

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## MSB20B THRU MSB20M

### Product specification

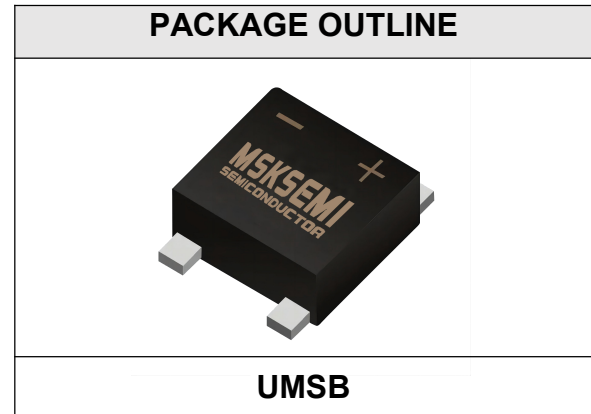
**VOLTAGE RANGE 1000 Volts**  
**CURRENT 2.0 Ampere**

**Features**

- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 2.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

**MECHANICAL DATA**

- Case: UMSB
- Terminals: Solderable per MIL-STD-750, Method 2026



**Maximum Ratings and Electrical characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz , resistive or inductive load , for capacitive load current de rate by 20 % .

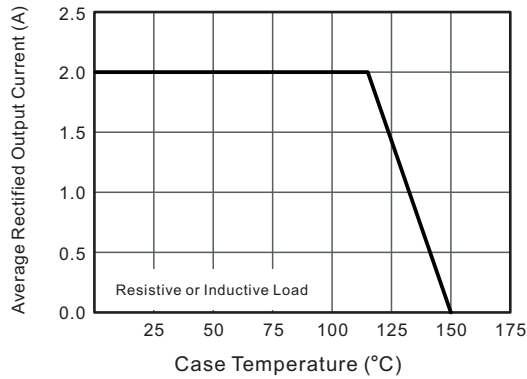
Parameter	Symbols	MSB20B	MSB20D	MSB20G	MSB20J	MSB20K	MSB20M	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	600	800	1000	V
Average Rectified Output Current	$I_o$	2.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	50						A
Maximum Forward Voltage at 2.0 A	$V_F$	1.1						V
Maximum DC Reverse Current @ $T_A=25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A=125^{\circ}C$	$I_R$	5 100						$\mu A$
Typical Junction Capacitance ( Note1 )	$C_j$	30						pF
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150						$^{\circ}C$

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C .

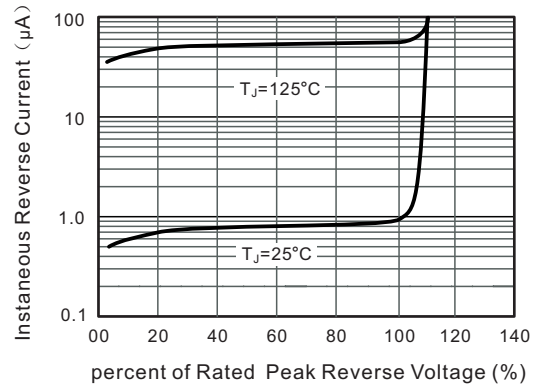
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81×3.81 cm ) copper pad.

**RATING AND CHARACTERISTIC CURVES (MSB20B THRU MSB20M)**

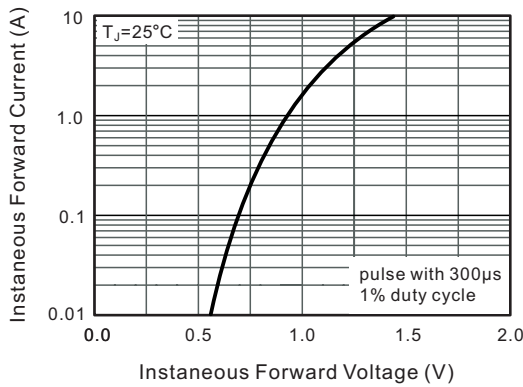
**Fig.1 Average Rectified Output Current Derating Curve**



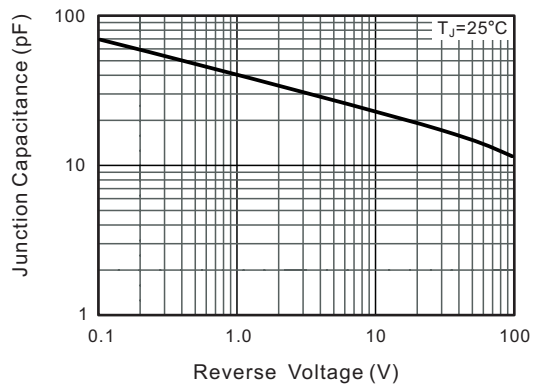
**Fig.2 Typical Reverse Characteristics**



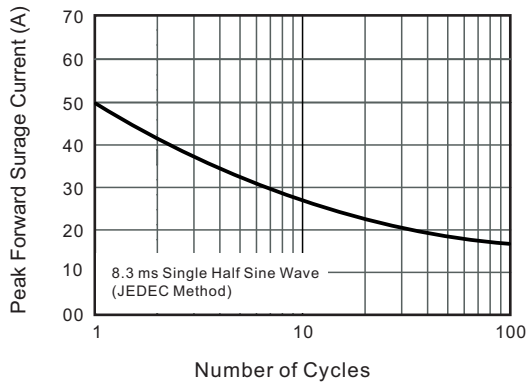
**Fig.3 Typical Instantaneous Forward Characteristics**



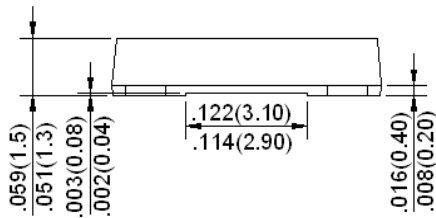
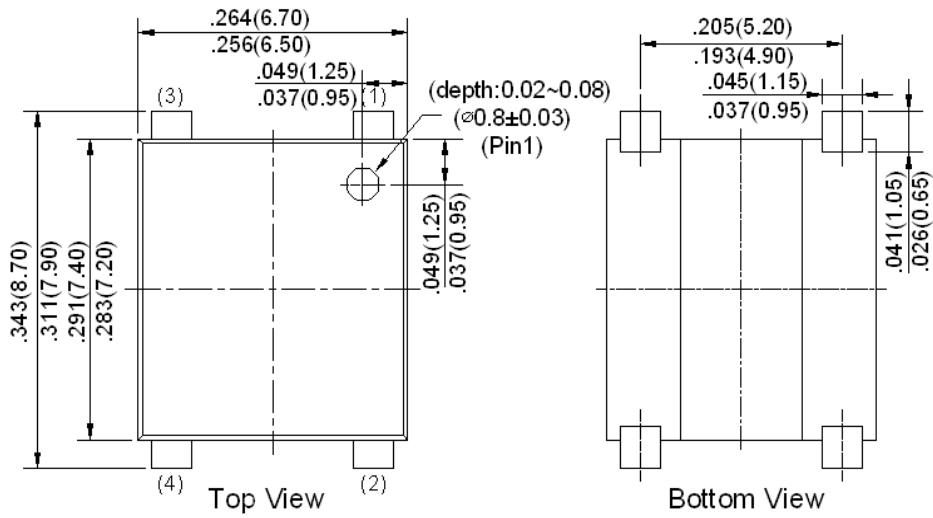
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**

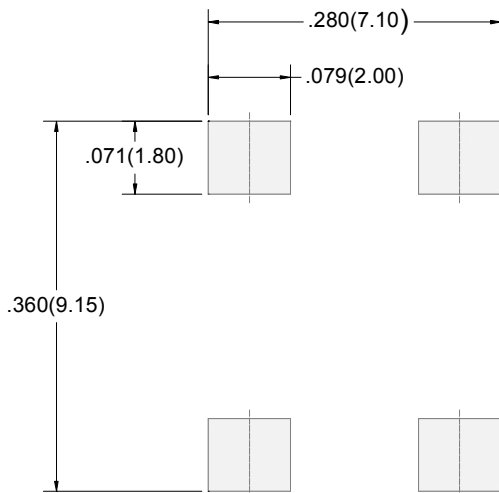


**UMSB Package Outline Dimensions**



Dimensions in inches and (millimeters)

**UMSB Suggested Pad Layout**



- Note:**
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05$ mm.
  3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
MSB20B THRU MSB20M	UMSB	3000

## Attention

- Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.
- MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all MSKSEMI Semiconductor products described or contained herein.
- Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- MSKSEMI Semiconductor strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all MSKSEMI Semiconductor products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringement of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the MSKSEMI Semiconductor product that you intend to use.