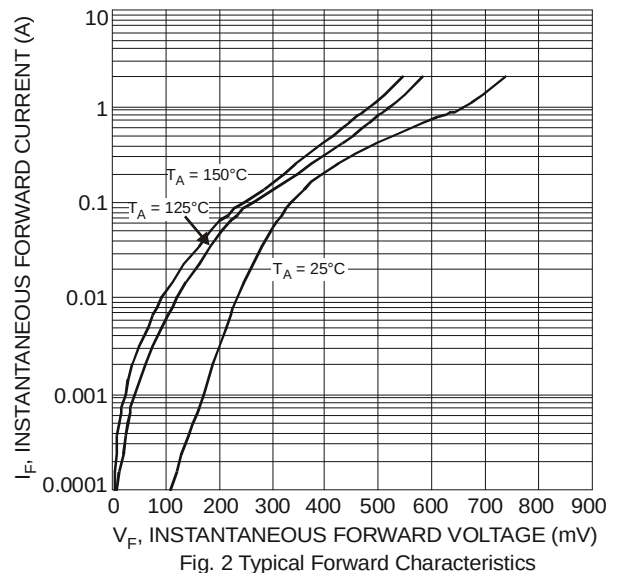
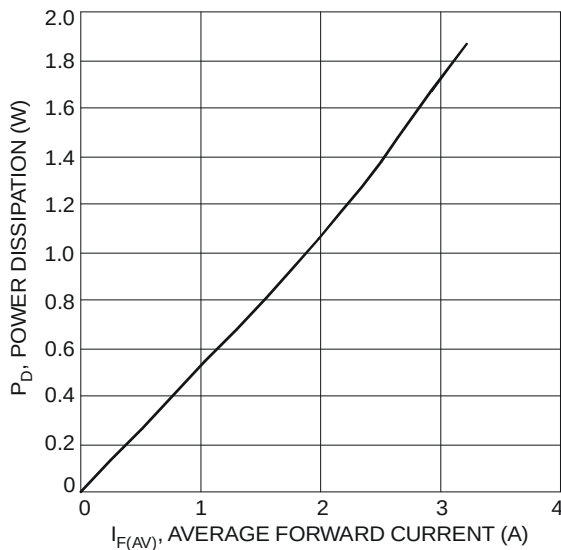
Thermal Characteristics

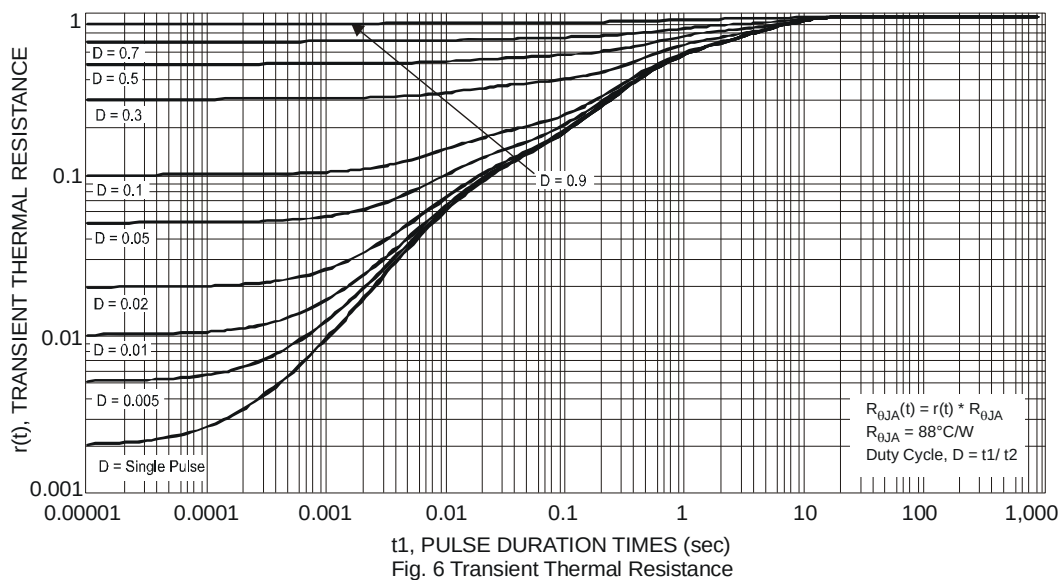
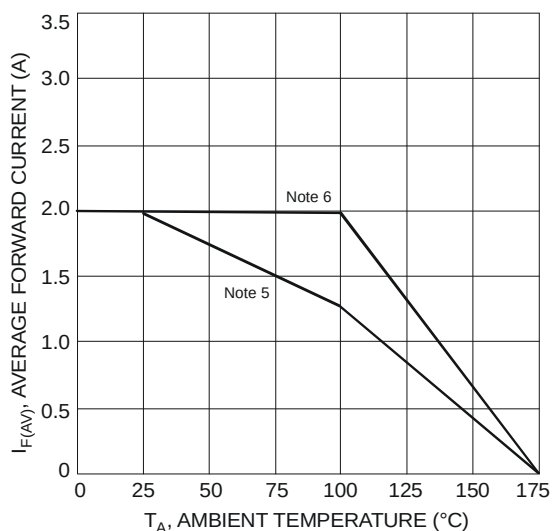
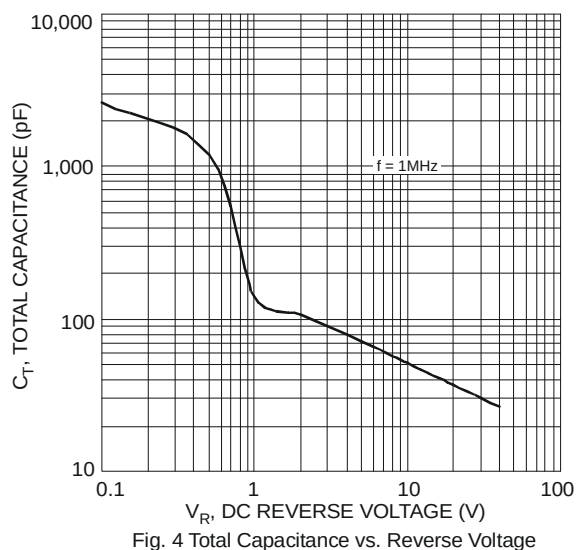
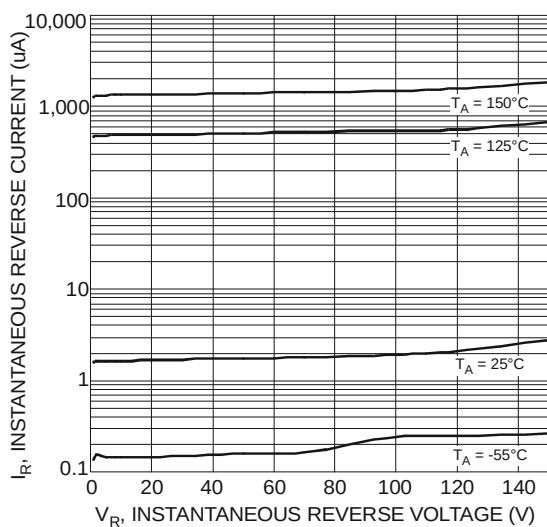
Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Soldering (Note 4)	R _{θJS}	3	°C/W
Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	119	
Thermal Resistance Junction to Ambient (Note 6)	R _{θJA}	88	
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

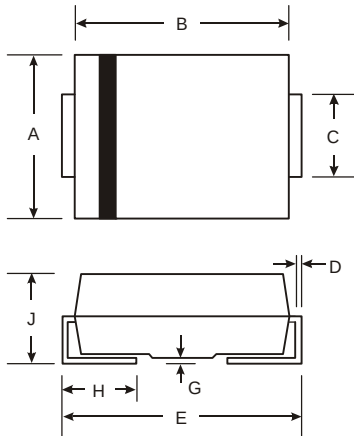
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	150	-	-	V	I _R = 100μA
Forward Voltage Drop	V _F	-	-	0.8	V	I _F = 2.0A, T _J = 25°C
		-	-	0.65		I _F = 2.0A, T _J = 125°C
Leakage Current (Note 6)	I _R	-	-	75	μA	V _R = 150V, T _J = 25°C
		-	-	10	mA	V _R = 150V, T _J = 125°C

- Notes:
- Theoretical R_{θJS} calculated from the top center of the die straight down to the PCB cathode tab solder junction.
 - FR-4 PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>. T_A = 25°C
 - Polymide PCB, 2 oz. Copper, minimum recommended pad layout per <http://www.diodes.com>
 - Short duration pulse test used to minimize self-heating effect.



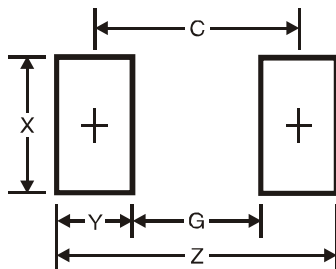


Package Outline Dimensions



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

Suggested Pad Layout



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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