

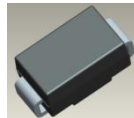
## Features

- 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)**

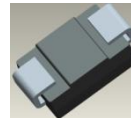
## Mechanical Data

- 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

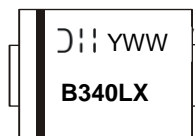
## Ordering Information (Note 4)

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)  
 ③ = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 6 for 2016)  
 WW = Week Code (01 to 53)

**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive 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	$V_R$		
Average Rectified Output Current (Note 5) $T_T = +90^\circ\text{C}$	$I_O$	3.0	A
Non-Repetitive Peak Forward Surge Current, Single Sine-Wave Superimposed on Rated Load, 60Hz	$I_{FSM}$	70	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , 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	μA	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>	—	35	—	°C/W	—

Notes: 5. Device mounted on FR-4 substrate, 0.4"×0.5", 2oz, single-sided, PC boards with 0.2"×0.25" copper pad.  
 6. Short duration pulse test used to minimize self-heating effect.

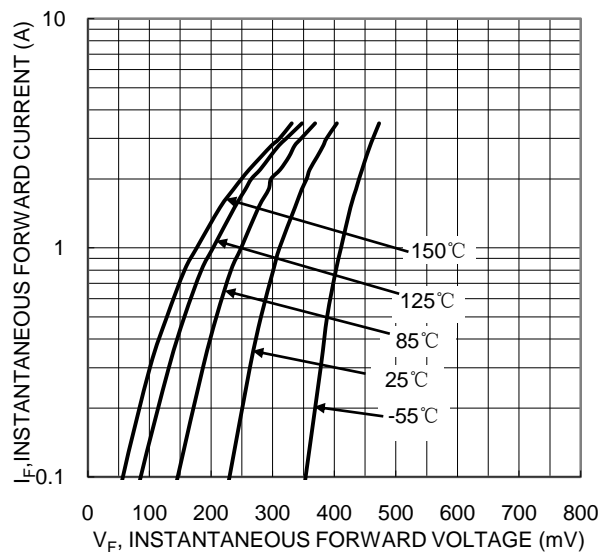


Figure 1. Typical Forward Characteristics

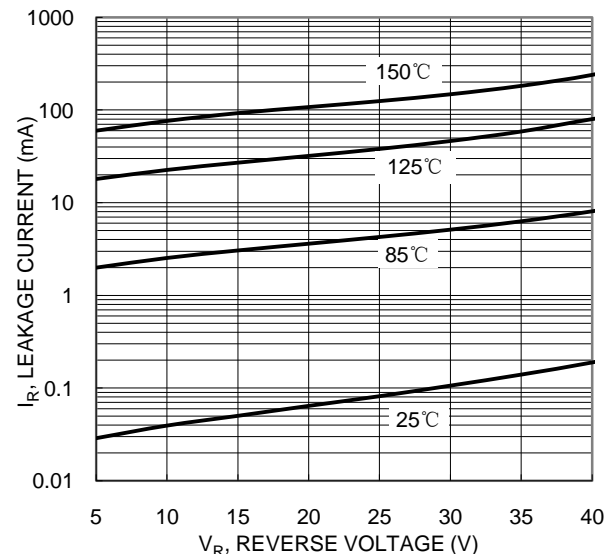


Fig.2 Typical Reverse Characteristics

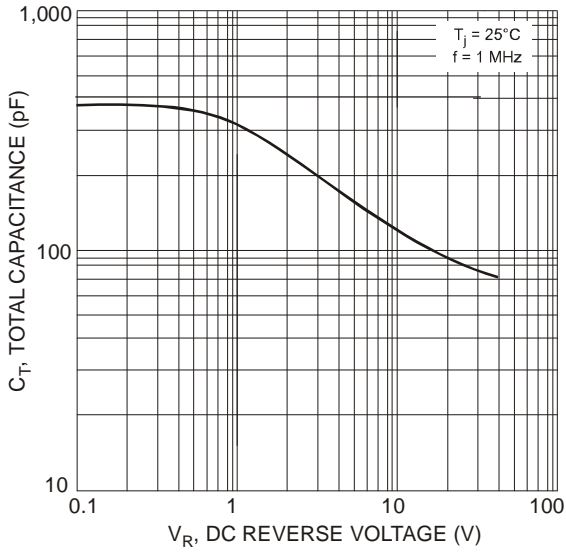


Fig. 3 Total Capacitance vs. Reverse Voltage

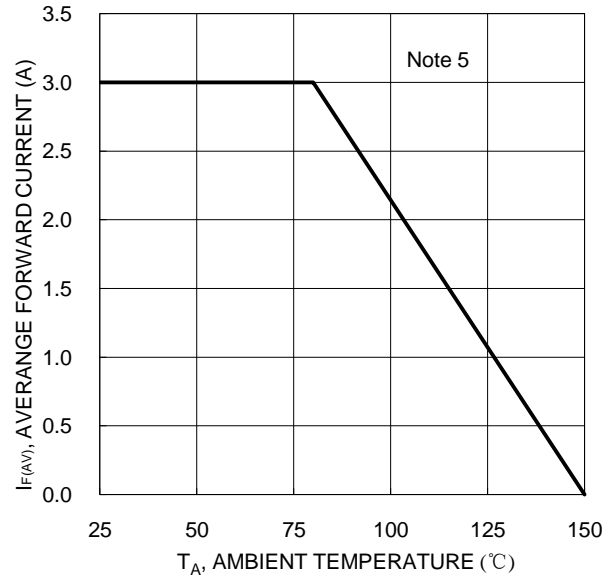


Figure 4. DC Forward Current Derating

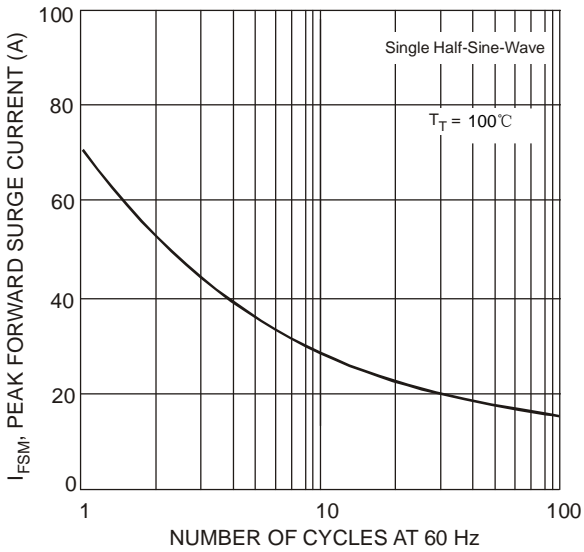
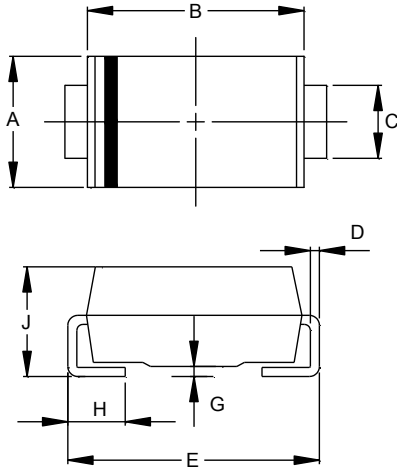


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

## Package Outline Dimensions

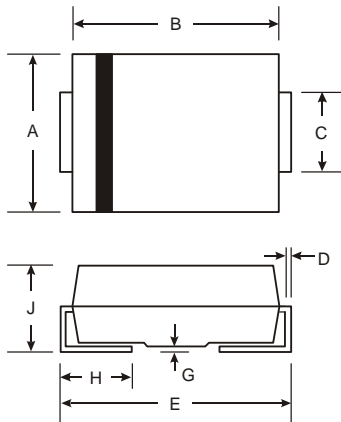
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### 1) Package Type:SMA



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		

### 2) Package Type:SMB

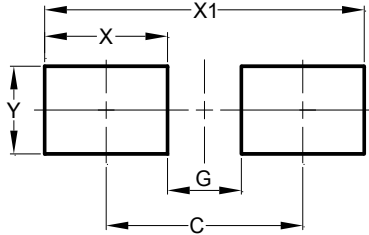


SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

## Suggested Pad Layout

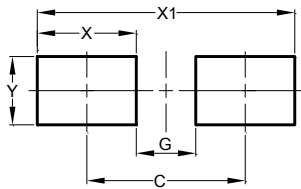
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### 1) Package Type:SMA



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

### 2) Package Type:SMB



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

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