

#### Features

- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Low Forward Voltage Drop
- Surge Overload Rating to 100A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at Terminal
- Lead Free Finish/RoHS Compliant (Note 1)
- Green Molding Compound (No Halogen and Antimony)
  (Note 2)

### **Mechanical Data**

- Case: 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: 0.093 grams (approximate)





Bottom View

#### Ordering Information (Note 3)

Part Number	Case	Packaging
B380B-13-F	SMB	3000/Tape & Reel

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.

### **Marking Information**

Notes:



B380B = Product type marking code ) | = Manufacturers' code marking YWW = Date code marking Y = Last digit of year (ex: 6 for 2006) WW = Week code (01 to 53)

<sup>3.</sup> For packaging details, go to our website at http://www.diodes.com.



### 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 Working Peak Reverse Voltage DC Blocking Voltage (Note 4)	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	80	V
Average Rectified Output Current @ T <sub>T</sub> = 125°C	lo	3.0	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	100	A

# **Thermal Characteristics**

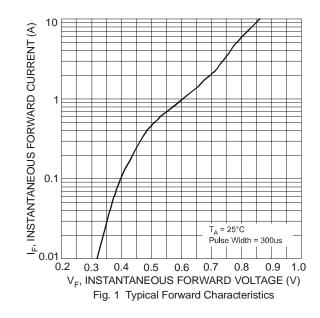
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 5)	R <sub>eJT</sub>	10	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

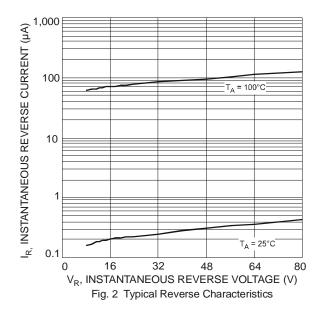
# **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Valtage Drop	V <sub>F</sub>	-	-	0.79		I <sub>F</sub> = 3.0A, T <sub>A</sub> = 25°C
Forward Voltage Drop		-	-	0.69		I <sub>F</sub> = 3.0A, T <sub>A</sub> = 100°C
Peak Reverse Current (Note 4)		-	-	0.5	mA	V <sub>R</sub> = 80V, T <sub>A</sub> = 25°C
Peak Reverse Current (Note 4)	IR	-	-	20		V <sub>R</sub> = 80V, T <sub>A</sub> = 25°C V <sub>R</sub> = 80V, T <sub>A</sub> = 100°C
Typical Total Capacitance	CT	-	120	-	pF	V <sub>R</sub> = 4.0V, f = 1MHz

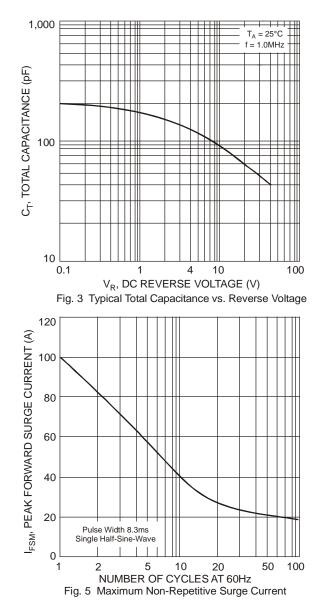
Notes: 4. Short duration pulse test used to minimize self-heating effect.

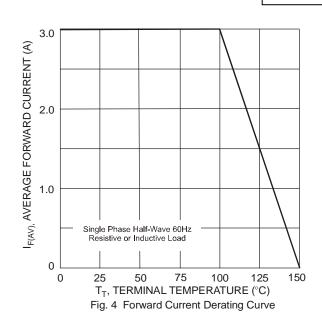
5. Valid provided that terminals are kept at ambient temperature.



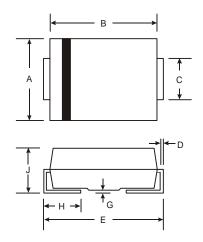








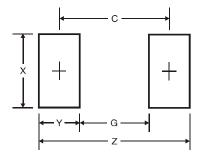
# **Package Outline Dimensions**



SMB		
Dim	Min	Max
Α	3.30	3.94
В	4.06	4.57
С	1.96	2.21
D	0.15	0.31
ш	5.00	5.59
G	0.05	0.20
Н	0.76	1.52
J	2.00	2.50
All Dimensions in mm		



# Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.8
G	1.8
Х	2.3
Y	2.5
С	4.3

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