

1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Low Leakage Current
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated 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-020D
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 <a>®
- Polarity: Cathode Band or Cathode Notch
- Marking Information: See page 3
- Ordering Information: See page 3
- Weight: 0.093 grams (approximate)





Top View

Bottom View

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	Value	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	lo	1.0	А
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	45	А
Non-Repetitive Peak Forward Surge Current 5μs Single Half Sine-Wave	I _{FSM}	430	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{ hetaJT}$	36	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

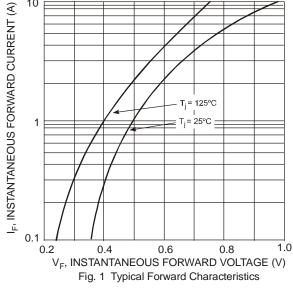
Electrical Characteristics @T_A = 25°C unless otherwise specified

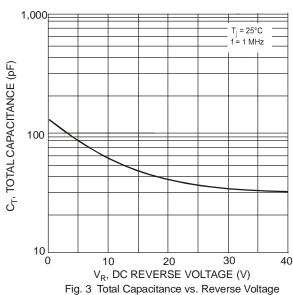
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition		
		-	-	0.53	V	$I_F = 1.0A, T_A = 25^{\circ}C$		
Forward Voltage Drop	\/_	-	-	0.49		$I_F = 1.0A, T_A = 125$ °C		
Forward Voltage Drop	oltage Drop V _F	-	-	0.70		$I_F = 2.0A, T_A = 25^{\circ}C$		
		-	-	0.64		I _F = 2.0A, T _A = 125°C		
Leakage Current (Note 3)				-	-	0.1	mA	$V_R = 40V, T_A = 25^{\circ}C$
eakage Current (Note 3)	-	-	4.0	MA	V _R = 40V, T _A = 100°C			
Total Capacitance	C _T	-	-	80	pF	$V_R = 5V$, $f = 1MHz$		

Notes:

- 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
- 2. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pads as heat sink.
- 3. Short duration pulse test used to minimize self-heating effect.







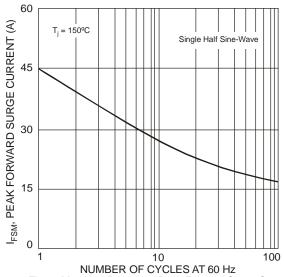
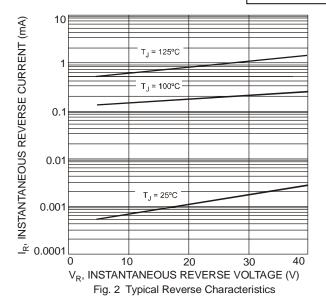
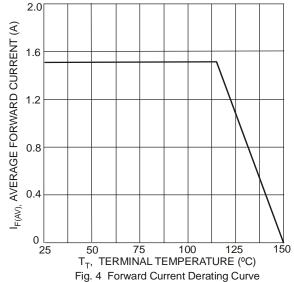


Fig. 5 Max Non-Repetitive Peak Forward Surge Current







Ordering Information (Note 4)

Part Number	Case	Packaging
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



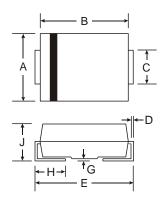
B140HB = Product type marking code

| | = Manufacturers' code marking

| YWW = Date code marking
| Y = Last digit of year ex: 2 for 2002

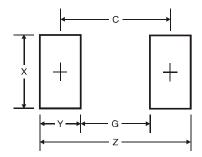
| WW = Week code 01 to 52

Package Outline Dimensions



SMB				
Dim	Min	Max		
Α	3.30	3.94		
В	4.06	4.57		
С	1.96	2.21		
D	0.15	0.31		
E	5.00	5.59		
G	0.05	0.20		
Н	0.76	1.52		
J	2.00	2.62		
All Dimensions in mm				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.7
G	1.8
Х	2.3
Y	2.5
С	4.3

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.