

3A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER POWERMITE 3

Features

Guard Ring Die Construction for

Transient Protection

Low Power Loss, High Efficiency

Low Forward Voltage Drop

For Use in Low Voltage, High Frequency Inverters, Free

Wheeling, and Polarity Protection Applications

Lead Free Finish/RoHS Compliant (Note 2)

Mechanical Data

Case: POWERMITE 3

Case Material: Molded Plastic. UL Flammability

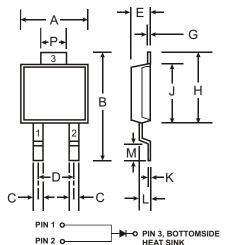
Classification Rating 94V-0

Moisture sensitivity: Level 1 per J-STD-020C Terminals: Solderable per MIL-STD-202, Method 208

Lead Free Plating (Matte Tin Finish). @3

Polarity: See Diagram Marking: Type Number

Weight: 0.072 grams (approximate)



Pins 1 & 2 must be electrically Note: connected at the printed circuit board.

POWERMITE 3					
Dim	Min	Max			
Α	4.03 4.09				
В	6.40	6.61			
С	.889 NOM				
D	1.83 NOM				
E	1.10 1.14				
G	.178 NOM				
Н	5.01	5.17			
J	4.37	4.43			
K	K .178 NOM				
L	.71	.77			
M	.36	.46			
Р	1.73	1.83			
All Dimensions in mm					

Maximum Ratings @ 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 Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	40	V
RMS Reverse Voltage	V _{R(RMS)}	28	V
Average Rectified Output Current (See also Figure 5)	Io	3	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load @ T _C = 100 C	I _{FSM}	50	А
Typical Thermal Resistance Junction to Soldering Point	R _{JS}	3.4	C/W
Operating Temperature Range	Tj	-55 to +125	С
Storage Temperature Range	T _{STG}	-55 to +150	°C

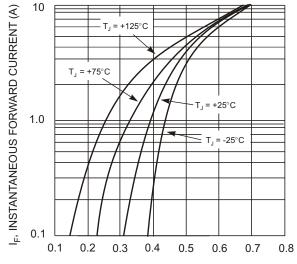
Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	40			V	I _R = 0.5mA
Forward Voltage	V _{FM}		0.46 0.40 0.57 0.54	0.50 0.44 0.61 0.58	V	I _F = 3A, T _j = 25 C I _F = 3A, T _j = 125 C I _F = 6A, T _j = 25 C I _F = 6A, T _j = 125 C
Reverse Current (Note 1)	I _{RM}		15	500 20	A mA	
Total Capacitance	Ст		180		pF	f = 1.0MHz, V _R = 4.0V DC

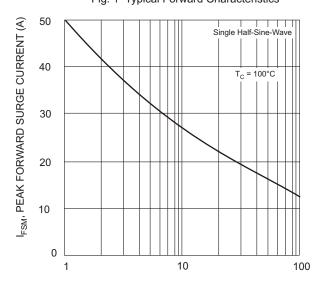
Notes:

- 1. Short duration test pulse used to minimize self-heating effect.
- 2. RoHS revision 13.2.2003. High Temperature Solder Exemption Applied, see EU Directive Annex Note 7.

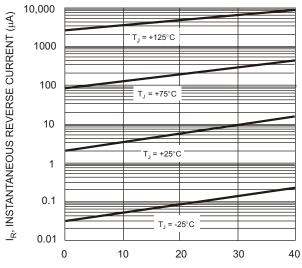




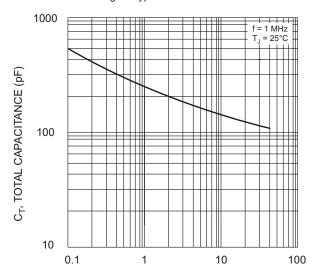
V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 1 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz Fig. 3 Max Non-Repetitive Peak Forward Surge Current

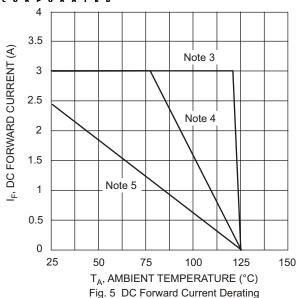


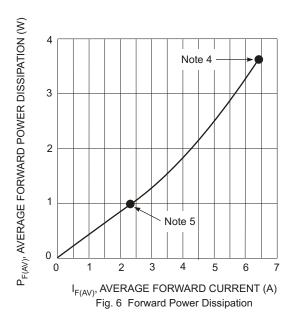
V_R, INSTANTANEOUS REVERSE VOLTAGE (V) Fig. 2 Typical Reverse Characteristics



 $\label{eq:VR} {\rm V_{R},\,DC\;REVERSE\;VOLTAGE\;(V)}$ Fig. 4 Typical Capacitance vs. Reverse Voltage







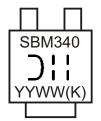
Ordering Information (Note 6)

Device	Packaging	Shipping
SBM340-13-F	POWERMITE 3	5000/Tape & Reel

Notes:

- 3. TA = TSOLDERING POINT, R JS = 3.4 C/W, R SA = 0 C/W.
- Device mounted on GETEK substrate, 2"x2", 2 oz. copper, double-sided, cathode pad dimensions 0.75" x 1.0", anode pad dimensions 0.25" x 1.0". R JA in range of 20-40°C/W.
- Device mounted on FR-4 substrate, 2"x2", 2 oz. copper, single-sided, pad layout as per Diodes Inc. suggested pad layout document AP02001 which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf. R JA in range of 95-115°C/W
- 6. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



SBM340 = Product type marking code

| | = Manufacturers' code marking
| YYWW = Date code marking
| YY = Last digit of year ex: 02 for 2002
| WW = Week code 01 to 52
| (K) = Factory Designator

POWERMITE is a registered trademark of Microsemi Corporation.

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.