B140HB

1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

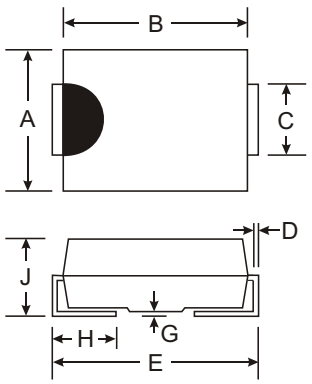
NEW PRODUCT

Features

- Ultra-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
- **Available in Lead Free/RoHS Compliant Version (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: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please See Ordering Information, Note 5, on Page 2
- Marking: Type Number
- Polarity: Cathode Band or Cathode Notch
- Mounting Position: Any
- 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	B140HB	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage @ I_R = 0.1mA	V_{RRM} V_{RWM} V_R	40	V
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 5μs 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
Max. Voltage Rate of Change @ Rated V_R	dv/dt	5300	V/μs
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	36	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

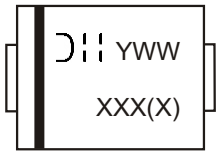
Notes:
1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm^2 (0.013 mm thick) copper pads as heat sink.
2. Measured at 1.0MHz and applied reverse voltage of 5.0V DC.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*

NEW PRODUCT

Ordering Information (Note 4 & 5)

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

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
5. For Lead Free Finish/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: B140HB-13-F.



XXXX = Product type marking code, ex: B140HB (SMB package)
= Manufacturers' code marking
YWW = Date code marking
Y = Last digit of year ex: 2 for 2002
WW = Week code 01 to 52

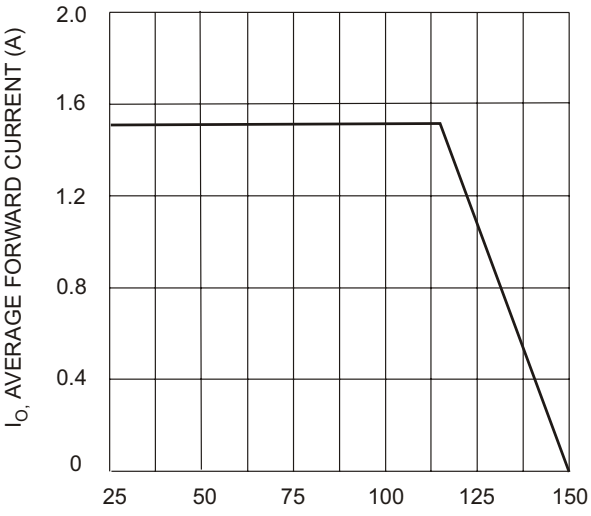


Fig. 1 Forward Current Derating Curve

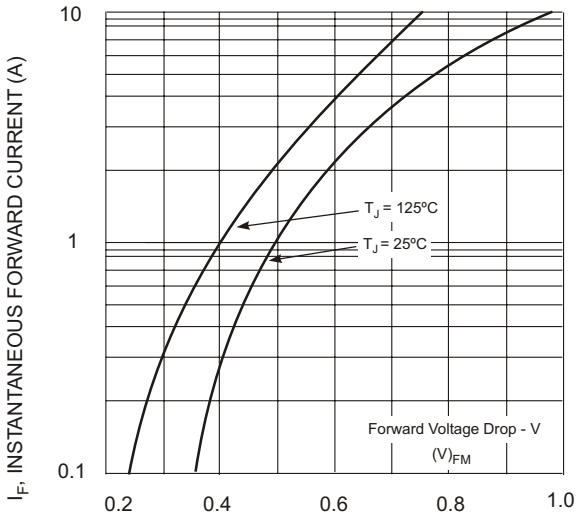


Fig. 2 Typ. Forward Characteristics

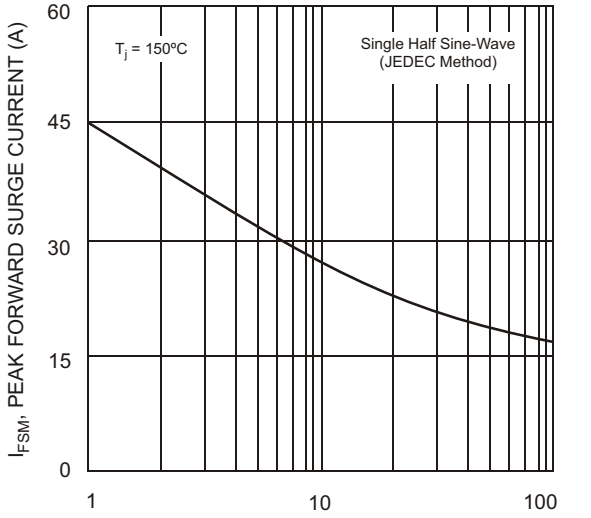


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

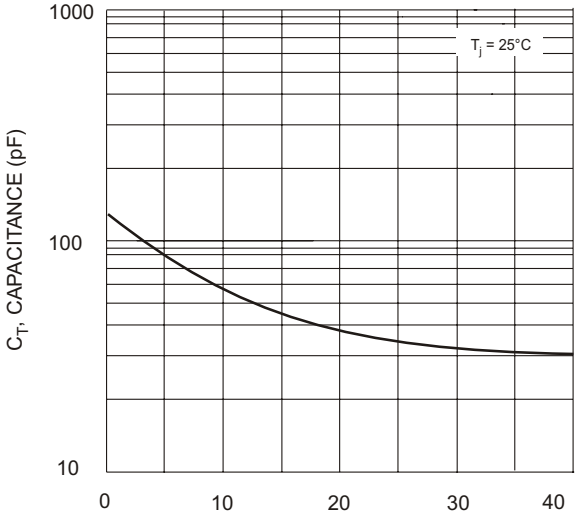


Fig. 4 Typical Total Capacitance

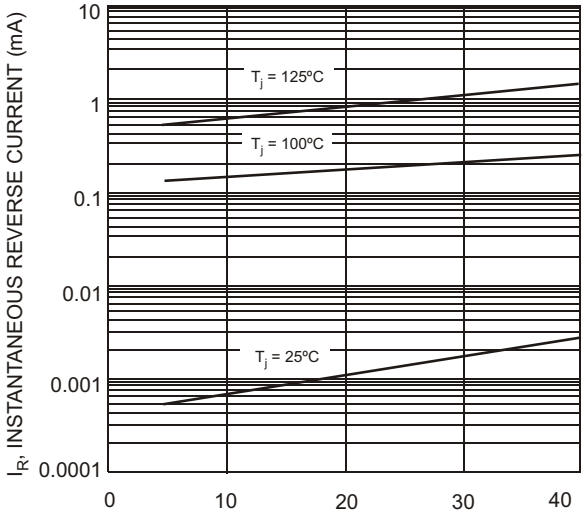


Fig. 5 Typical Reverse Characteristics