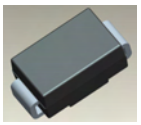
3.0A LOW VF SCHOTTKY BARRIER RECTIFIER

Features

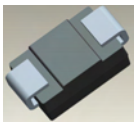
- Very Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 70A Peak
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

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 e3
- Polarity: Cathode Band or Cathode Notch
- Weight: SMA 0.064 grams (approximate)
  SMB 0.093 grams (approximate)



Top View



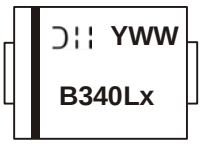
Bottom View

Ordering Information (Note 3)

Part Number	Case	Packaging
B340LA-13-F	SMA	5000/Tape & Reel
B340LB-13-F	SMB	3000/Tape & Reel

Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes
2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



B340LA = Product type marking code, ex: B340LA (SMA package)
B340LB = Product type marking code, ex: B340LB (SMB package)
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year (ex: 2 for 2002)
WW = Week code (01 – 53)

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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	V
Average Rectified Output Current (Note 4) T_T = 90°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 +125	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Conditions
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	40	—	—	V	I_R = 2.0mA
Forward Voltage Drop	V_F	— —	0.310 —	0.350 0.450	V	I_F = 1.0A I_F = 3.0A
Leakage Current (Note 5)	I_R	—	— — —	150 1.0 2.0	uA mA	V_R = 15V V_R = 20V V_R = 40V
Total Capacitance	C_T	—	180	—	pF	f = 1MHz, V_R = 4.0VDC
Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	—	25	—	°C/W	—

Notes: 4. When mounted on alumina substrate, 180° half sine wave.
5. Short duration pulse test used to minimize self-heating effect.

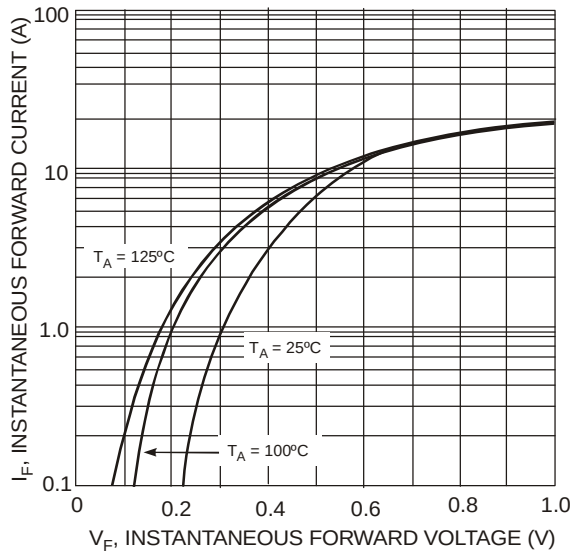


Fig. 1 Typical Forward Characteristics

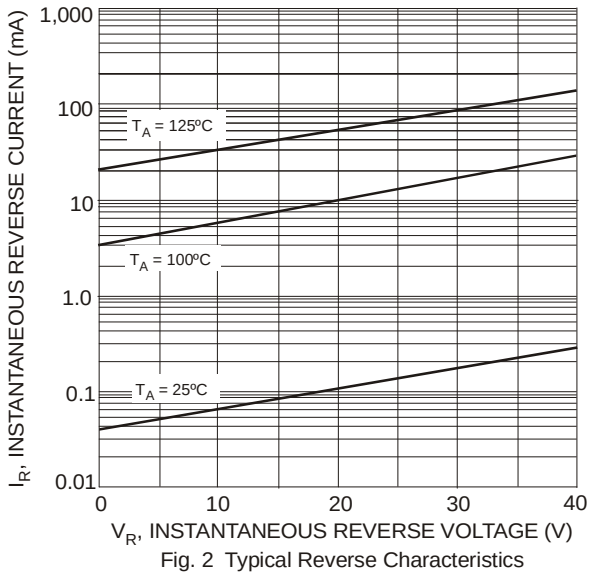


Fig. 2 Typical Reverse Characteristics

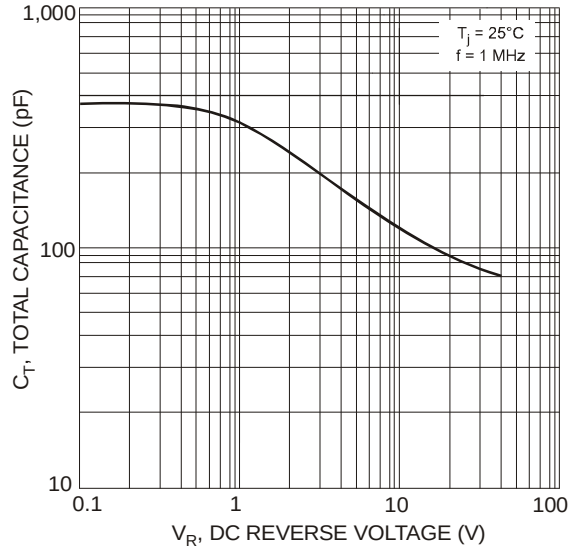


Fig. 3 Total Capacitance vs. Reverse Voltage

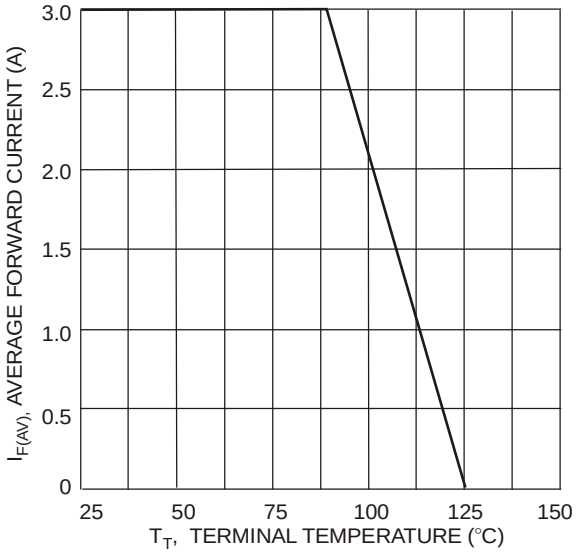


Fig. 4 Forward Current Derating Curve

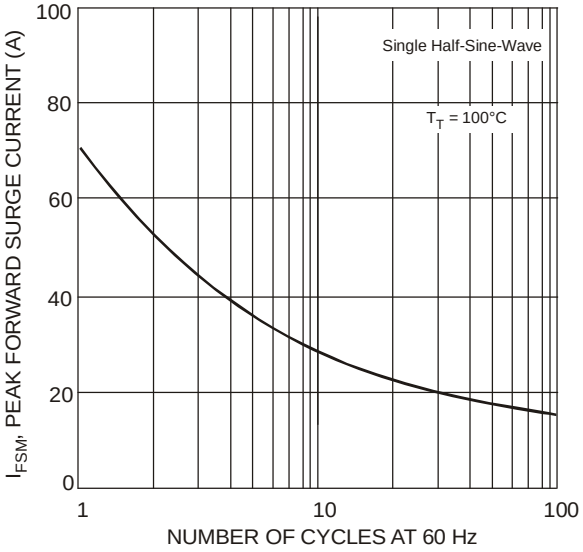
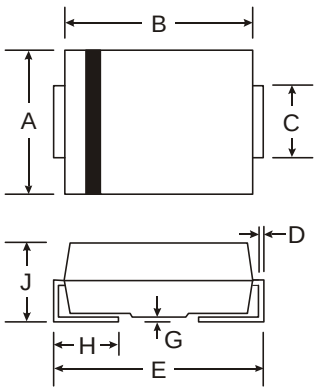


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

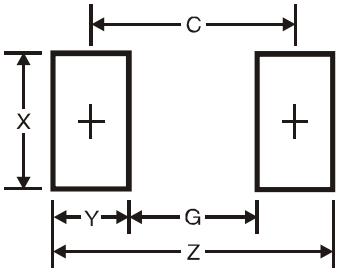
Package Outline Dimensions



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		

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



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

SMB Dimensions	Value (in mm)
Z	6.7
G	1.8
X	2.3
Y	2.5
C	4.3

Mouser Electronics

Authorized Distributor

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Diodes Inc.:

B340LB-13-F B340LA-13-F