


### 3.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

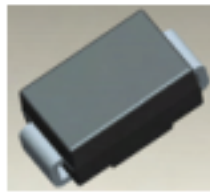
Please click [here](#) to visit our online spice models database.

#### Features

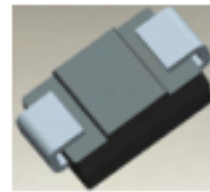
- ? Guard Ring Die Construction for Transient Protection
- ? Ideally Suited for Automated Assembly
- ? Low Power Loss, High Efficiency
- ? Surge Overload Rating to 125A Peak
- ? For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- ? Lead Free Finish/RoHS Compliant (Note 1)

#### Mechanical Data

- ? Case: SMC
- ? Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- ? Moisture Sensitivity: Level 1 per J-STD-020D
- ? Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 
- ? Polarity: Cathode Band
- ? Marking Information: See Page 3
- ? Ordering Information: See Page 3
- ? Weight: 0.21 grams (approximate)



Top View



Bottom View

#### 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	B320	B330	B340	B350	B360	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>						
Working Peak Reverse Voltage	V <sub>RWM</sub>	20	30	40	50	60	V
DC Blocking Voltage	V <sub>R</sub>						
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	35	42	V
Average Rectified Output Current @ T <sub>T</sub> = 100 °C	I <sub>O</sub>	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100					A

#### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal	R <sub>JT</sub>	20	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 2)	R <sub>JA</sub>	90	°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

#### Electrical Characteristics

@T<sub>A</sub> = 25 °C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop B320, B330, B340 B350, B360	V <sub>F</sub>	-	-	0.50 0.70	V	I <sub>F</sub> = 3.0A, T <sub>A</sub> = 25 °C
Leakage Current (Note 3)	I <sub>R</sub>	-	-	0.5 20	mA	@ Rated V <sub>R</sub> , T <sub>A</sub> = 25 °C @ Rated V <sub>R</sub> , T <sub>A</sub> = 100 °C
Total Capacitance	C <sub>T</sub>	-	-	200	pF	V <sub>R</sub> = 4V, f = 1MHz

- Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.  
2. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad  
3. Short duration pulse test used to minimize self-heating effect.

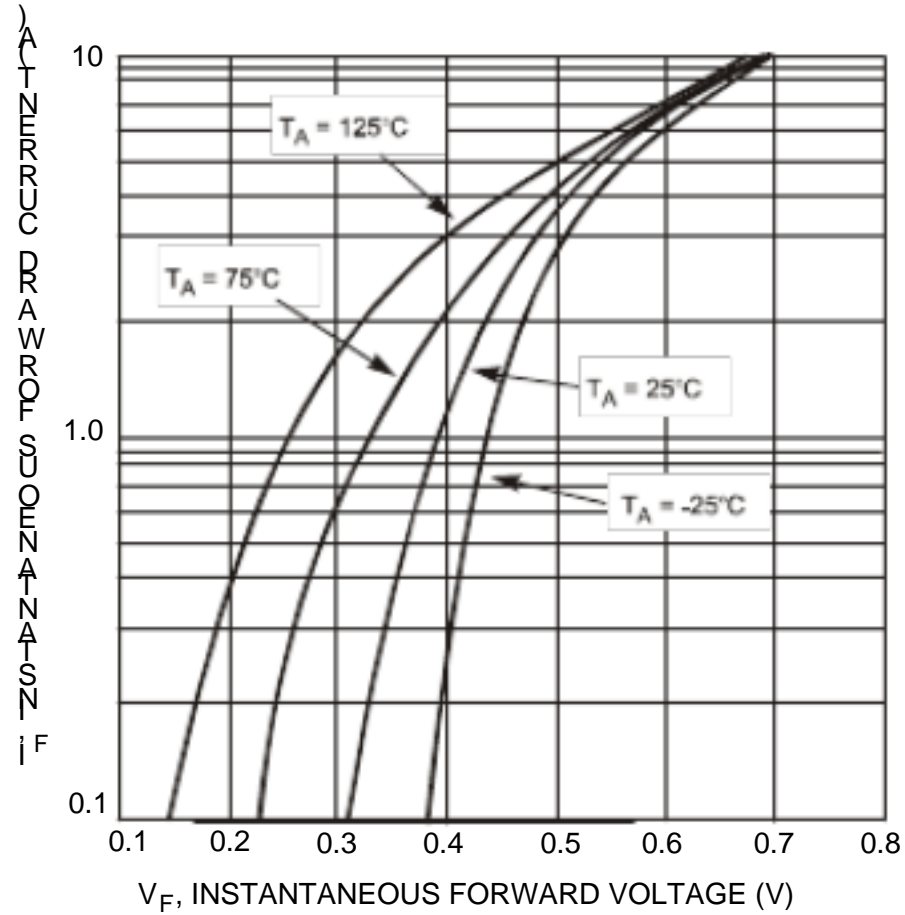


Fig. 1 Typical Forward Characteristics - B320B thru B340B

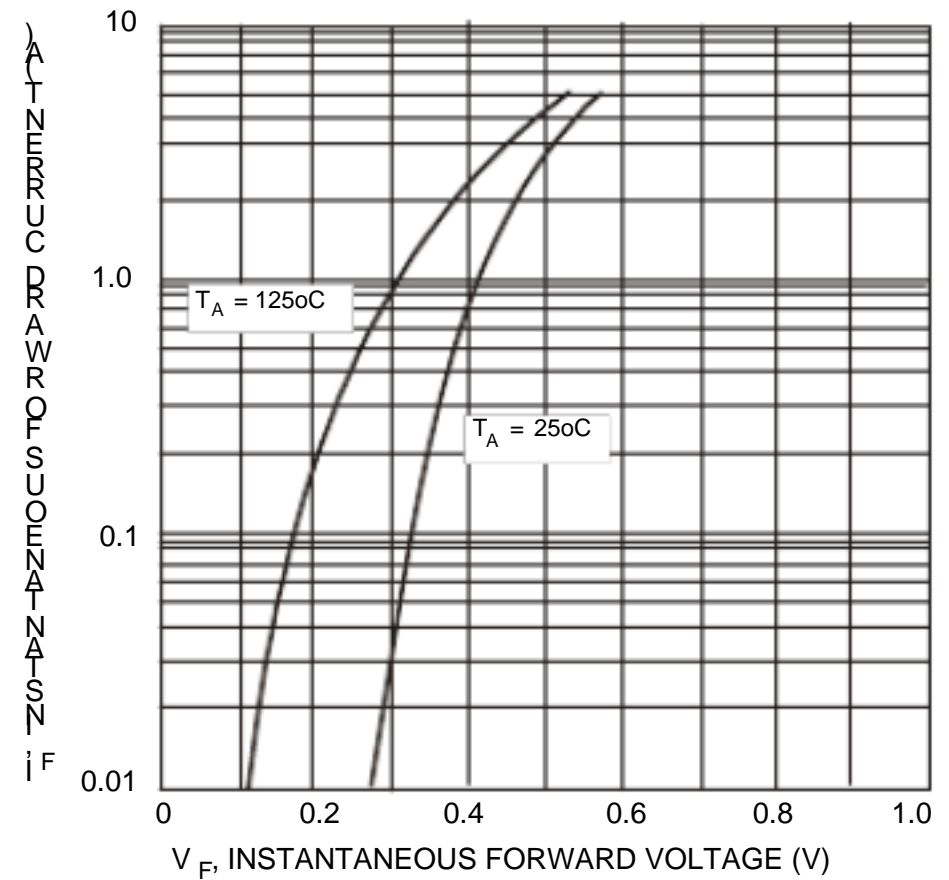


Fig. 2 Typical Forward Characteristics - B350B thru B360B

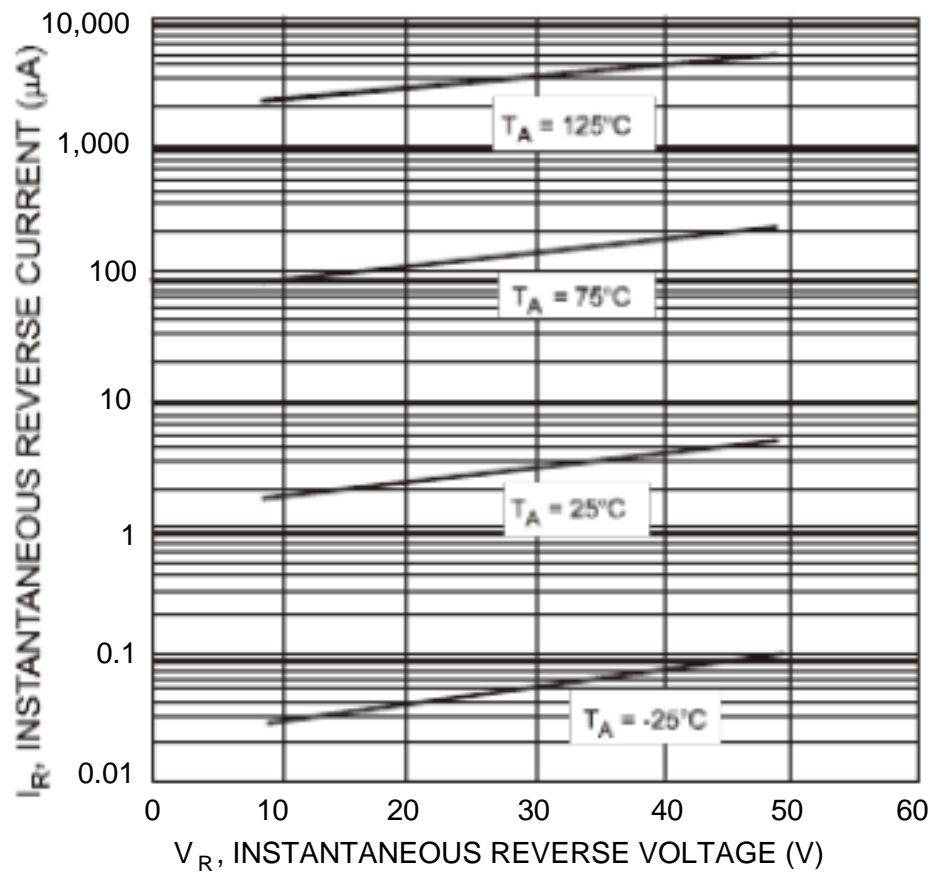


Fig. 3 Typical Reverse Characteristics, B320B thru B340B

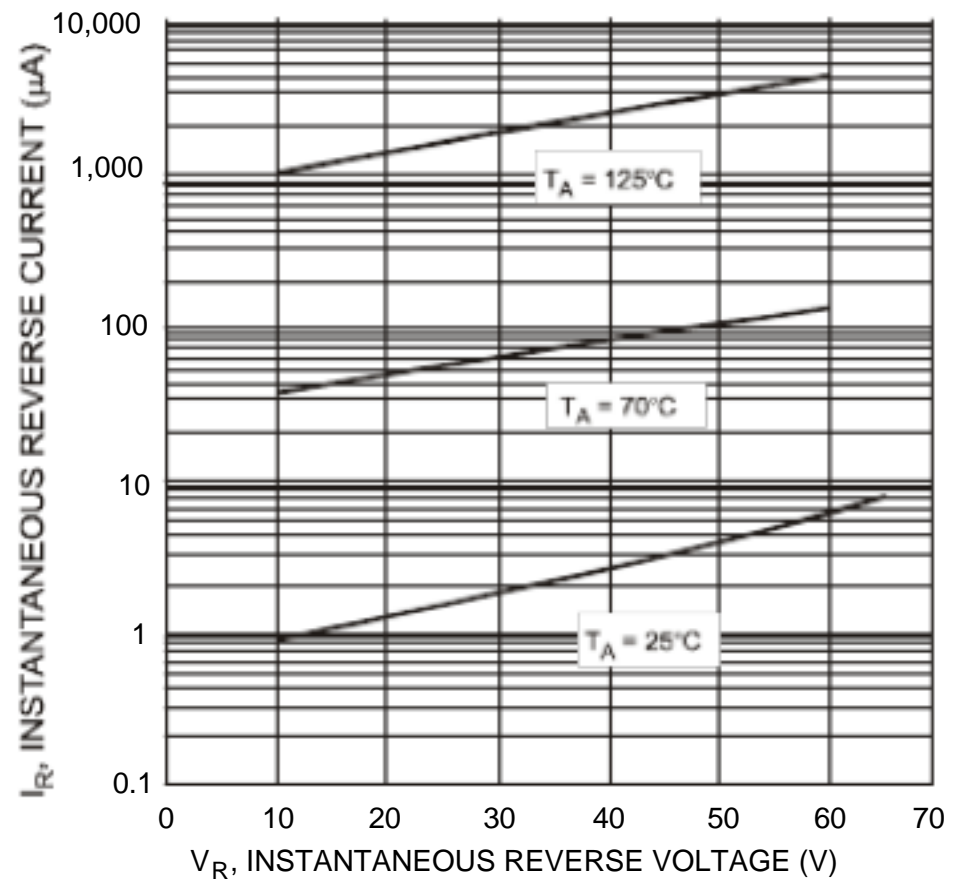


Fig. 4 Typical Reverse Characteristics, B350B thru B360B

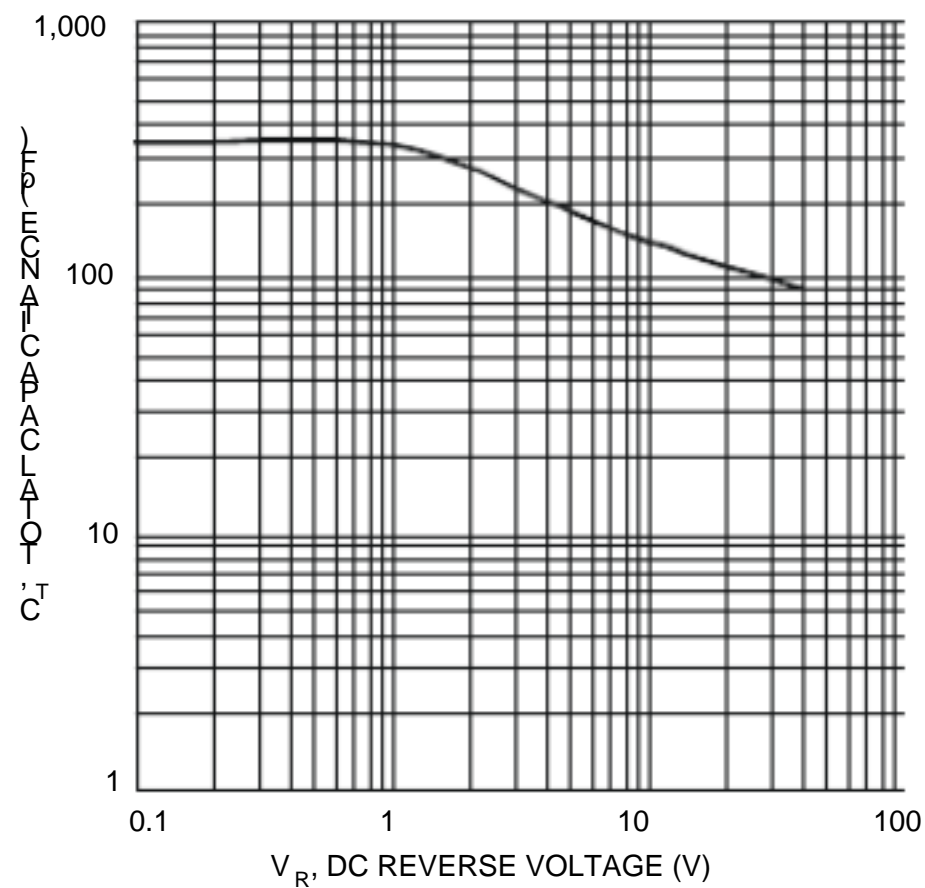


Fig. 5 Total Capacitance vs. Reverse Voltage

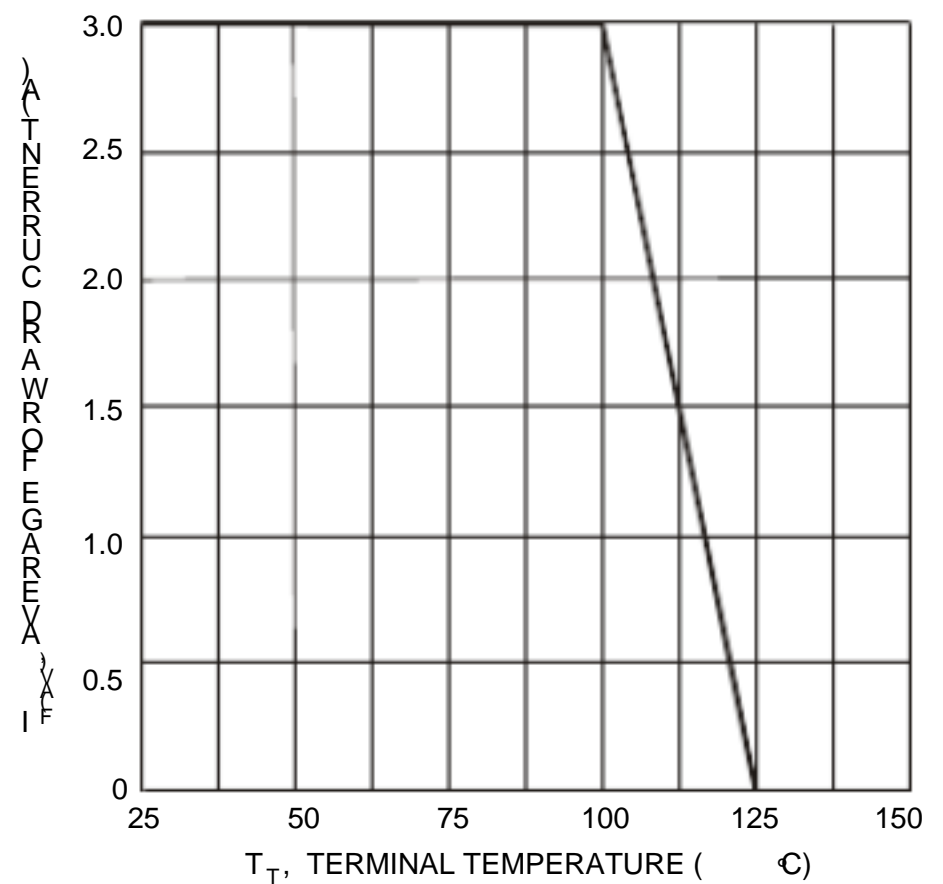


Fig. 6 Forward Current Derating Curve

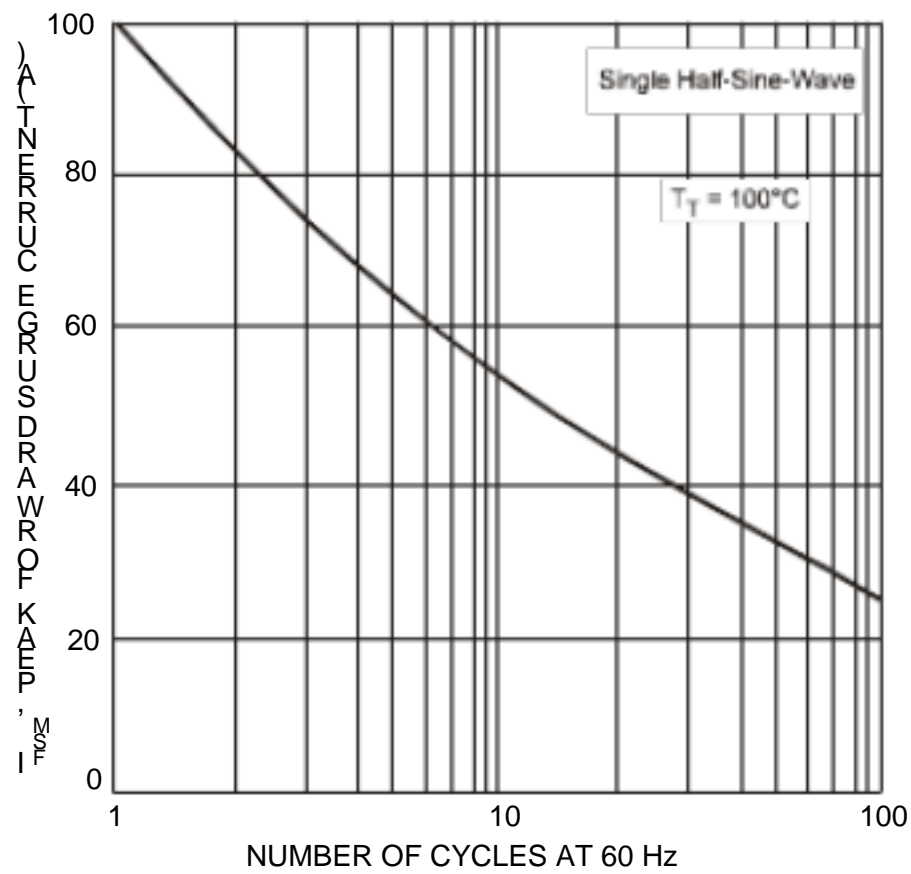


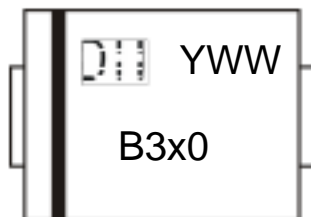
Fig. 7 Max Non-Repetitive Peak Forward Surge Current

## Ordering Information (Note 4)

Part Number	Case	Packaging
B3x0-13-F	SMC	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

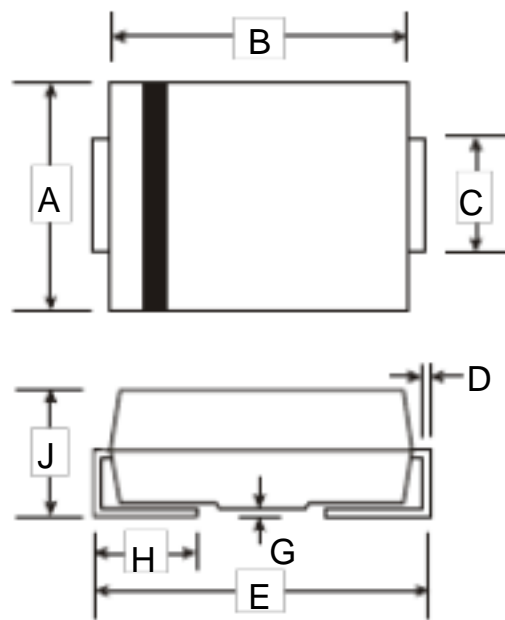
## Marking Information (Note 5)



B3x0 = Product type marking code, ex: B320  
Diodes Incorporated = Manufacturers' code marking  
YWW = Date code marking  
Y = Last digit of year ex: 2 for 2002  
WW = Week code 01 to 52

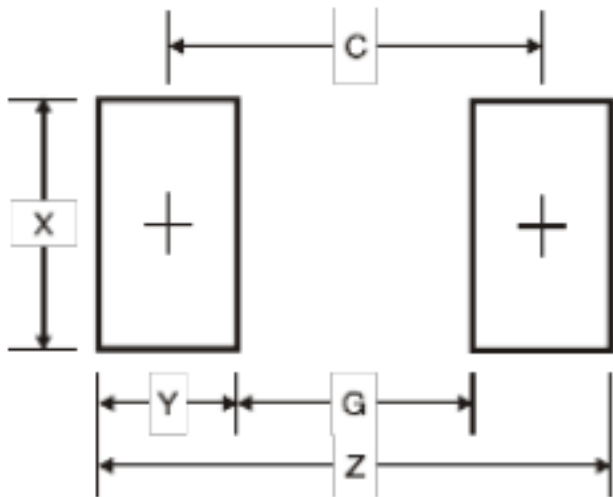
Notes: 5. Device has a cathode band (as shown above) and may also have a cathode notch.

## Package Outline Dimensions



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

# Suggested Pad Layout



Dimensions	Value (in mm)
Z	9.3
G	4.4
X	3.3
Y	2.5
C	6.8

## IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

## LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.