

# B340LB-13-F Datasheet

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DiGi Electronics Part Number	B340LB-13-F-DG
Manufacturer	<a href="#">Diodes Incorporated</a>
Manufacturer Product Number	B340LB-13-F
Description	DIODE SCHOTTKY 40V 3A SMB
Detailed Description	Diode 40 V 3A Surface Mount SMB

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## Purchase and inquiry

Manufacturer Product Number:

B340LB-13-F

Series:

-

Technology:

Schottky

Current - Average Rectified (Io):

3A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Capacitance @ Vr, F:

180pF @ 4V, 1MHz

Package / Case:

DO-214AA, SMB

Operating Temperature - Junction:

-55°C ~ 125°C

Manufacturer:

Diodes Incorporated

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

40 V

Voltage - Forward (Vf) (Max) @ If:

450 mV @ 3 A

Current - Reverse Leakage @ Vr:

2 mA @ 40 V

Mounting Type:

Surface Mount

Supplier Device Package:

SMB

Base Product Number:

B340

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

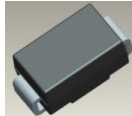
**B340LA/B****3.0A LOW VF SCHOTTKY BARRIER RECTIFIER****Features**

- 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)**

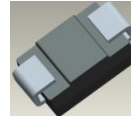
**Mechanical Data**

- 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

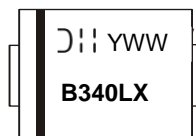
**Ordering Information** (Note 4)

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



B340LA/B

## 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)	$V_{(BR)R}$	40	—	—	V	$I_R = 2.0\text{mA}$
Forward Voltage Drop	$V_F$	—	0.310	0.350 0.450	V	$I_F = 1.0\text{A}$ $I_F = 3.0\text{A}$
Leakage Current (Note 6)	$I_R$	—	—	150 1.0 2.0	$\mu\text{A}$ mA	$V_R = 15\text{V}$ $V_R = 20\text{V}$ $V_R = 40\text{V}$
Total Capacitance	$C_T$	—	180	—	pF	$f = 1\text{MHz}, V_R = 4.0\text{VDC}$
Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	—	35	—	$^\circ\text{C/W}$	—

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.

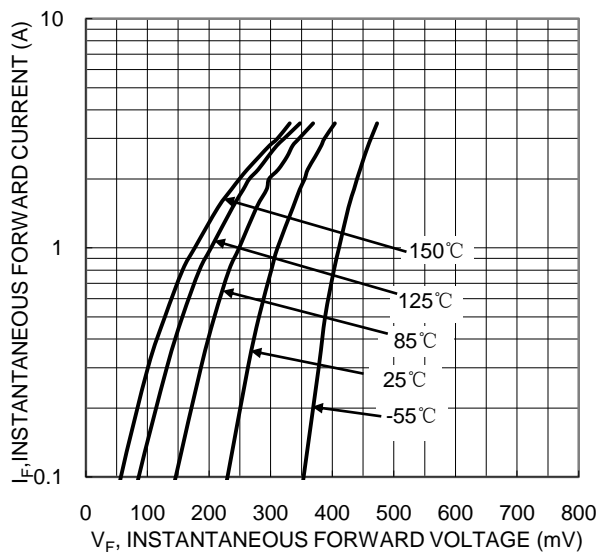


Figure 1. Typical Forward Characteristics

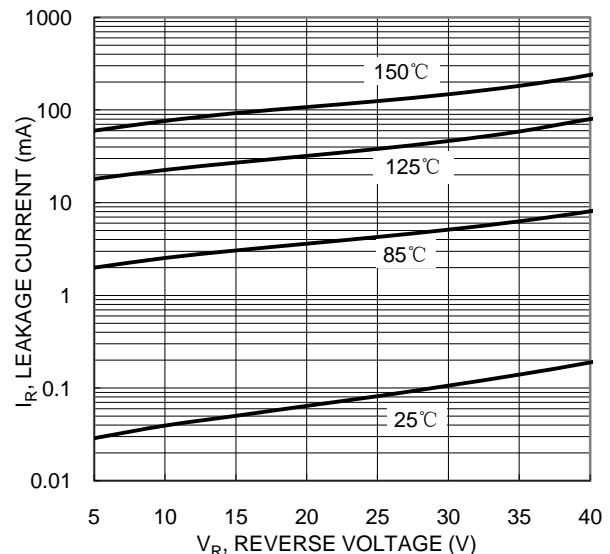


Fig.2 Typical Reverse Characteristics



**B340LA/B**

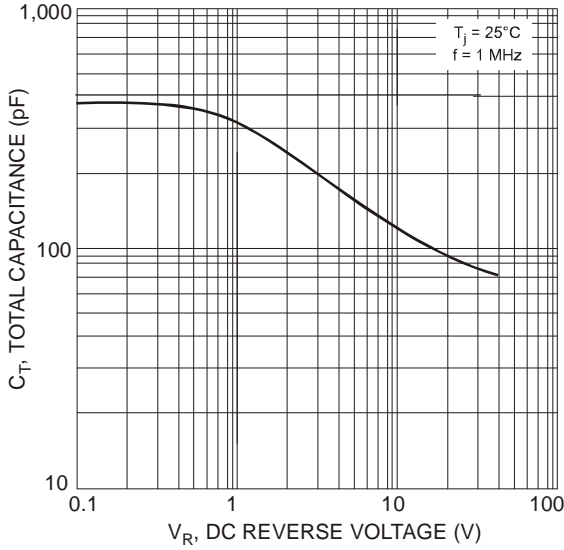


Fig. 3 Total Capacitance vs. Reverse Voltage

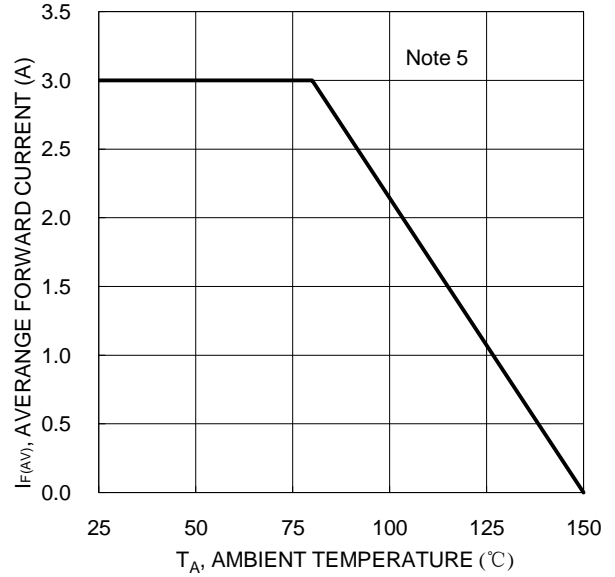


Figure 4. DC Forward Current Derating

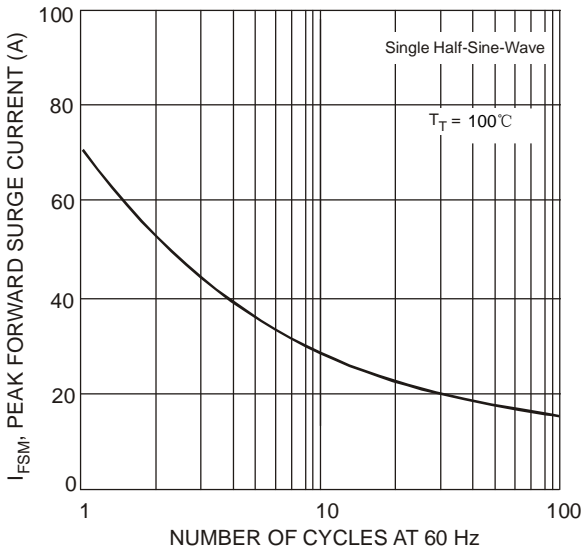
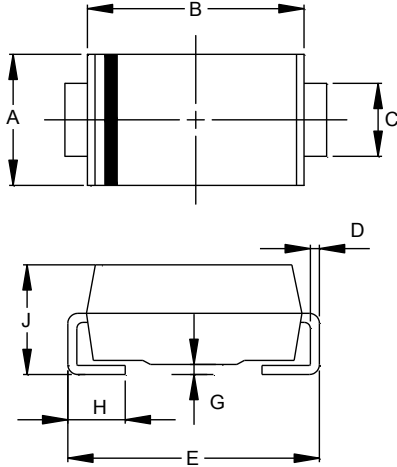


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

## Package Outline Dimensions

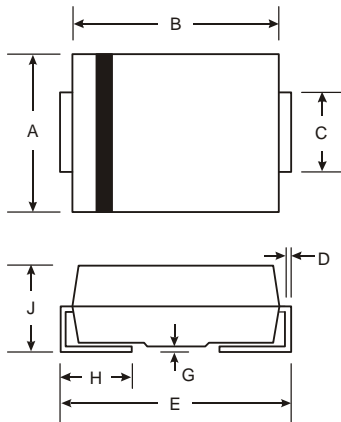
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### 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

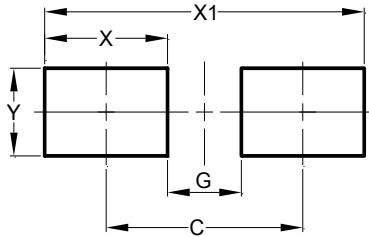


SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

## Suggested Pad Layout

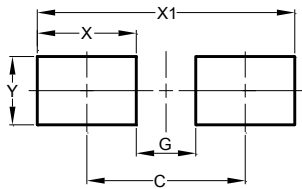
Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### 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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