Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

MBRM110E

Surface Mount Schottky Power Rectifier

POWERMITE®
Power Surface Mount Package

The Schottky Powermite employs the Schottky Barrier principle with a barrier metal and epitaxial construction that produces optimal forward voltage drop–reverse current tradeoff. The advanced packaging techniques provide for a highly efficient micro miniature, space saving surface mount Rectifier. With its unique heatsink design, the Powermite has the same thermal performance as the SMA while being 50% smaller in footprint area, and delivering one of the lowest height profiles, < 1.1 mm in the industry. Because of its small size, it is ideal for use in portable and battery powered products such as cellular and cordless phones, chargers, notebook computers, printers, PDAs and PCMCIA cards. Typical applications are ac/dc and dc–dc converters, reverse battery protection, and "Oring" of multiple supply voltages and any other application where performance and size are critical.

Features:

- Low I_R Extends Battery Life
- Low Profile – Maximum Height of 1.1 mm
- Small Footprint – Footprint Area of 8.45 mm2
- 150°C Operating Junction Temperature
- Low Thermal Resistance with Direct Thermal Path of Die on Exposed Cathode Heat Sink

Mechanical Characteristics:

- Powermite is JEDEC Registered as D0–216AA
- Case: Molded Epoxy
- Epoxy Meets UL 94V–O at 1/8″
- Weight: 62 mg (approximately)
- Lead and Mounting Surface Temperature for Soldering Purposes. 260°C Maximum for 10 Seconds

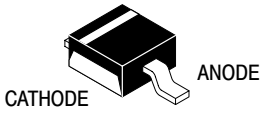
MAXIMUM RATINGS

Please See the Table on the Following Page

ON Semiconductor™

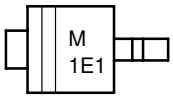
http://onsemi.com

SCHOTTKY BARRIER RECTIFIER 1.0 AMPERES 10 VOLTS



POWERMITE
CASE 457
PLASTIC

MARKING DIAGRAM



1E1 = Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping
MBRM110ET1	POWERMITE	3,000/Tape & Reel
MBRM110ET3	POWERMITE	12,000/Tape & Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	10	V
Average Rectified Forward Current (T_L = 100°C)	I_O	1.0	A
Non–Repetitive Peak Surge Current (Non–Repetitive peak surge current, halfwave, single phase, 60 Hz)	I_{FSM}	50	A
Storage Temperature	T_{stg}	–55 to +150	°C
Operating Junction Temperature	T_J	–55 to +150	°C
Voltage Rate of Change (Rated V_R, T_J = 25°C)	dv/dt	10,000	V/μs

THERMAL CHARACTERISTICS

Thermal Resistance – Junction–to–Lead (Anode) (Note 1) Thermal Resistance – Junction–to–Tab (Cathode) (Note 1) Thermal Resistance – Junction–to–Ambient (Note 1)	R_{tjl} R_{tjtab} R_{tja}	35 23 277	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 2)	V_F	**T_J = 25°C**	**T_J = 100°C**	V
(I_F = 0.1 A) (I_F = 1.0 A) (I_F = 2.0 A)		0.455 0.530 0.595	0.360 0.455 0.540	
Maximum Instantaneous Reverse Current (Note 2)	I_R	**T_J = 25°C**	**T_J = 100°C**	μA
(V_R = 5.0 V) (V_R = 10 V)		0.5 1.0	300 500	

1. Mounted with minimum recommended pad size, PC Board FR4, See Figures 8 and 9.
2. Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle ≤ 2%.

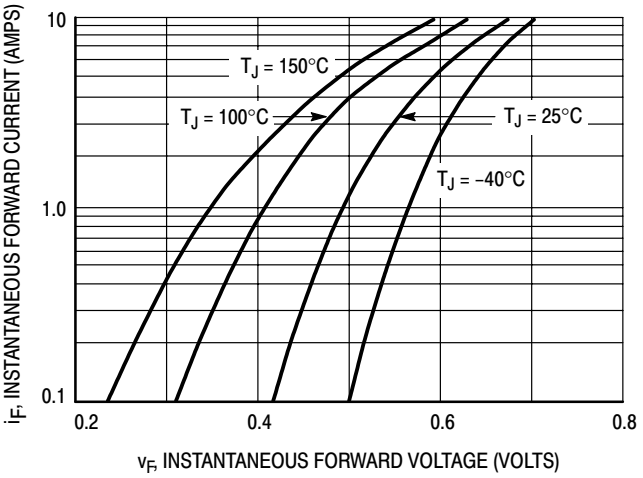


Figure 1. Typical Forward Voltage

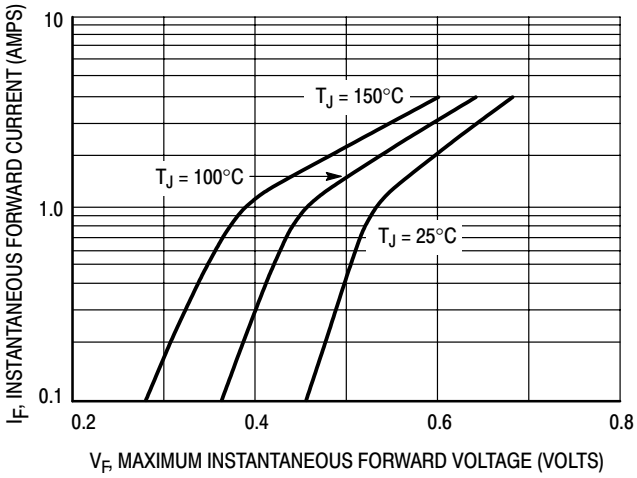


Figure 2. Maximum Forward Voltage

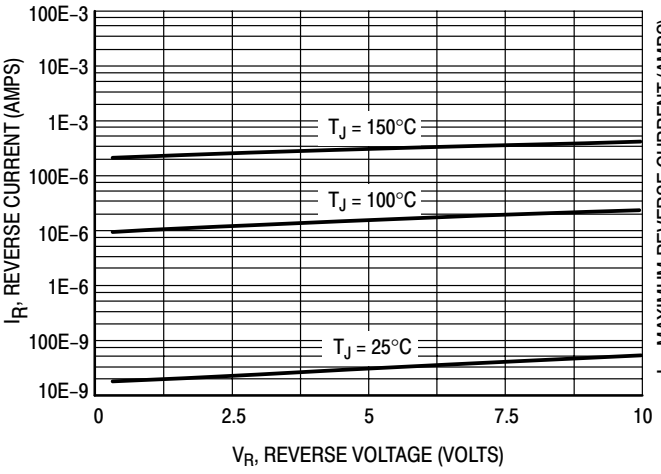


Figure 3. Typical Reverse Current

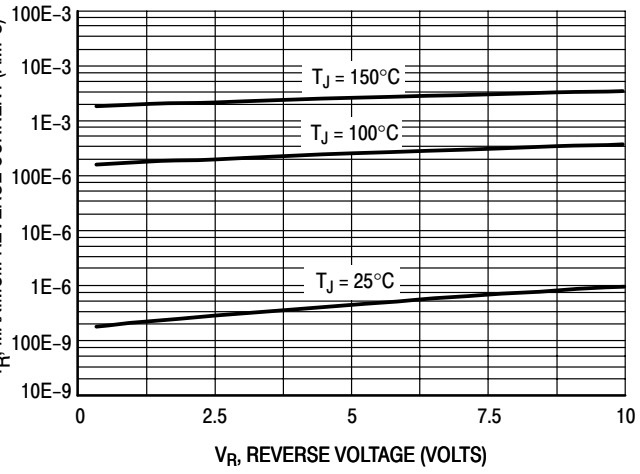


Figure 4. Maximum Reverse Current

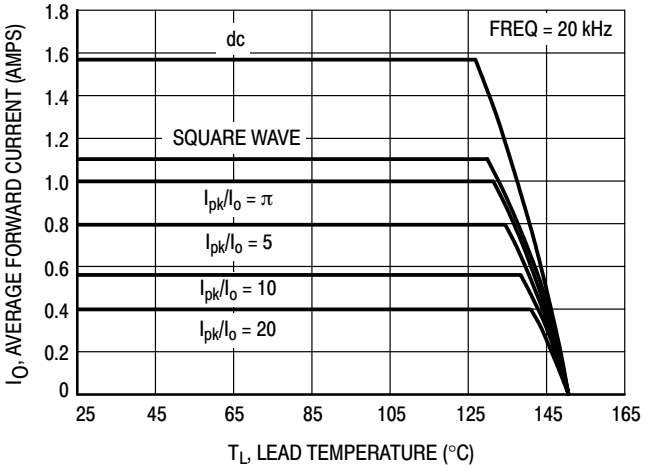


Figure 5. Current Derating

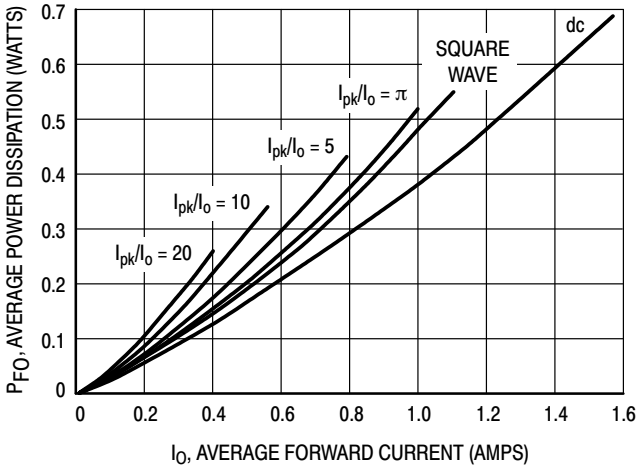


Figure 6. Forward Power Dissipation

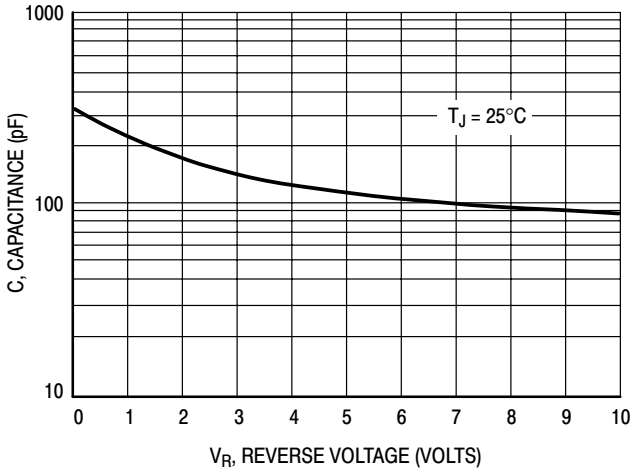


Figure 7. Capacitance

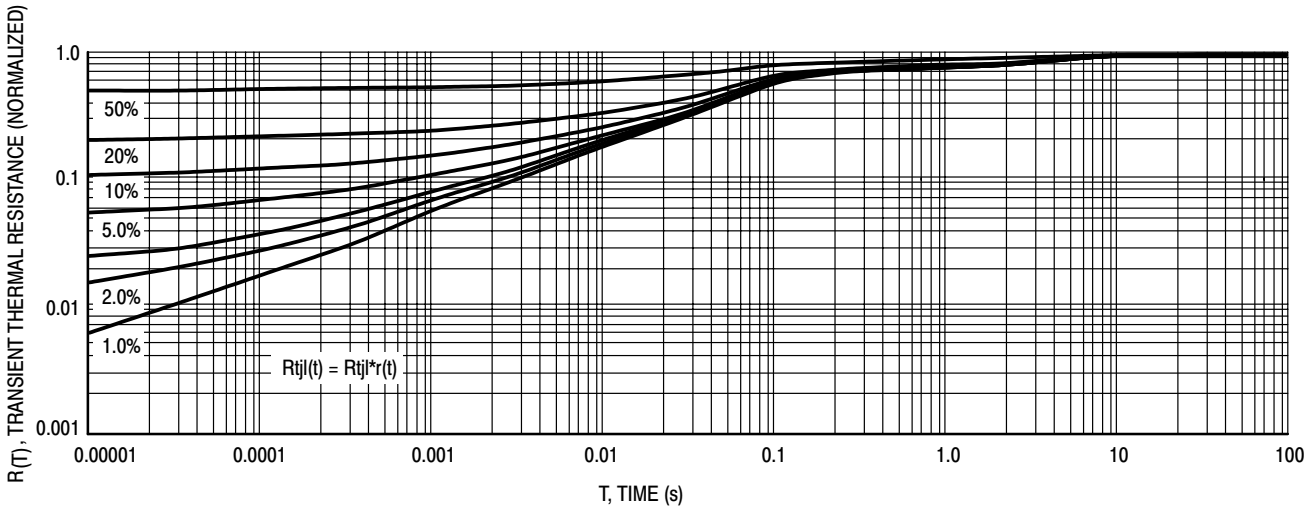


Figure 8. Thermal Response Junction to Lead

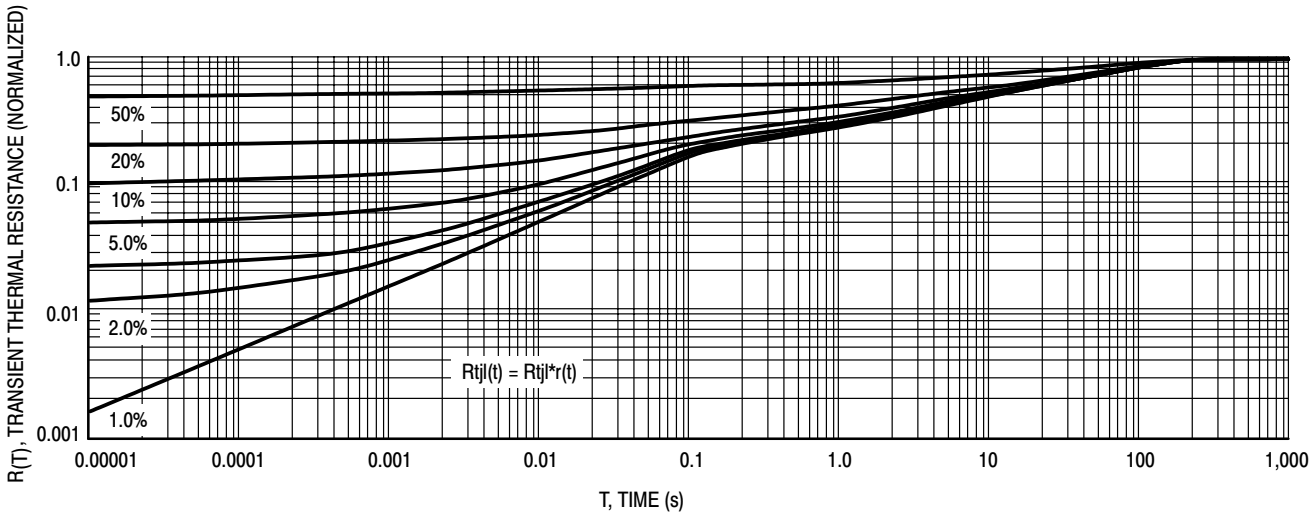
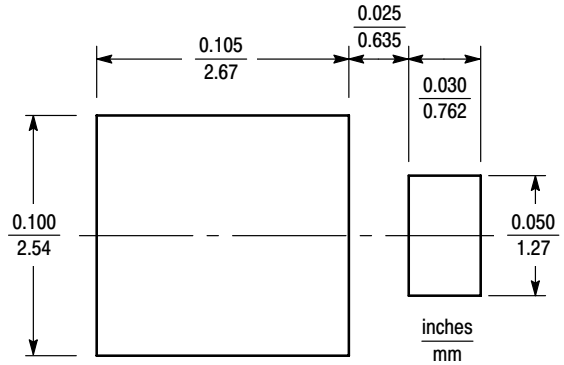


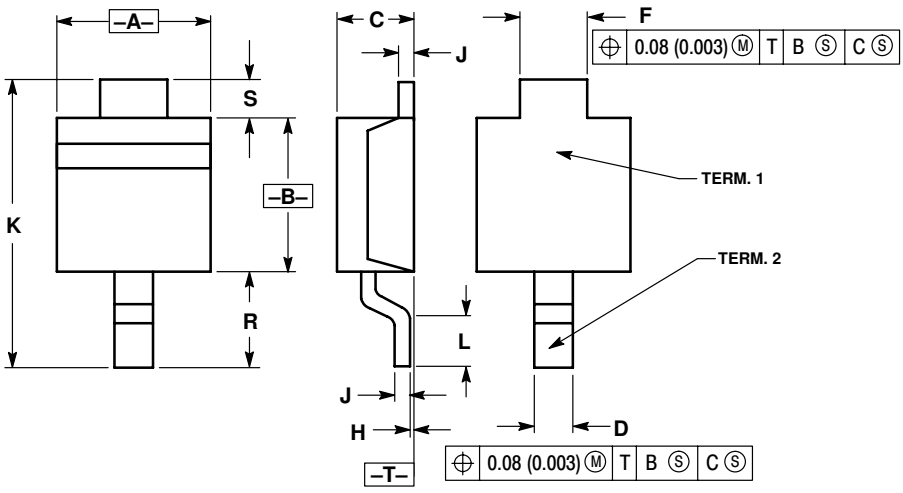
Figure 9. Thermal Response Junction to Ambient



Minimum Recommended Footprint

PACKAGE DIMENSIONS

POWERMITE
PLASTIC PACKAGE
CASE 457–04
ISSUE D



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.15 (0.006) PER SIDE.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	1.75	2.05	0.069	0.081
B	1.75	2.18	0.069	0.086
C	0.85	1.15	0.033	0.045
D	0.40	0.69	0.016	0.027
F	0.70	1.00	0.028	0.039
H	−0.05	+0.10	−0.002	+0.004
J	0.10	0.25	0.004	0.010
K	3.60	3.90	0.142	0.154
L	0.50	0.80	0.020	0.031
R	1.20	1.50	0.047	0.059
S	0.50 REF		0.019 REF	

Notes

POWERMITE is a registered trademark of and used under a license from MicroSemi Corporation

PUBLICATION ORDERING INFORMATION

Literature Fulfillment:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303–675–2175 or 800–344–3860 Toll Free USA/Canada
Fax: 303–675–2176 or 800–344–3867 Toll Free USA/Canada
Email: ONlit@hibbertco.com

N. American Technical Support: 800–282–9855 Toll Free USA/Canada

JAPAN: ON Semiconductor, Japan Customer Focus Center
4–32–1 Nishi–Gotanda, Shinagawa–ku, Tokyo, Japan 141–0031
Phone: 81–3–5740–2700
Email: r14525@onsemi.com

ON Semiconductor Website: http://onsemi.com

For additional information, please contact your local
Sales Representative.