



ESD



TVS



TSS



MOV



GDT



PLED

B2020WS-MS

Product specification

Features

- Low Forward Voltage Drop
- Very Small SMD Package

APPLICATIONS

- Low Voltage Rectification
- High Efficiency DC/DC Conversion
- Switch Mode Power Supply
- Inverse Polarity Protection
- Low Power Consumption Applications

Reference News

PACKAGE OUTLINE	PIN Configuration	MARKING

SOD-323

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value		Unit
V_{RRM}	Peak Repetitive Reverse Voltage	20		V
V_{RWM}	Working Peak Reverse Voltage			
$V_{R(RMS)}$	RMS Reverse Voltage	14		V
I_F	Continuous Forward Current	2		A
I_{FSM}	Non-repetitive Peak Forward Surge Current @ t=8.3ms	9		A
P_D	Power Dissipation	Note1	250	mW
		Note2	480	
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient Note1		400	°C/W
		Note2	208	
T_j	Operating Junction Temperature Range	-40 ~ +125		°C
T_{stg}	Storage Temperature Range	-55 ~ +150		°C

1. Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

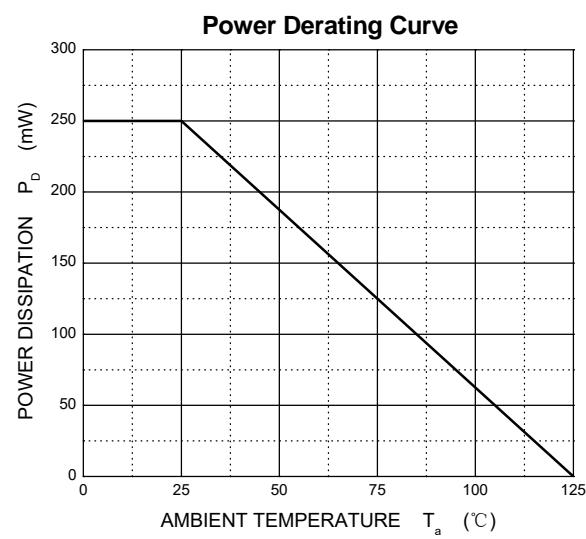
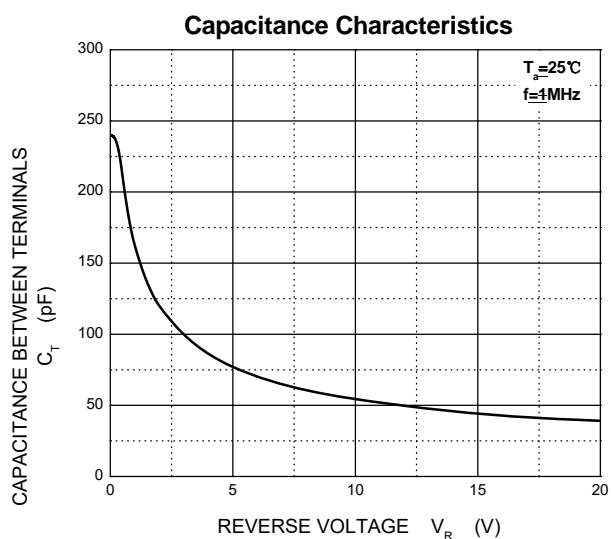
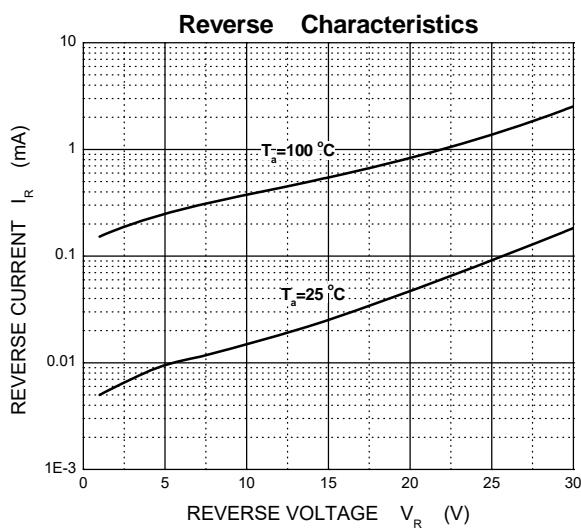
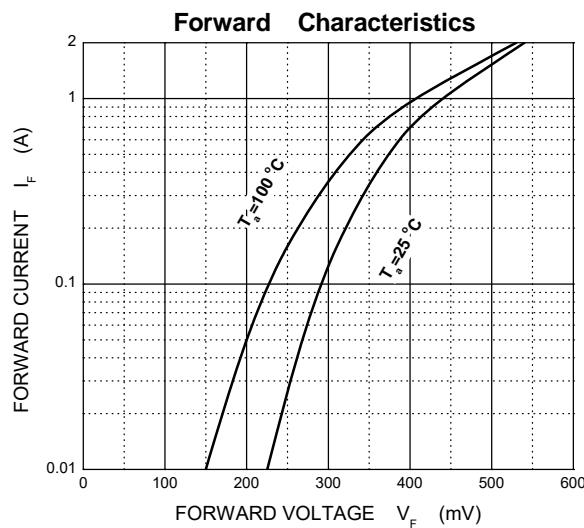
2. Device mounted on an FR4 PCB with copper pad 10 x 10 mm.

ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

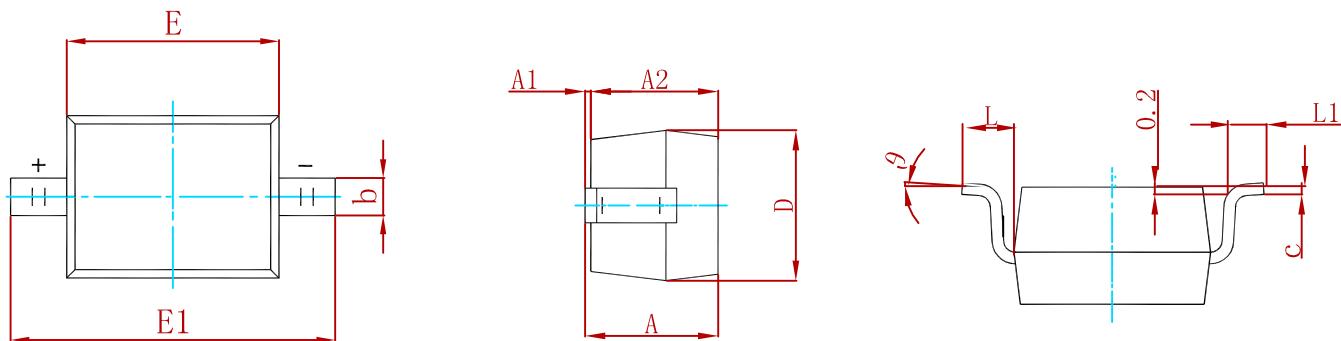
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=1mA$	20			V
Reverse current	I_R	$V_R=10V$			80	μA
		$V_R=20V$			100	
Forward voltage	V_F^*	$I_F=1A$			0.45	V
		$I_F=2A$			0.55	
Total capacitance	C_{tot}	$V_R=4V, f=1MHz$			120	pF

*Pulse test: $t_p \leq 300 \mu s$; $\delta \leq 0.02$.

Typical Characteristics

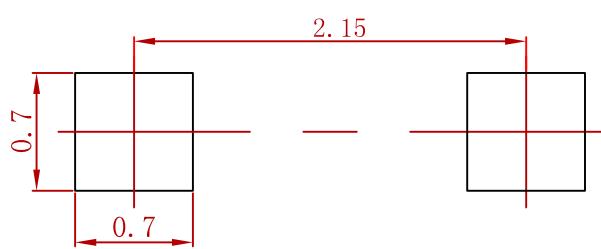


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

REELSPECIFICATION

P/N	PKG	QTY
B2020WS-MS	SOD-323	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.