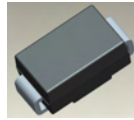


**2.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**
**Features**

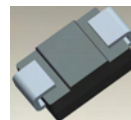
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 50A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at Terminal
- **Lead Free Finish/RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

**Mechanical Data**

- Case: SMA/SMB
- 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 **(e3)**
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: SMA 0.064 grams (Approximate)  
SMB 0.093 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	B220/A	B230/A	B240/A	B250/A	B260/A	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	30	40	50	60	V
Working Peak Reverse Voltage	V <sub>RWM</sub>						
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>	2.0					A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	50					A

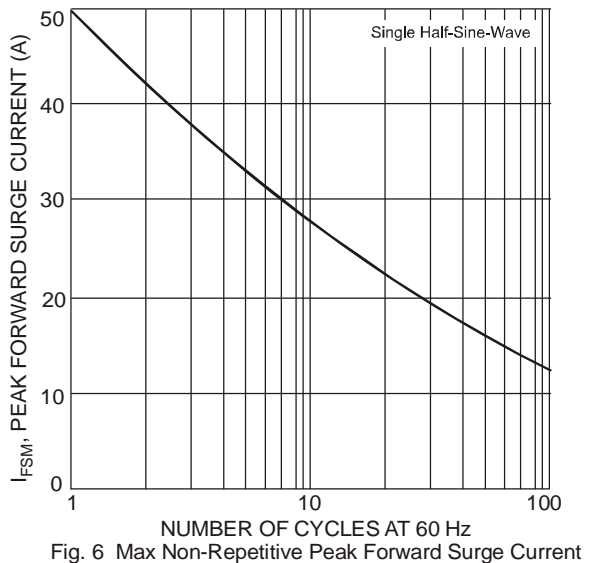
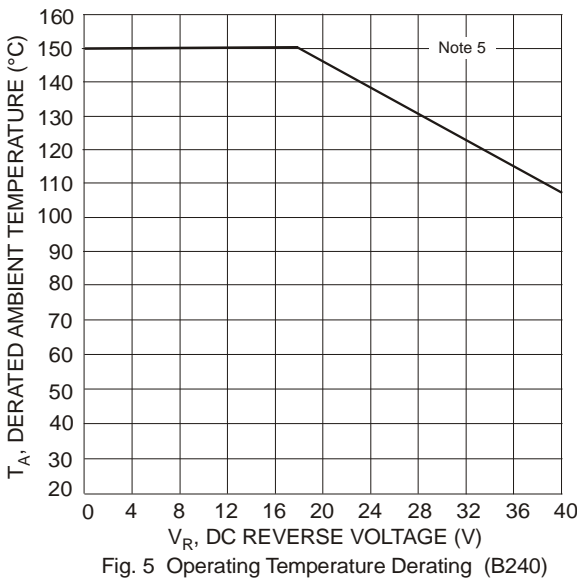
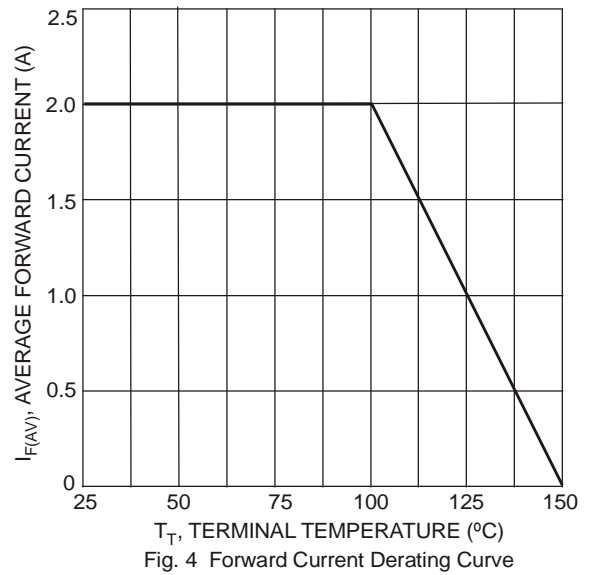
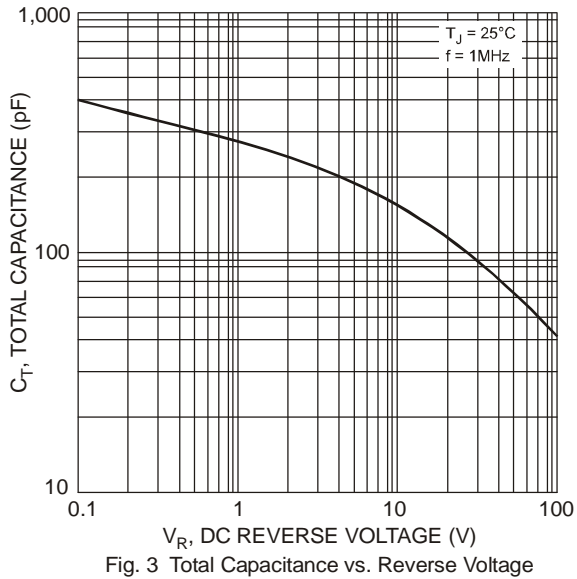
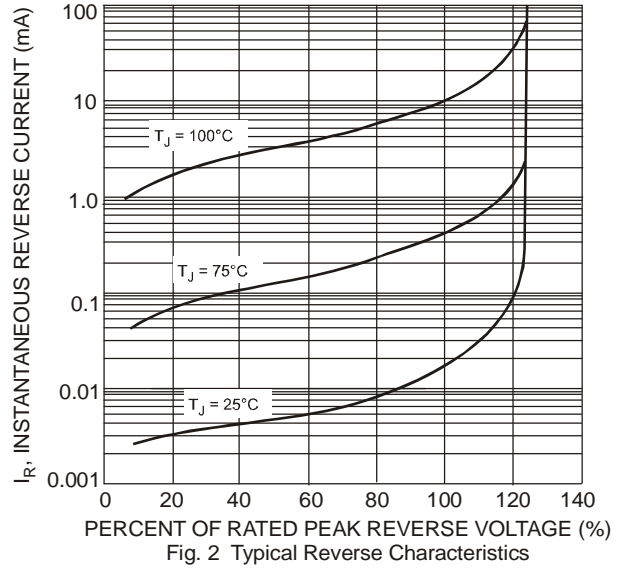
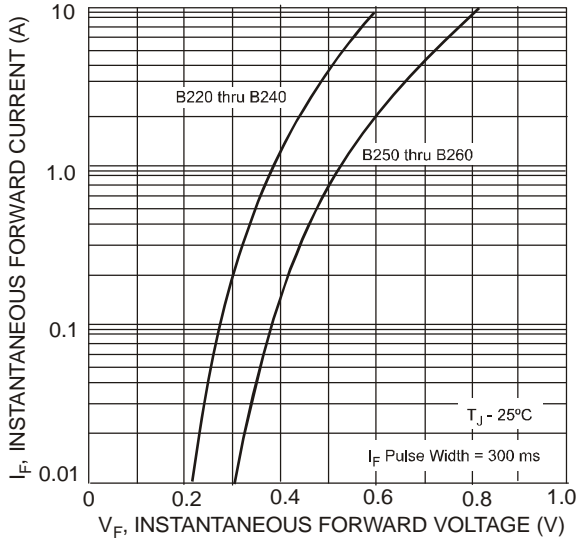
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal	R <sub>θJT</sub>	20	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 3)	R <sub>θJA</sub>	25	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 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 B220/A, B230/A, B240/A B250/A, B260/A	V <sub>F</sub>	-	-	0.50 0.70	V	I <sub>F</sub> = 2.0A, T <sub>A</sub> = 25°C
Leakage Current (Note 4)	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. Please visit our website at [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html).
  2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
  3. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pad as heat sink.
  4. Short duration pulse test used to minimize self-heating effect.



5. Device mounted on FR-4 PC board with minimum recommended pad layout pattern as per <http://www.diodes.com/datasheets/ap02001.pdf>.

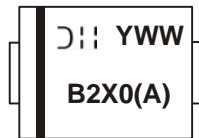
### Ordering Information (Note 6)

Part Number	Case	Packaging
B2xxA-13-F	SMA	5000/Tape & Reel
B2xx-13-F	SMB	3000/Tape & Reel

\* x = Device type, e.g. B260A-13-F (SMA package); B240-13-F (SMB package).

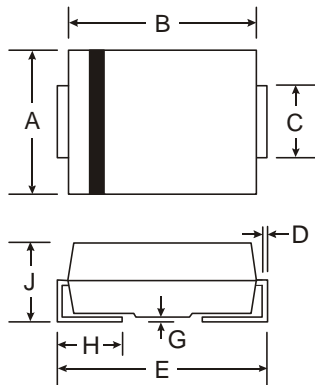
Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

### Marking Information



B2X0A = Product type marking code, ex: B220A (SMA package)  
 B2X0 = Product type marking code, ex: B230 (SMB package)  
 DII = Manufacturers' code marking  
 YWW = Date code marking  
 Y = Last digit of year (ex: 2 for 2002)  
 WW = Week code 01 to 52

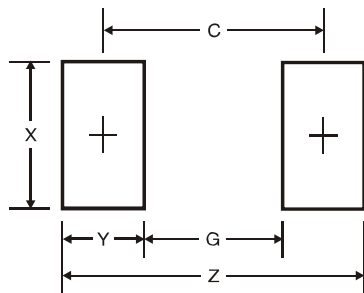
### Package Outline Dimensions



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
<b>All Dimensions in mm</b>		

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	2.62
<b>All Dimensions in mm</b>		

### 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

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  - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
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