SBM340

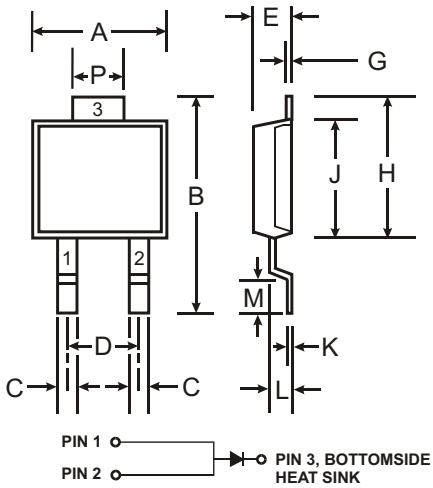
3A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER
POWERMITE 3

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). e3
- Polarity: See Diagram
- Marking: Type Number
- Weight: 0.072 grams (approximate)



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

POWERMITE 3		
Dim	**Min**	**Max**
A	4.03	4.09
B	6.40	6.61
C	.889 NOM	
D	1.83 NOM	
E	1.10	1.14
G	.178 NOM	
H	5.01	5.17
J	4.37	4.43
K	.178 NOM	
L	.71	.77
M	.36	.46
P	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)	I_O	3	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load @ T_C = 100 C	I_{FSM}	50	A
Typical Thermal Resistance Junction to Soldering Point	R_{JS}	3.4	C/W
Operating Temperature Range	T_j	-55 to +125	C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics @ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	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	T_j = 25 C, V_R = 40V T_j = 100 C, V_R = 40V
Total Capacitance	C_T		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.*

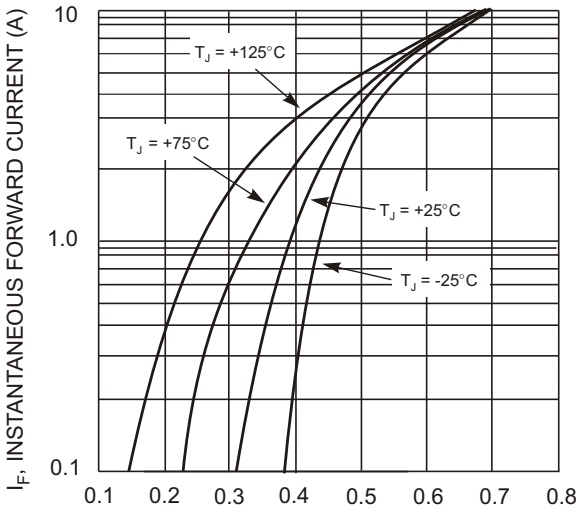


Fig. 1 Typical Forward Characteristics

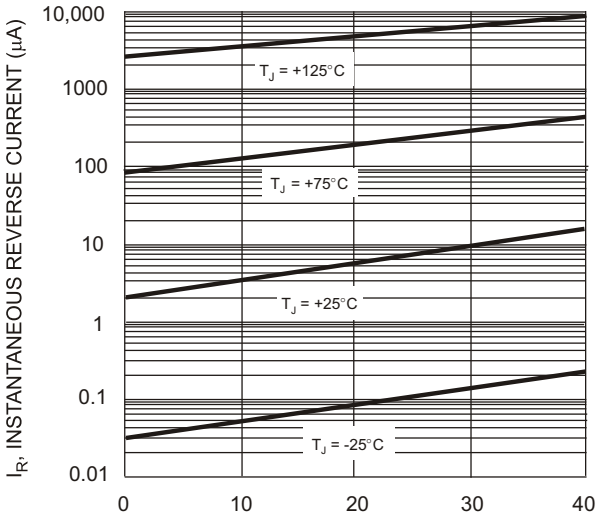


Fig. 2 Typical Reverse Characteristics

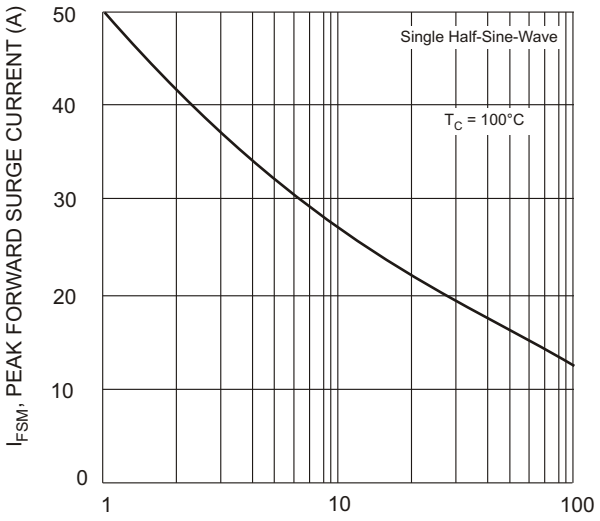


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

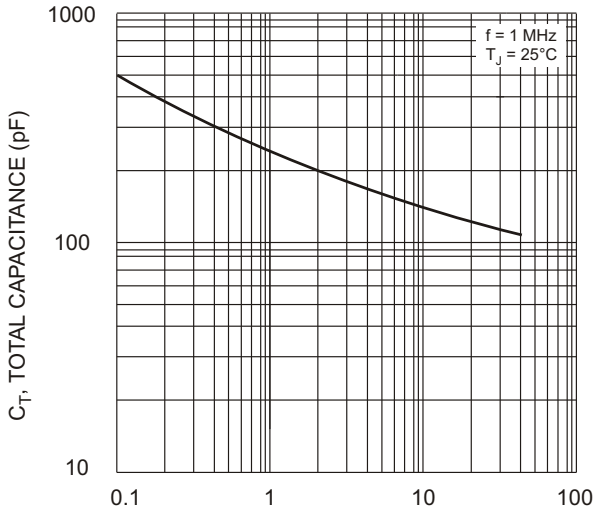


Fig. 4 Typical Capacitance vs. Reverse Voltage

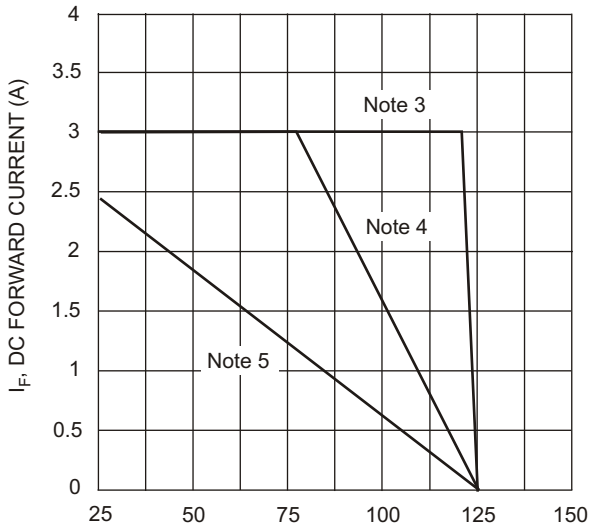


Fig. 5 DC Forward Current Derating

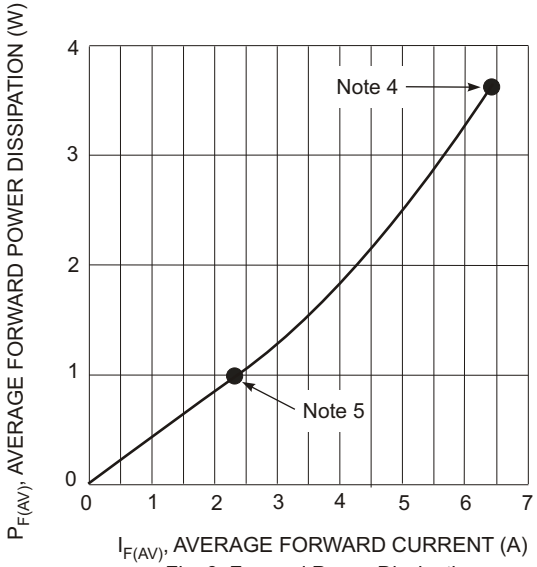


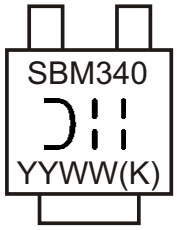
Fig. 6 Forward Power Dissipation

Ordering Information (Note 6)

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

Notes:
3. $T_A = T_{SOLDERING\ POINT}$, $R_{JS} = 3.4$ C/W, $R_{SA} = 0$ C/W.
4. 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.
5. 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

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