

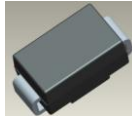
## Features

- Very Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 70A Peak
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

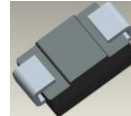
## Mechanical Data

- Case: SMA/SMB
- 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: Cathode Band or Cathode Notch
- Weight: SMA 0.064 grams (Approximate)  
SMB 0.093 grams (Approximate)

SMA/SMB



Top View



Bottom View

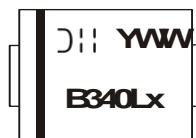
## Ordering Information (Note 4)

Part Number	Case	Packaging
B340LA-13-F	SMA	5,000/Tape & Reel
B340LB-13-F	SMB	3,000/Tape & Reel

- 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/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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 packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information

SMA/SMB



- B340LA = Product type marking code, ex: B340LA (SMA package)  
 B340LB = Product type marking code, ex: B340LB (SMB package)  
 DII = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 2 for 2002)  
 WW = Week Code (01 – 53)

### Maximum Ratings (@T<sub>A</sub> = +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 <sub>RRM</sub>	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Average Rectified Output Current (Note 5) T <sub>T</sub> = +90°C	I <sub>O</sub>	3.0	A
Non-Repetitive Peak Forward Surge Current, Single Sine-Wave Superimposed on Rated Load, 60Hz	I <sub>FSM</sub>	70	A

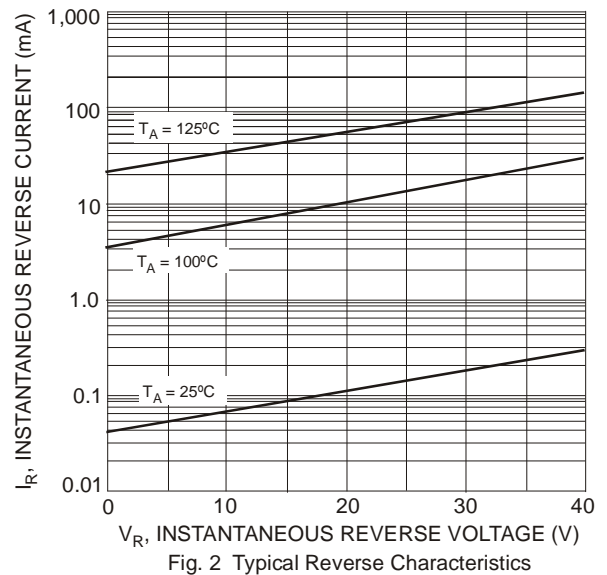
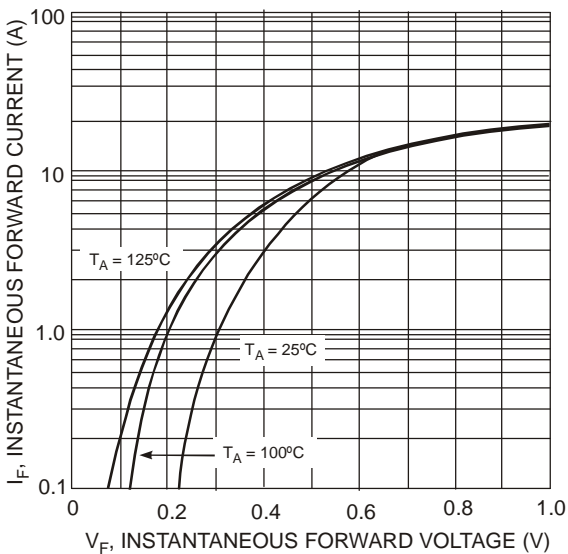
### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +125	°C

### Electrical Characteristics (@T<sub>A</sub> = +25°C unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Conditions
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	40	—	—	V	I <sub>R</sub> = 2.0mA
Forward Voltage Drop	V <sub>F</sub>	—	0.310	0.350 0.450	V	I <sub>F</sub> = 1.0A I <sub>F</sub> = 3.0A
Leakage Current (Note 6)	I <sub>R</sub>	—	—	150	uA	V <sub>R</sub> = 15V
				1.0	mA	V <sub>R</sub> = 20V
				2.0		V <sub>R</sub> = 40V
Total Capacitance	C <sub>T</sub>	—	180	—	pF	f = 1MHz, V <sub>R</sub> = 4.0VDC
Thermal Resistance, Junction to Terminal	R <sub>θJT</sub>	—	25	—	°C/W	—

Notes: 5. When mounted on alumina substrate, 180° half sine wave.  
6. Short duration pulse test used to minimize self-heating effect.



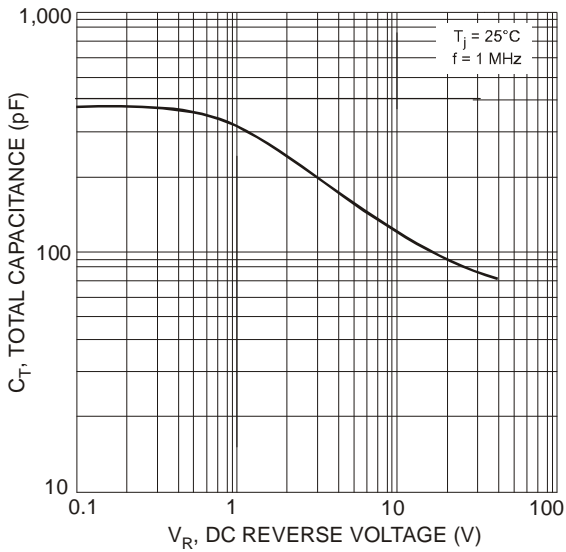


Fig. 3 Total Capacitance vs. Reverse Voltage

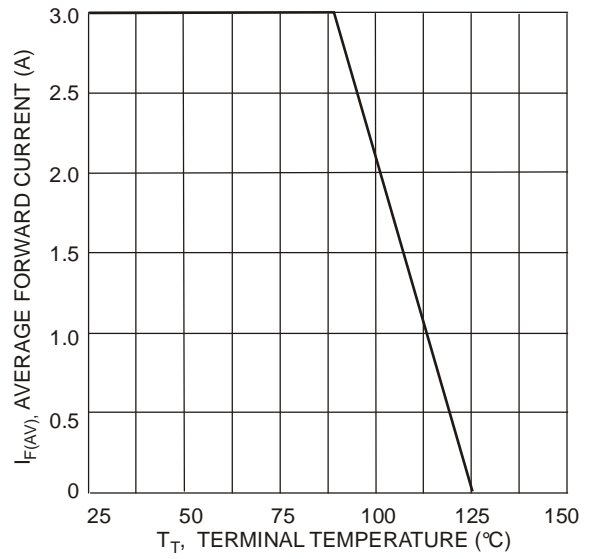


Fig. 4 Forward Current Derating Curve

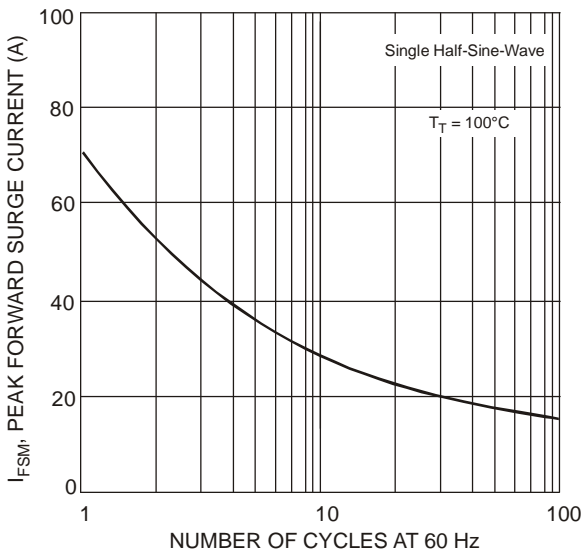
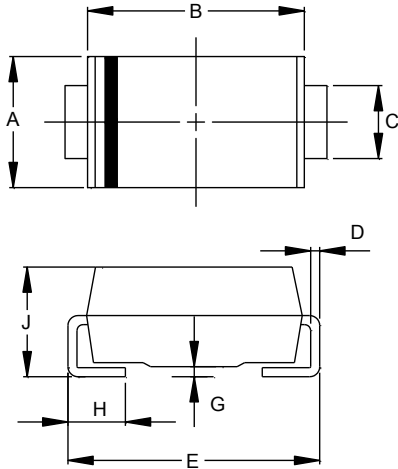


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

## Package Outline Dimensions

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

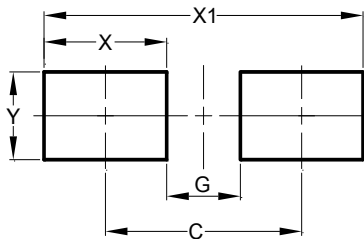


SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	1.96	2.40
All Dimensions in mm		

SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



SMA	
Dimensions	Value (in mm)
C	4.00
G	1.50
X	2.50
X1	6.50
Y	1.70

SMB	
Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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