



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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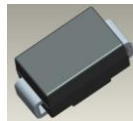
Features

- 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 (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

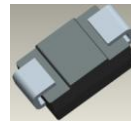
Mechanical Data

- 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

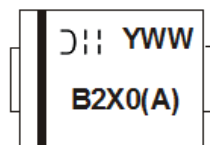
Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
B2xxA-13-F	Standard	SMA	5,000/Tape & Reel
B2xx-13-F	Standard	SMB	3,000/Tape & Reel
B250Q-13	Automotive	SMB	3,000/Tape & Reel
B240AQ-13-F	Automotive	SMA	5,000/Tape & Reel
B240Q-13-F	Automotive	SMB	3,000/Tape & Reel

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

- 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 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>.
 5. Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q101 and standard products are electrically and thermally the same, except where specified. For more information, please refer to http://www.diodes.com/quality/product_compliance_definitions/.

Marking Information



B2X0A = Product type marking code, ex: B220A (SMA package)
 B2X0 = Product type marking code, ex: B230 (SMB package)
 J;: = Manufacturers' code marking
 YWW = Date code marking
 Y = Last digit of year (ex: 5 for 2015)
 WW = Week code (01 to 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	B220/A	B230/A	B240/A	B250/A	B260/A	Unit	
Peak Repetitive Reverse Voltage	V _{RRM}							
Working Peak Reverse Voltage	V _{RWM}	20	30	40	50	60	V	
DC Blocking Voltage	V _R							
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	35	42	V	
Average Rectified Output Current	I _O	2.0						A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	50						A

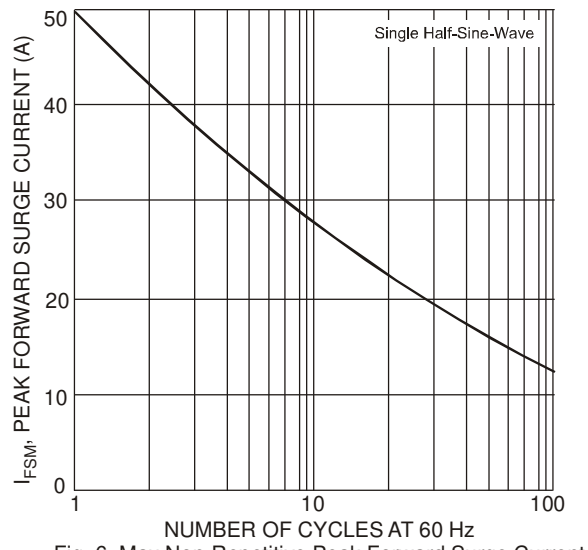
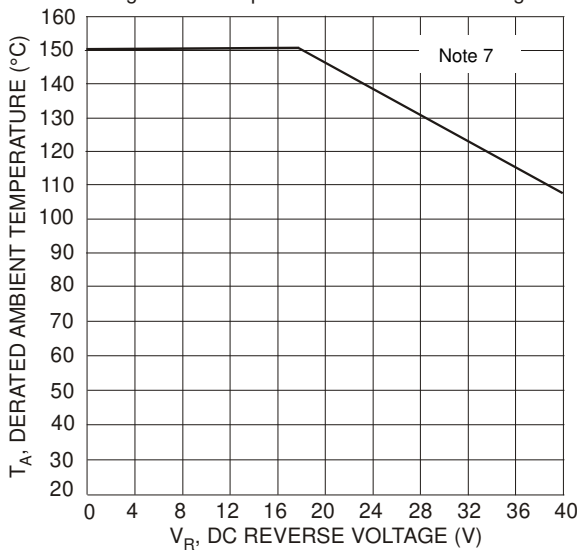
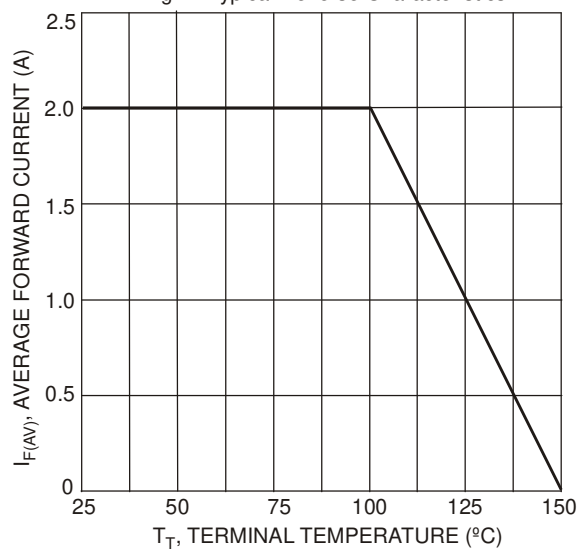
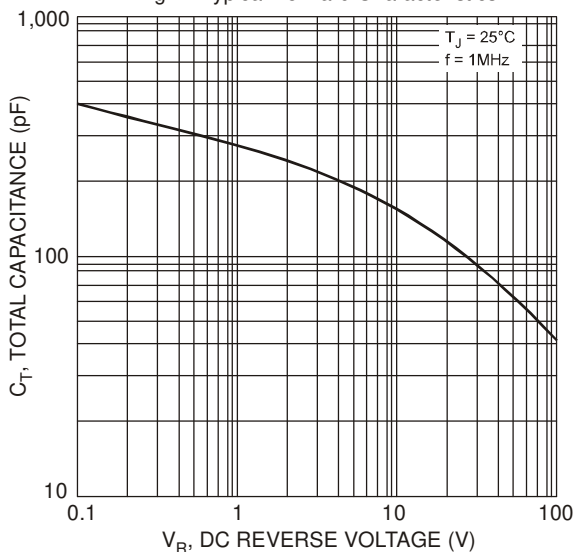
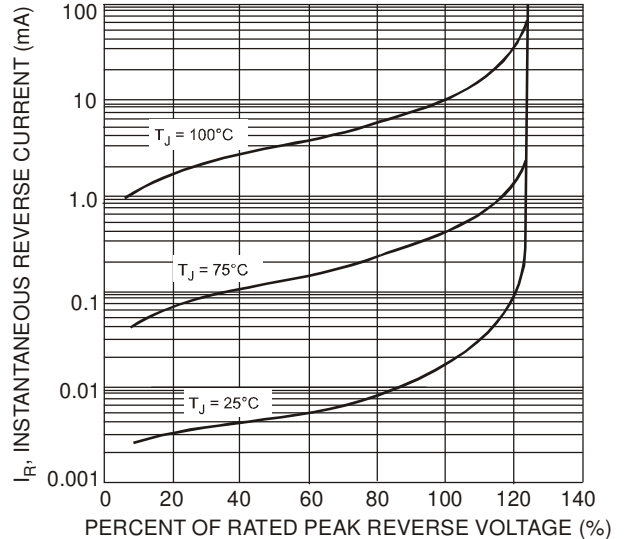
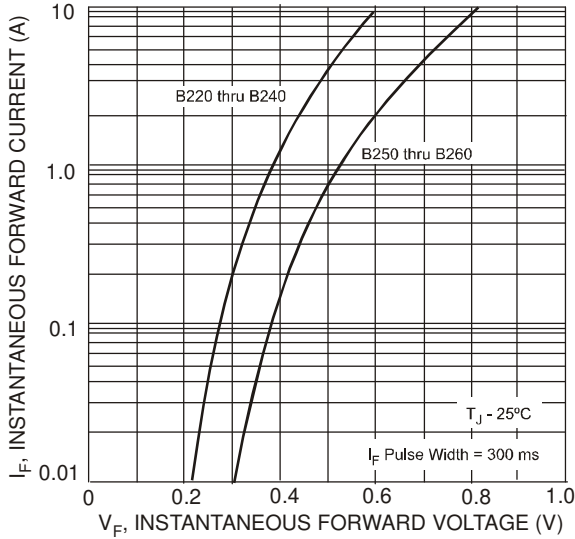
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Lead	SMA	25	°C/W
	SMB	20	
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	—	0.50 0.70	V	I _F = 2.0A, T _A = +25°C
Leakage Current (Note 6)	I _R	—	—	0.5 20	mA	@ Rated V _R , T _A = +25°C @ Rated V _R , T _A = +100°C
Total Capacitance	C _T	—	—	200	pF	V _R = 40V, f = 1MHz

Note: 6. Short duration pulse test used to minimize self-heating effect.

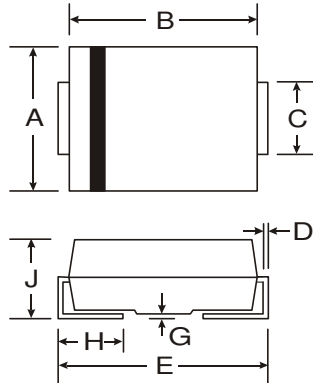


Note: 7. Device mounted on FR-4 PC board with minimum recommended pad layout pattern as per <http://www.diodes.com>.

Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

SMA/SMB



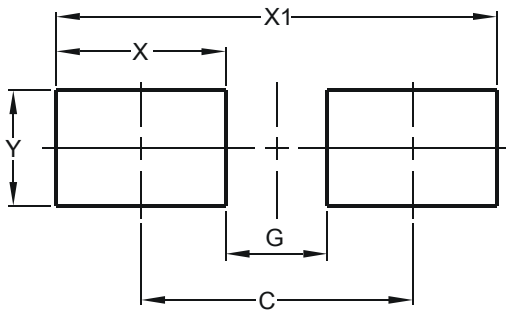
SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

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

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.

SMA/SMB



SMA	
Dimensions	Value (in mm)
C	4.00
G	1.50
X	2.50
X1	6.50
Y	1.70

SMB	
Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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