

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## **SMBJ53XXB-MS**

### **Product specification**

## Features

- Low Profile Package for Surface Mounting(Flat Handling Surface for Accurate Placement)
- Zener Voltage 5.1V to 200V
- Available on Tape and Reel(See E1A Std RS-481)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix Designates Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 15°C/W Junction to Lead
- Thermal Resistance: 90°C/W Junction to Ambient(Note2)


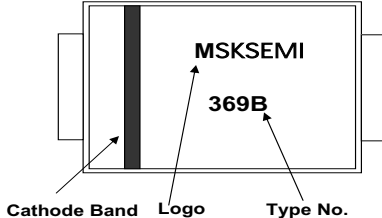
Parameter	Symbol	Rating	Conditions
Steady State Power Dissipation	$P_{(AV)}$	5.0W	Note 3
Maximum Forward Voltage	$V_F$	1.2V	$I_F=1.0A$

Note: 1.High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

2.Ambient Temperature at 15°C =  $T_A$  at Mounting Plane. Derate Linearly Above 15°C to Zero Power at 150°C

3.Lead Temperature at 75°C =  $T_L$  at Mounting Plane. Derate Linearly Above 75°C to Zero Power at 150°C

## Reference News

PACKAGE OUTLINE	Device Marking
	 <p>Cathode Band   Logo   Type No.</p> <p>For Example: 339B for SMBJ5339B-MS 369B for SMBJ5369B-MS</p>
SMB(DO-214AA)	

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Part Number	Regulator Voltage	Test Current	Maximum Dynamic Impedance	Maximum Reverse Current	Test Voltage	Maximum Regulator Current	Maximum Dynamic Knee Impedance	Maximum Surge Current	Maximum Voltage Regulation
	$V_Z$	$I_Z$	$Z_{ZT}$	$I_R$	$V_R$	$I_{ZM}$	$Z_{ZK} @ 1.0mA$	$I_{ZSM}$	
	V	mA	$\Omega$	$\mu A$	V	mA	$\Omega$	A	V
SMBJ5338B-MS	5.1	240	1.5	1	1	930	400	14.4	0.39
SMBJ5339B-MS	5.6	220	1	1	2	865	400	13.4	0.25
SMBJ5340B-MS	6	200	1	1	3	790	300	12.7	0.19
SMBJ5341B-MS	6.2	200	1	1	3	765	200	12.4	0.1
SMBJ5342B-MS	6.8	175	1	10	5.2	700	200	11.5	0.15
SMBJ5343B-MS	7.5	175	1.5	10	5.7	630	200	10.7	0.15
SMBJ5344B-MS	8.2	150	1.5	10	6.2	580	200	10	0.2
SMBJ5345B-MS	8.7	150	2	10	6.6	545	200	9.5	0.2
SMBJ5346B-MS	9.1	150	2	7.5	6.9	520	150	9.2	0.22
SMBJ5347B-MS	10	125	2	5	7.6	475	125	8.6	0.22
SMBJ5348B-MS	11	125	2.5	5	8.4	430	125	8	0.25
SMBJ5349B-MS	12	100	2.5	2	9.1	395	125	7.5	0.25
SMBJ5350B-MS	13	100	2.5	1	9.9	365	100	7	0.25
SMBJ5351B-MS	14	100	2.5	1	10.6	340	75	6.7	0.25
SMBJ5352B-MS	15	75	2.5	1	11.5	315	75	6.3	0.25
SMBJ5353B-MS	16	75	2.5	1	12.2	295	75	6	0.3
SMBJ5354B-MS	17	70	2.5	0.5	12.9	280	75	5.8	0.35
SMBJ5355B-MS	18	65	2.5	0.5	13.7	264	75	5.5	0.4
SMBJ5356B-MS	19	65	3	0.5	14.4	250	75	5.3	0.4
SMBJ5357B-MS	20	65	3	0.5	15.2	237	75	5.1	0.4
SMBJ5358B-MS	22	50	3.5	0.5	16.7	216	75	4.7	0.45
SMBJ5359B-MS	24	50	3.5	0.5	18.2	198	100	4.4	0.55
SMBJ5360B-MS	25	50	4	0.5	19	190	110	4.3	0.55
SMBJ5361B-MS	27	50	5	0.5	20.6	176	120	4.1	0.6
SMBJ5362B-MS	28	50	6	0.5	21.2	170	130	3.9	0.6
SMBJ5363B-MS	30	40	8	0.5	22.8	158	140	3.7	0.6
SMBJ5364B-MS	33	40	10	0.5	25.1	144	150	3.5	0.6
SMBJ5365B-MS	36	30	11	0.5	27.4	132	160	3.3	0.65
SMBJ5366B-MS	39	30	14	0.5	29.7	122	170	3.1	0.65
SMBJ5367B-MS	43	30	20	0.5	32.7	110	190	2.8	0.7
SMBJ5368B-MS	47	25	25	0.5	35.8	100	210	2.7	0.8
SMBJ5369B-MS	51	25	27	0.5	38.8	93	230	2.5	0.9
SMBJ5370B-MS	56	20	35	0.5	42.6	86	280	2.3	1
SMBJ5371B-MS	60	20	40	0.5	45.5	79	350	2.2	1.2
SMBJ5372B-MS	62	20	42	0.5	47.1	76	400	2.1	1.35
SMBJ5373B-MS	68	20	44	0.5	51.7	70	500	2	1.5
SMBJ5374B-MS	75	20	45	0.5	56	63	620	1.9	1.6
SMBJ5375B-MS	82	15	65	0.5	62.2	58	720	1.8	1.8
SMBJ5376B-MS	87	15	75	0.5	66	54.5	760	1.7	2
SMBJ5377B-MS	91	15	75	0.5	69.2	52.5	760	1.6	2.2
SMBJ5378B-MS	100	12	90	0.5	76	47.5	800	1.5	2.3
SMBJ5379B-MS	110	12	125	0.5	83.6	43	1000	1.4	2.5
SMBJ5380B-MS	120	10	170	0.5	91.2	39.5	1150	1.3	2.5
SMBJ5381B-MS	130	10	190	0.5	98.8	36.6	1250	1.2	2.5
SMBJ5382B-MS	140	8.0	230	0.5	106	34	1500	1.2	2.5
SMBJ5383B-MS	150	8.0	330	0.5	114	31.6	1500	1.1	3
SMBJ5384B-MS	160	8.0	350	0.5	122	29.4	1650	1.1	3
SMBJ5385B-MS	170	8.0	380	0.5	129	28	1750	1.0	3
SMBJ5386B-MS	180	5.0	430	0.5	137	26.4	1750	1.0	4
SMBJ5387B-MS	190	5.0	450	0.5	144	25	1850	0.9	5
SMBJ5388B-MS	200	5.0	480	0.5	152	23.6	1850	0.9	5

**Remarks:**

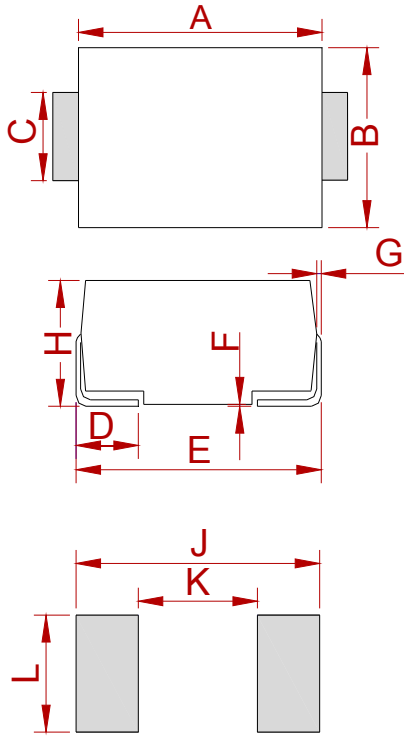
1. Devices Listed Have a  $\pm 5\%$  Tolerance on Nominal  $V_Z$ . Suffix C Denotes a +2%
2. Nominal Zener Voltage ( $V_Z$ ) is Tested With a 40 +/-10 Milliseconds Pulse Current at  $25^\circ\text{C}$  to Avoid Self-heat Affection.
3. The Zener Impedance ( $Z_{ZT}$  or  $Z_{ZK}$ ) is Derived from The 60HzAC Voltage, Which Results When an AC Current Having a rms value Equal to 10% of the DC Zener Current ( $I_{ZT}$  or  $I_{ZK}$ ) Respectively.
4. The Maximum Reverse(Leakage) Current is Specified for Devices With  $\pm 20\%$  and  $\pm 10\%$  Voltage Tolerances on Nominal  $V_Z$  in Another Column.
5. The Maximum Zener Current( $I_{ZM}$ ) Shown is for  $\pm 5\%$  Tolerance Devices.  $I_{ZM}$  for  $\pm 10\%$  and  $\pm 20\%$  Devices Can be Calculated Using the Formula:

$$I_{ZM} = \frac{P}{V_{ZM}}$$

Where " $V_{ZM}$ " is  $V_Z$  at The High End of The Voltage Tolerance Specified and "P" is The Rated Power of The Device.

6. The Surge Current ( $I_{ZM}$ ) is Specified As The Maximum Peak of a Nonrecurring Sine Wave of 8.3 Milliseconds Duration.
7. Voltage Regulation ( $\Delta V_Z$ ) is The Difference Between The Voltage Measured at 10% and 50% ( $I_{ZM}$ ).

**PACKAGE MECHANICAL DATA**



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	

**REEL SPECIFICATION**

P/N	PKG	QTY
SMBJ53XXB-MS	SMB	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 infringements 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.

单击下面可查看定价，库存，交付和生命周期等信息

[>>MSKSEMI\(美森科\)](#)