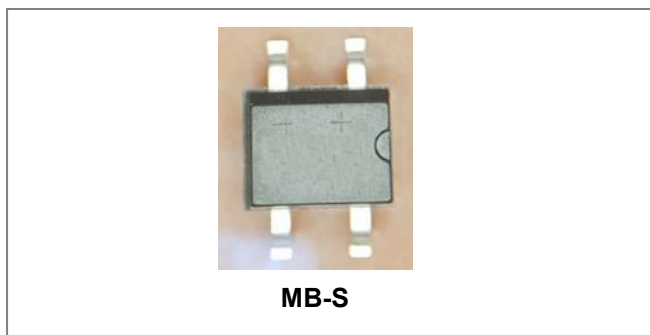


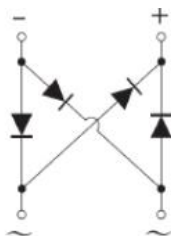
## KMB22S THRU KMB225S SINGLE PHASE 2.0 AMP SURFACE MOUNT SCHOTTKY BRIDGE RECTIFIER



### Features

- Schottky Barrier Chip
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Surge Overload Rating to 50A Peak
- Plastic Case Material has UL Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: MB-S, Molded plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting Position: Any
- Lead Free: For RoHS / Lead Free Version

### Maximum Ratings:

Type Number	Symbol	KMB 22S	KMB 23S	KMB 24S	KMB 245S	KMB 25S	KMB 26S	KMB 28S	KMB 210S	KMB 215S	KMB 220S	KMB 225S	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{DC}$	20	30	40	45	50	60	80	100	150	200	250	V
RMS Voltage	$V_{RMS}$	14	21	28	31	35	42	56	70	105	140	175	V
Average Rectified Output Current (Note1)@ $T_C=100^{\circ}C$	$I_o$	2.0											A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50											A
$I^2t$ Rating for fusing ( $t < 8.3ms$ )	$I^2t$	10.375											A <sup>2</sup> s

Note: KMB225S not recommend to new design.

**Electrical Characteristics:**

Type Number	Symbol	KMB 22S	KMB 23S	KMB 24S	KMB 245S	KMB 25S	KMB 26S	KMB 28S	KMB 210S	KMB 215S	KMB 220S	KMB 225S	Unit	
Forward Voltage (per element) @ $I_F = 2A$ , $T_A = 25^\circ C$	$V_F$	0.55			0.70		0.85		0.90		0.92		V	
Peak Reverse Current @ $T_A = 25^\circ C$ At Rated DC Blocking Voltage @ $T_A = 100^\circ C$	$I_{RM}$	0.1						0.05						mA
		10						5						
Typical Junction Capacitance (per leg) (Note 2)	$C_J$	28											pF	

\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Type Number	Symbol	KMB 22S	KMB 23S	KMB 24S	KMB 245S	KMB 25S	KMB 26S	KMB 28S	KMB 210S	KMB 215S	KMB 220S	KMB 225S	Unit
Typical Thermal Resistance (per leg) (Note 3)	$R_{\theta JL}$	16											$^\circ C/W$
Operating junction temperature range	$T_J$	-55 to +150											$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 to +150											$^\circ C$

Note: 1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
3. Thermal REsistance From Junction to Lead.

**Ratings and Characteristics Curves**

FIG. 1- FORWARD CURRENT DERATING CURVE

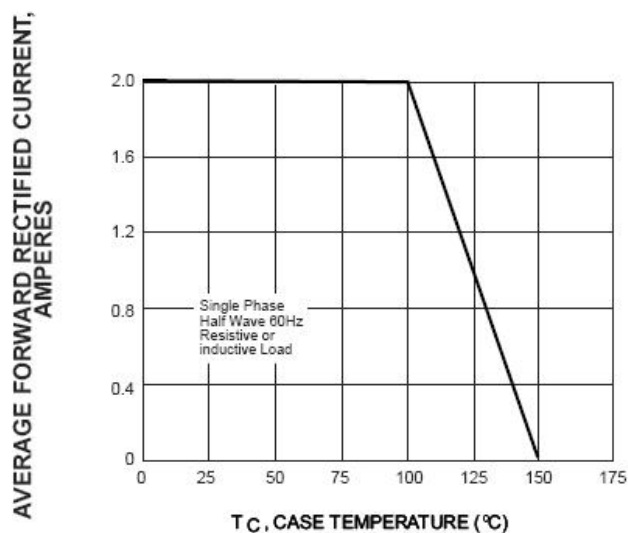
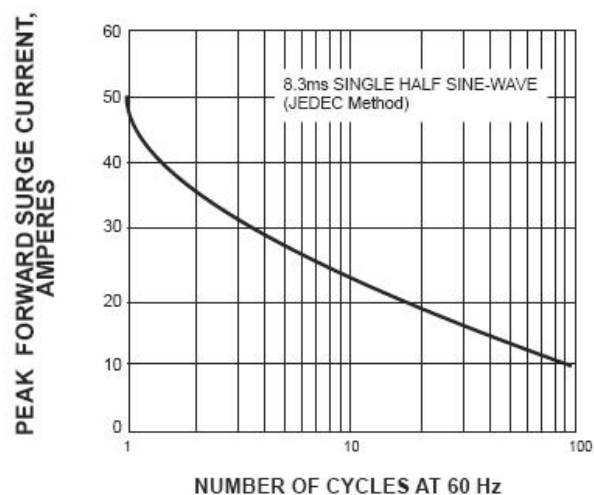
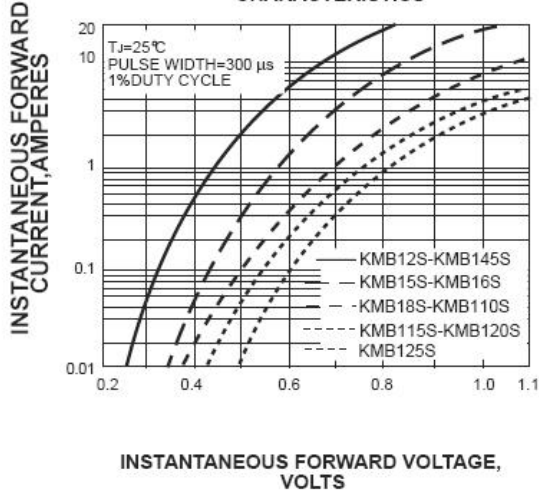


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

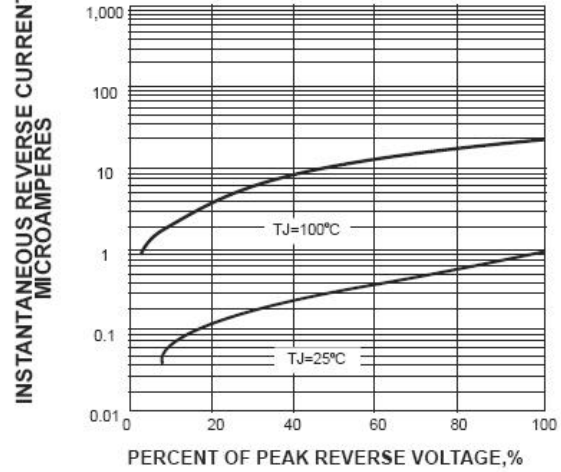


- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

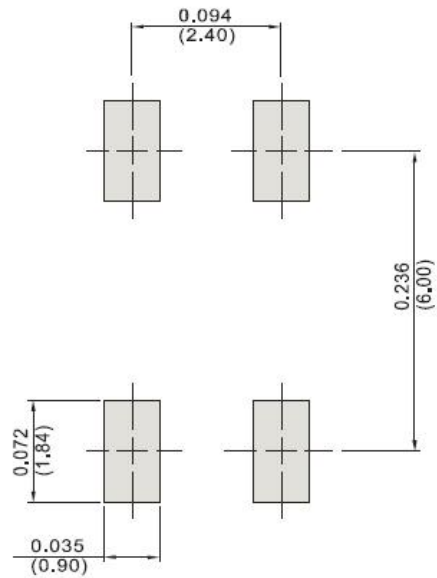
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



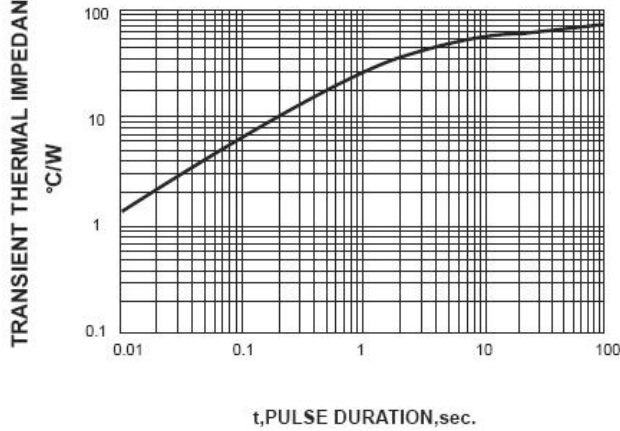
**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.6 MOUNTING PAD LAYOUT(mm/Inches)**



**FIG. 5-TYPICAL TRANSIENT THERMAL IMPEDANCE**

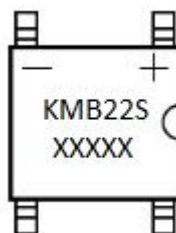


**Ordering Information**

Device	Package	Plating	Shipping
KMB22S THRU KMB225S	MB-S (Pb-Free)	Pure Sn	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**

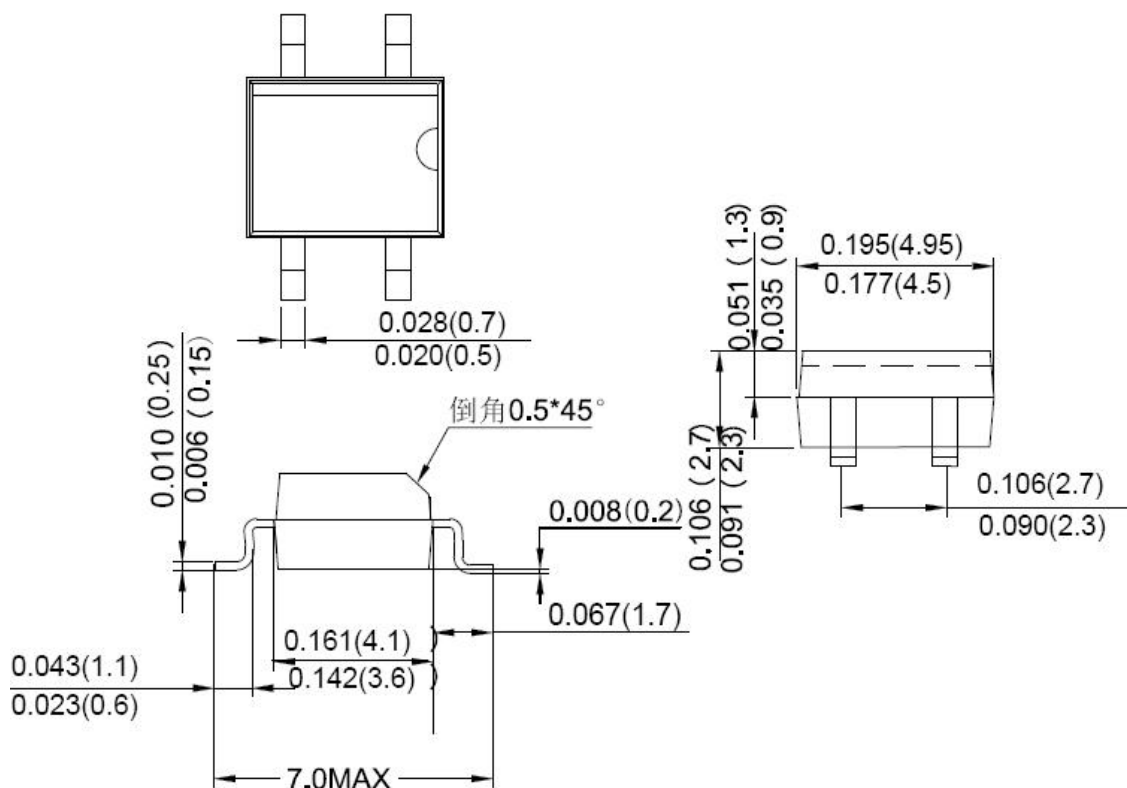


Where XXXXX is YYWWL

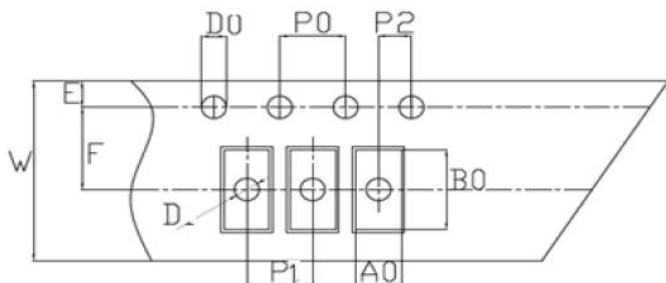
KMB22S = Type Number  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Mechanical Dimensions MB-S(Inches/Millimeters)**



**Carrier Tape Specification MB-S**



SYMBOL	Millimeters	
	Min.	Max.
A0	4.92	5.12
B0	7.12	7.32
D0	1.50	1.60
D1	1.40	1.60
P0	3.90	4.10
P1	7.90	8.10
P2	1.95	2.05
E	1.65	1.85
K0	2.78	2.98
F	5.45	5.55
W	11.90	12.10
T	0.24	0.30
10P0	39.80	40.20
抗拉拉力	≥3KG	

**DISCLAIMER:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.