

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	B120/B	B130/B	B140/B	B150/B	B160/B	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 @ T _T = +130°C	I _O	1.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	30					A

Thermal Characteristics

Characteristic	Symbol	B120/B	B130/B	B140/B	B150/B	B160/B	Unit
Typical Thermal Resistance Junction to Terminal (Note 6)	R _{θJT}	20					°C/W
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 B120/B, B130/B, B140/B B150/B, B160/B	V _F	-	-	0.5 0.7	V	I _F = 1.0A I _F = 1.0A
Leakage Current (Note 7)	I _R	-	-	0.5 10	mA	@ Rated V _R , T _A = +25°C @ Rated V _R , T _A = +100°C
Total Capacitance	C _T	-	-	110	pF	V _R = 4V, f = 1MHz

Notes: 6. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
7. Short duration pulse test used to minimize self-heating effect.

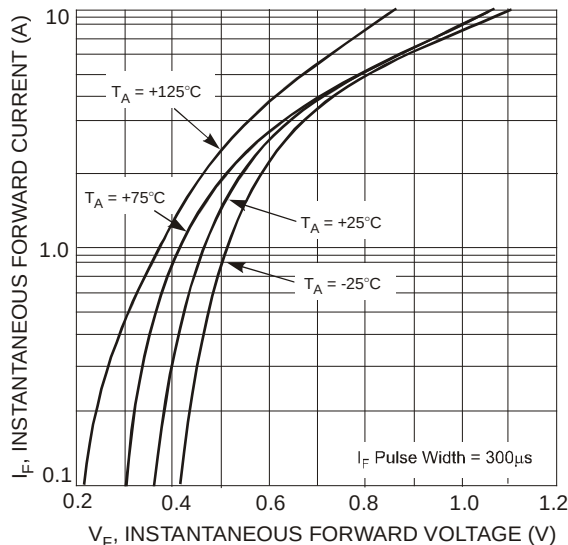


Fig. 1 Typical Forward Characteristics - B120/B thru B140/B

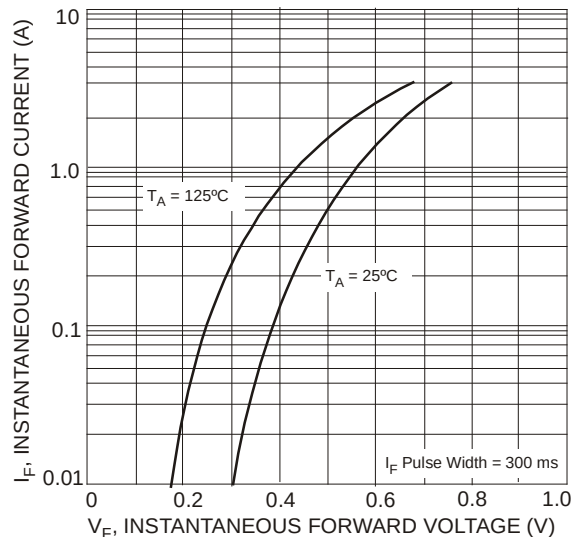


Fig. 2 Typical Forward Characteristics - B150/B thru B160/B

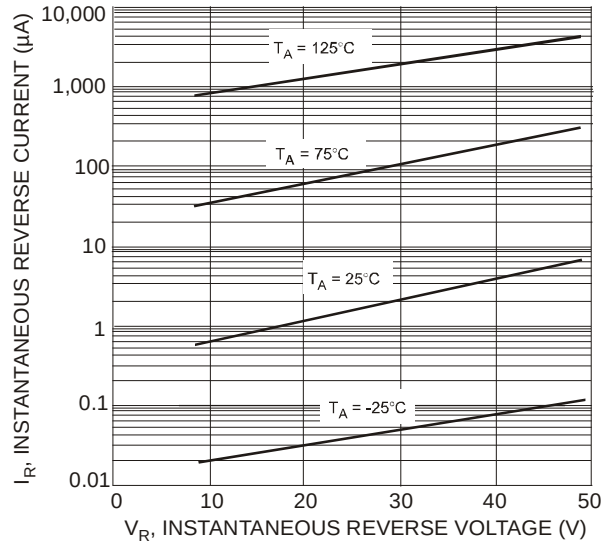


Fig. 3 Typical Reverse Characteristics, B120/B thru B140/B

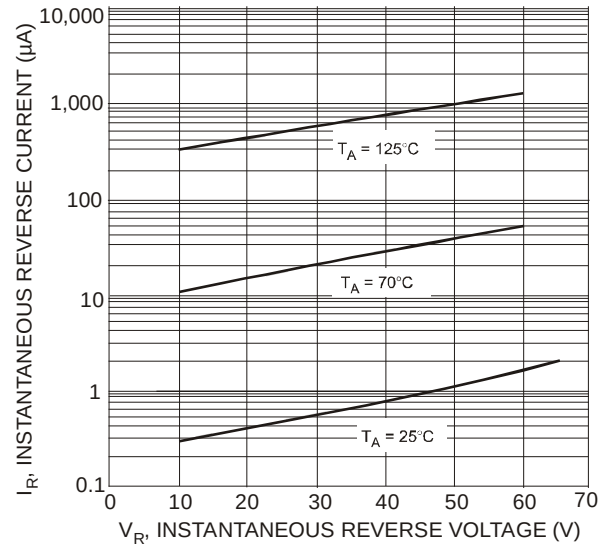


Fig. 4 Typical Reverse Characteristics, B150/B thru B160/B

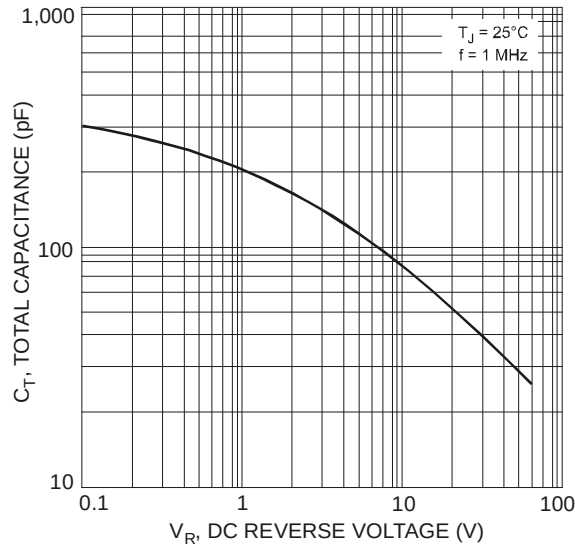


Fig. 5 Total Capacitance vs. Reverse Voltage

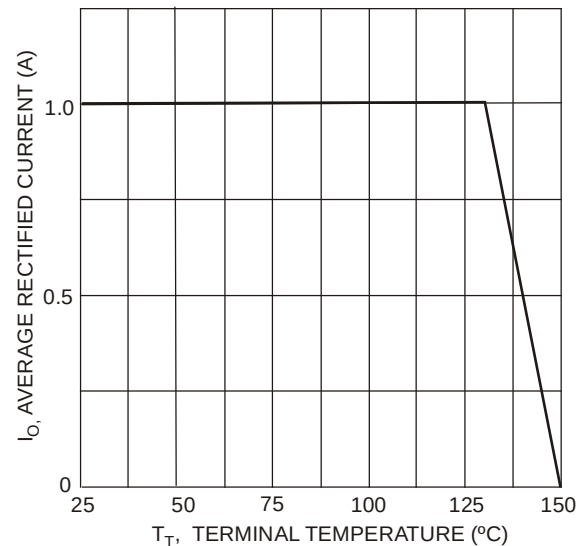


Fig. 6 Forward Current Derating Curve

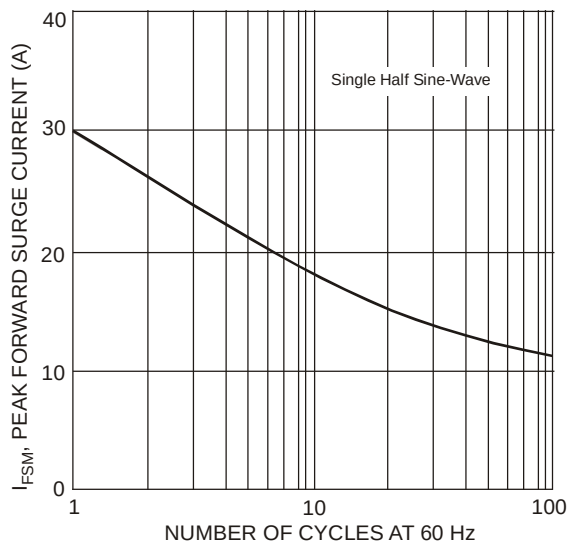
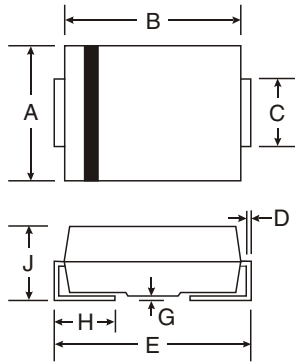


Fig. 7 Max Non-Repetitive Peak Forward Surge Current

Package Outline Dimensions

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

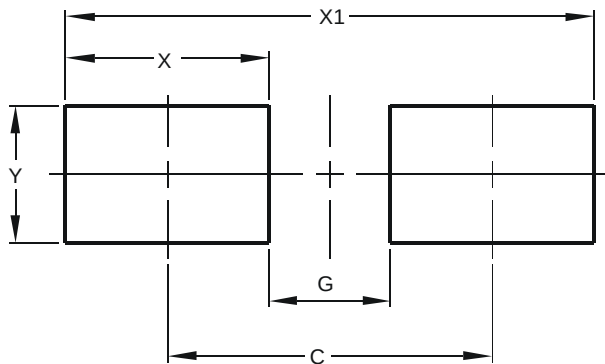


SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

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.



Dimensions	SMA (in mm)	SMB (in mm)
C	4.00	4.30
G	1.50	1.80
X	2.50	2.50
X1	6.50	6.80
Y	1.70	2.30

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