

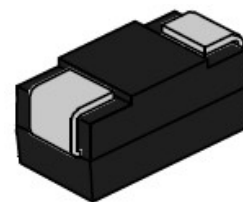


Zener Diodes with Surge Current Specification: SMBZSCxxAU

Rev.1.3

FEATURE

- ✧ Silicon power zener diodes.
- ✧ Low zener impedance.
- ✧ 3000mW rating on FR-4 or FR-5 board.
- ✧ Voltage range includes breakdown voltages from 6.8V to 200V with $\pm 5\%$ for SMBZSCxxAU series.
- ✧ Low profile surface-mount package.
- ✧ Zener and surge current specification.
- ✧ For use in stabilizing and clamping circuits with high power rating.
- ✧ AEC-Q101 qualified.



SMB



Uni-directional

Symbol

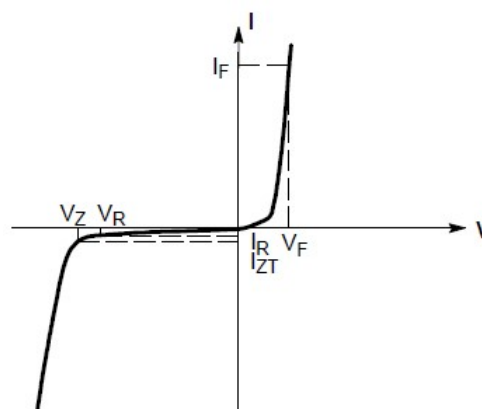
ABSOLUTE MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Parameter	Symbol	Max Value	Unit
Total power dissipation @ 75°C	P_D	3000	mW
Thermal resistance junction to ambient (Note1)	$R_{\theta JA}$	226	°C/W
Junction temperature	T_J	150	°C
Storage temperature range	T_S	-55 to+150	°C
Operating temperature range	T_{op}	-55 to+150	°C
Peak pulse power dissipation at 10/1000 μ s waveform	P_{PP}	400	W

Note1: Device mounted on FR-4 PCB

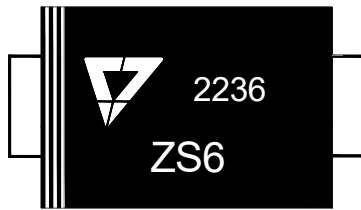
ELECTRICAL CHARACTERISTICS

Symbol	Parameter
V_Z	Reverse zener voltage at I_{zt}
I_{zt}	Reverse current
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F



Zener voltage regulator

MARKING



ZS6: Device Marking Code
2236: the 36th week, 2022

SMBZSC ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Maximum V_F=1.2V at I_F=200mA

Type number	Zener voltage range at I _{zt}				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	I _{zt} (mA)	Z _{zt} (Ω)	Z _{zk} (Ω)	I _{zk} (mA)	I _R (μA)	V _R (Volts)	
SMBZSC6V8AU	6.8	6.46	7.14	55.1	2.5	200	1.0	50	4.0	ZS6
SMBZSC7V5AU	7.5	7.13	7.88	50.0	3.0	400	0.5	25	5.0	ZS7
SMBZSC8V2AU	8.2	7.79	8.61	45.7	3.5	400	0.5	25	6.0	ZS8
SMBZSC9V1AU	9.1	8.65	9.56	41.2	4.0	500	0.5	25	7.0	ZS9
SMBZSC10AU	10	9.5	10.5	37.5	4.5	500	0.25	25	7.6	ZSA
SMBZSC11AU	11	10.5	11.6	34.1	5.5	550	0.25	5	8.4	ZSB
SMBZSC12AU	12	11.4	12.6	31.2	6.5	550	0.25	1	9.1	ZSC
SMBZSC13AU	13	12.4	13.7	28.8	7.0	550	0.25	1	9.9	ZSD
SMBZSC15AU	15	14.3	15.8	25.0	9.0	600	0.25	1	11.4	ZSE
SMBZSC16AU	16	15.2	16.8	23.4	10.0	600	0.25	1	12.2	ZSF
SMBZSC18AU	18	17.1	18.9	20.8	12.0	650	0.25	1	13.7	ZSG
SMBZSC20AU	20	19.0	21.0	18.7	14.0	650	0.25	1	15.2	ZSH
SMBZSC22AU	22	20.9	23.1	17.0	17.5	650	0.25	1	16.7	ZSI
SMBZSC24AU	24	22.8	25.2	15.6	19.0	700	0.25	1	18.2	ZSJ
SMBZSC27AU	27	25.7	28.4	13.9	23.0	700	0.25	1	20.6	ZSK
SMBZSC30AU	30	28.5	31.5	12.5	28.0	750	0.25	1	22.5	ZSL
SMBZSC33AU	33	31.4	34.7	11.4	33.0	800	0.25	1	25.1	ZSM
SMBZSC36AU	36	34.2	37.8	10.4	38.0	850	0.25	1	27.4	ZSN
SMBZSC39AU	39	37.1	41.0	9.6	45.0	900	0.25	1	29.7	ZSO
SMBZSC43AU	43	40.9	45.2	8.7	53.0	950	0.25	1	32.7	ZSP
SMBZSC47AU	47	44.7	49.4	8.0	67.0	1000	0.25	1	35.8	ZSQ
SMBZSC51AU	51	48.5	53.6	7.3	70.0	1100	0.25	1	38.8	ZSR
SMBZSC56AU	56	53.2	58.8	6.7	86.0	1300	0.25	1	42.6	ZSS
SMBZSC62AU	62	58.9	65.1	6.0	100	1500	0.25	1	47.1	ZST
SMBZSC68AU	68	64.6	71.4	5.5	120	1700	0.25	1	51.7	ZSU
SMBZSC75AU	75	71.3	78.8	5.0	140	2000	0.25	1	57.0	ZSV
SMBZSC82AU	82	77.9	86.1	4.6	160	2500	0.25	1	62.2	ZSW
SMBZSC91AU	91	86.5	95.6	4.1	200	3000	0.25	1	69.2	ZSX

SMBZSC ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted, continued)

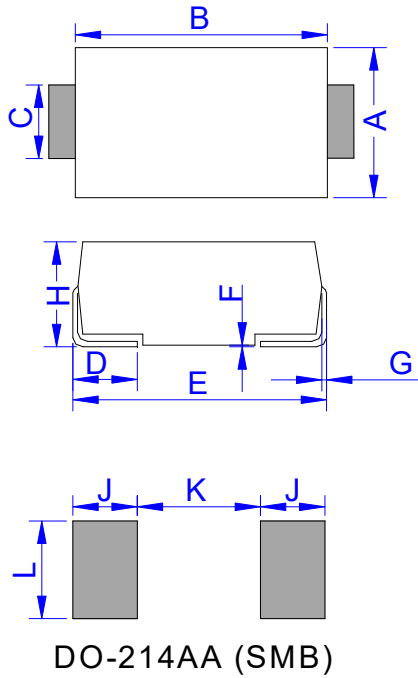
Maximum V_F=1.2V at I_F=200mA

Type number	Zener voltage range at I _{zt}				Maximum zener impedance			Maximum reverse leakage current		Marking code
	Nom (Volts)	Min (Volts)	Max (Volts)	I _{zt} (mA)	Z _{zt} (Ω)	Z _{zk} (Ω)	I _{zk} (mA)	I _R (μA)	V _R (Volts)	
SMBZSC100AU	100	95.0	105.0	3.7	250	3100	0.25	1	76.0	ZSY
SMBZSC110AU	110	105.0	116.0	3.4	300	4000	0.25	1	83.6	ZSZ
SMBZSC120AU	120	114.0	126.0	3.1	380	4500	0.25	1	91.2	ZVA
SMBZSC130AU	130	124.0	137.0	2.9	450	5000	0.25	1	98.8	ZVB
SMBZSC150AU	150	143.0	158.0	2.5	600	6000	0.25	1	114.0	ZVC
SMBZSC160AU	160	152.0	168.0	2.3	700	6500	0.25	1	122.0	ZVD
SMBZSC180AU	180	171.0	189.0	2.1	900	7000	0.25	1	137.0	ZVE
SMBZSC200AU	200	190.0	210.0	1.9	1200	8000	0.25	1	152.0	ZVF

ORDERING INFORMATION

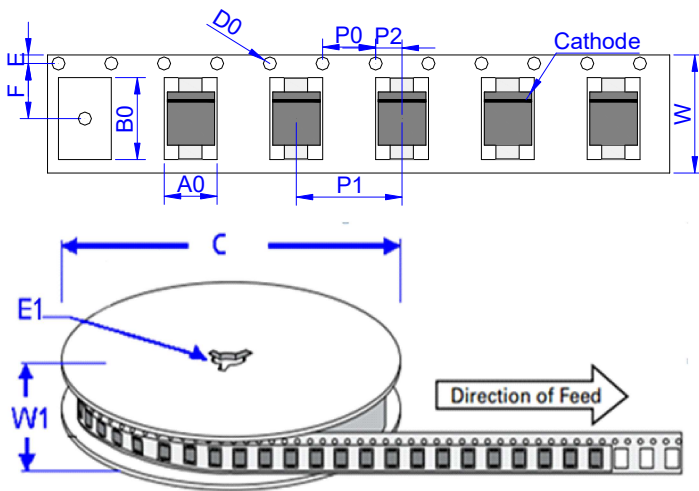
SMBZ <u>Zener Diode Series</u>	S <u>P_D:3000mW</u>	C <u>C:5% V_Z Voltage tolerance</u>	9V1 <u>Voltage:9.1V</u>	AU <u>AEC-Q101 qualified</u>
--	---	---	-----------------------------------	--

PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
SMBZSCxxAU	0.098	3,000	48,000	13 inch reel pack

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

Fig.1 Power dissipation vs lead temperature

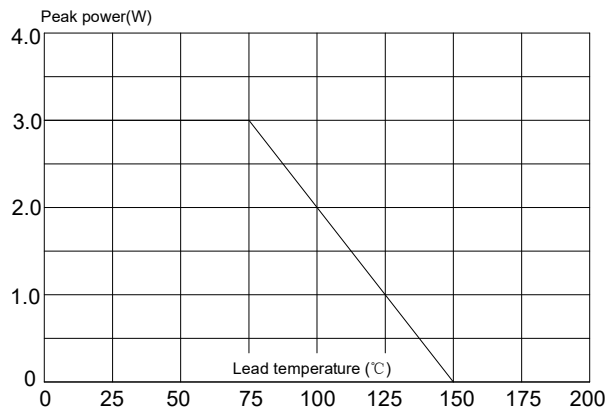


Fig.2 Zener breakdown characteristics

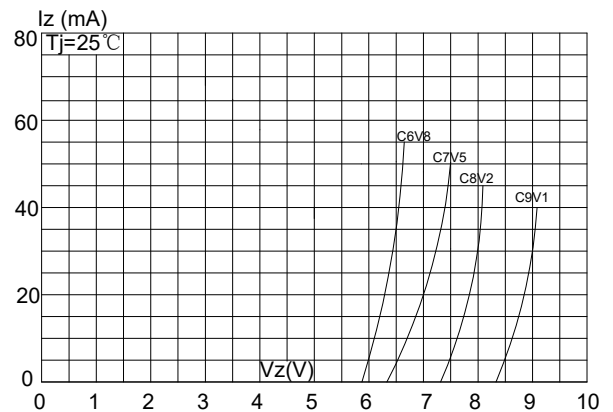


Fig.3 Zener breakdown characteristics

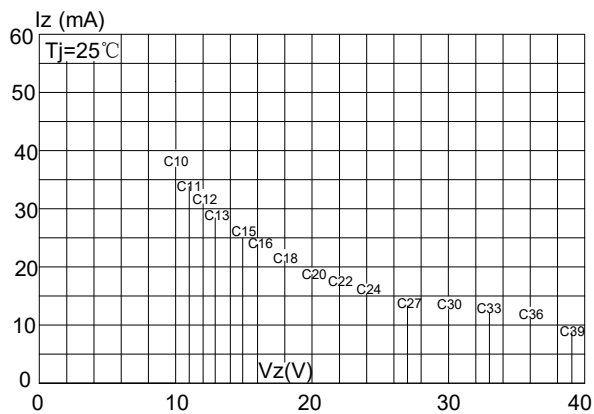


Fig.4 Zener breakdown characteristics

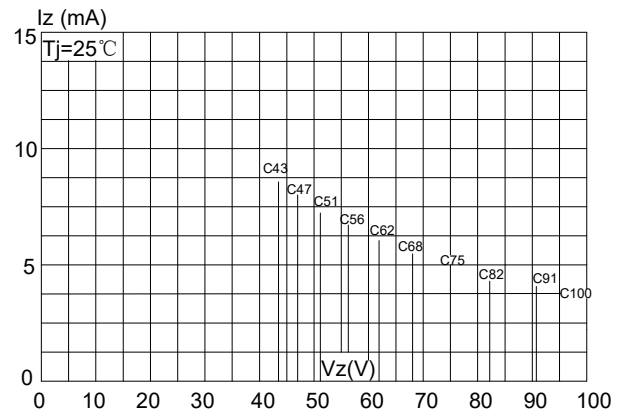
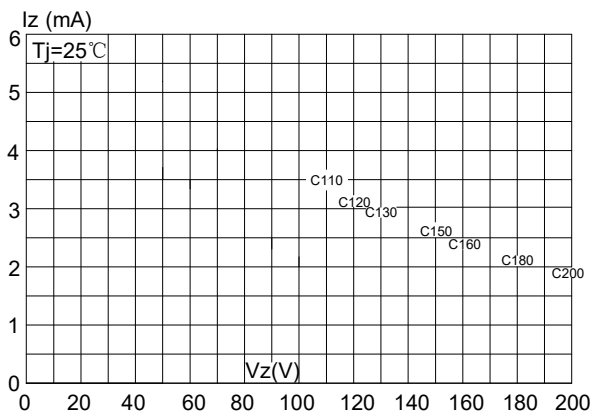


Fig.5 Zener breakdown characteristics




JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.3rd version which is made in 2-Nov.-2022. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2022 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.