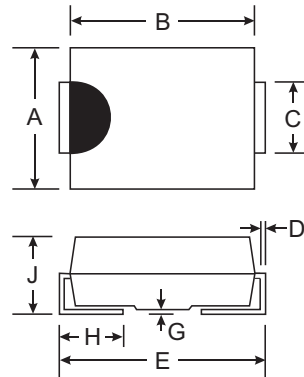


Features

- Low Leakage Current
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 45A Peak
- Lead Free/RoHS Compliant (Note 3)**

Mechanical Data

- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (e3)
- Marking Information: See page 3
- Ordering Information: See page 3
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.093 grams (approximate)



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	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25 C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage @ I _R = 0.1mA	V _R		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Average Rectified Output Current @ T _T = 115 C	I _O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load	I _{FSM}	45	A
Non-Repetitive Peak Forward Surge Current 5 s Single half sine-wave	I _{FSM}	430	A
Forward Voltage @ I _F = 1.0A, @ T _j = 25 C @ I _F = 2.0A, @ T _j = 25 C @ I _F = 1.0A, @ T _j = 125 C @ I _F = 2.0A, @ T _j = 125 C	V _{FM}	0.53 0.70 0.49 0.64	V
Peak Reverse Current @ T _A = 25 C at Rated DC Blocking Voltage @ T _A = 125 C	I _{RM}	0.1 4.0	mA
Typical Total Capacitance (Note 2)	C _T	80	pF
Typical Thermal Resistance Junction to Terminal (Note 1)	R _{JT}	36	C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	C

- Notes:
- Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
 - Measured at 1.0MHz and applied reverse voltage of 5.0V DC.
 - RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see *EU Directive Annex Note 7*.

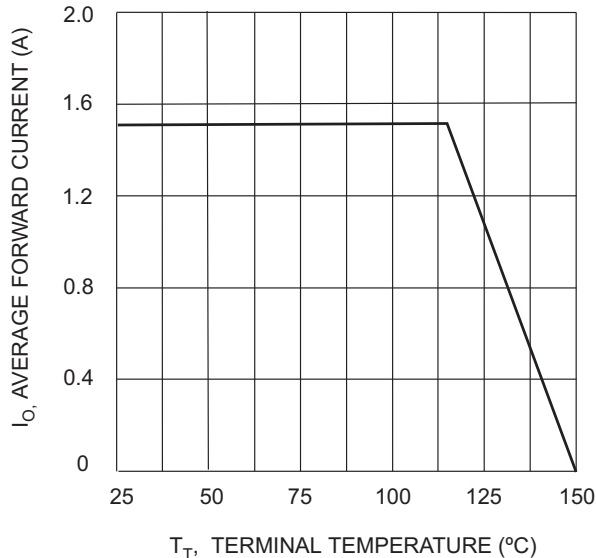


Fig. 1 Forward Current Derating Curve

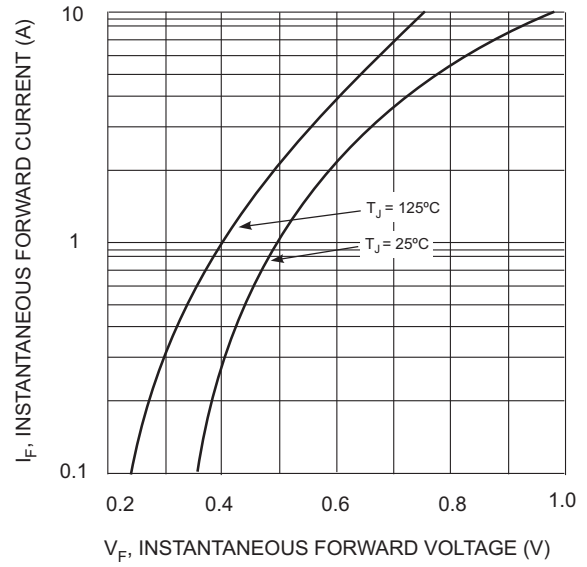


Fig. 2 Typ. Forward Characteristics

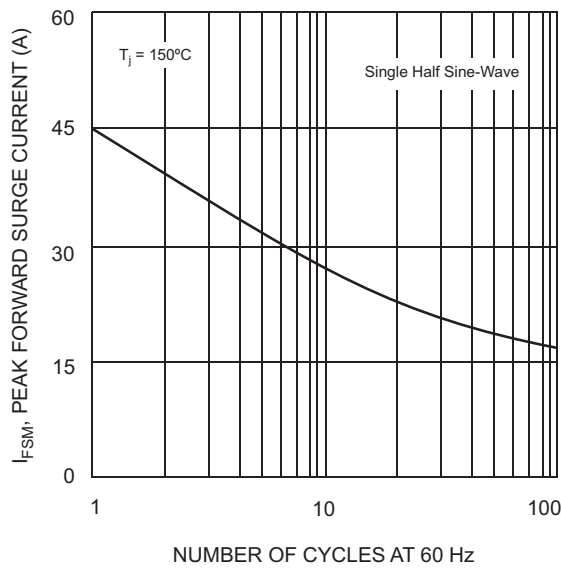


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

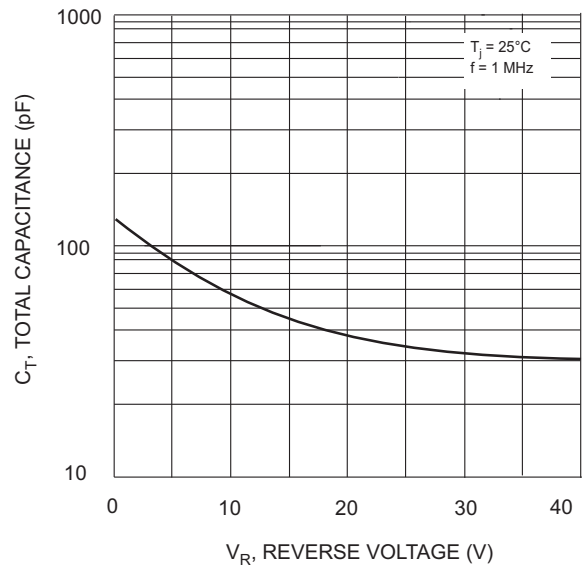


Fig. 4 Typical Total Capacitance

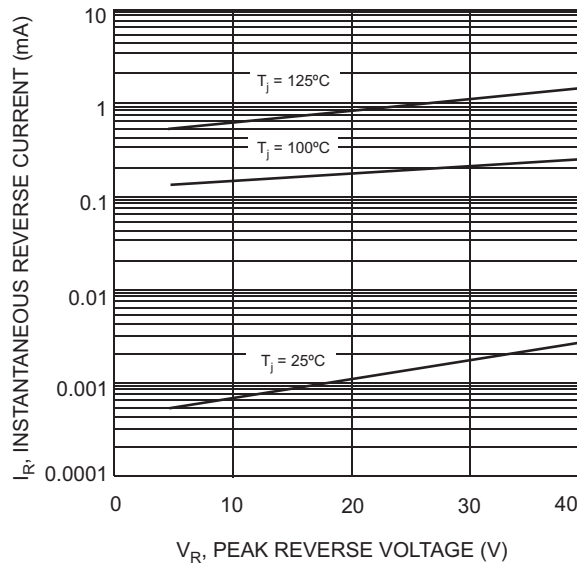
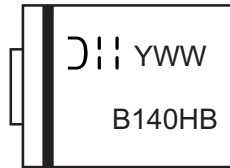


Fig. 5 Typical Reverse Characteristics

Ordering Information (Note 4)

Device	Packaging	Shipping
B140HB-13-F	SMB	3000/Tape & Reel

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

Marking Information

B140HB = Product type marking code
D||| = Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

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.