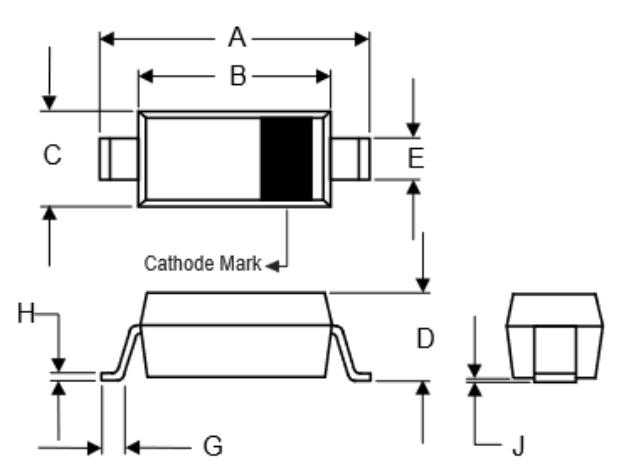


## Silicon SMD Voltage Regulator Zener Diodes

Primary characteristics		
Parameter	Value	Unit
V <sub>Z</sub> range nom.	3.0 to 51	V
V <sub>Z</sub> tolerance	±2	%
Power rating	400	mW

### Features

- **SOD-323** case for easy automatic insertion.
- Pb-free and **RoHS** compliant
- Halogen free version available (see part numbering system)
- Moisture sensitivity level 1
- Epoxy meets UL 94 V-0 flammability rating

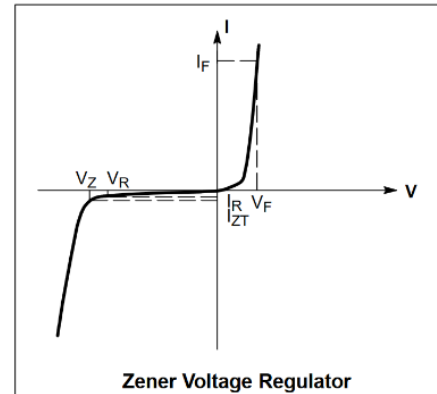
Case dimensions								
								
SOD-323								
Unit	A	B	C	D	E	G	H	J
mm	2.5 ±0.2	1.7 ±0.1	1.25 ±0.10	1.00 -0.2 +0.15	0.3 -0.05 +0.1	0.25 -0.15 +0.2	0.2 -0.1 +0.05	<0.15

Part numbering system			
<b>BZT52B</b>	<b>8V2</b>	<b>BS</b>	<b>-HF</b>
↓	↓		↓
Series code	Reverse Zener Voltage (see: <a href="#">Characteristics table</a> )		Add “-HF” for a halogen free version

Absolute maximum ratings (T <sub>a</sub> = 25°C)			
Parameter	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Maximum Forward Current	I <sub>FM</sub>	300	mA
Power Dissipation <sup>1)</sup>	P <sub>D</sub>	400	mW
Junction Temperature	T <sub>j</sub>	-55 ~ 150	°C
Storage Temperature Range	T <sub>s</sub>	-55 ~ 150	°C
Thermal Resistance Junction to Ambient Air <sup>1)</sup>	R <sub>thA</sub>	313	°C/W

<sup>1)</sup>Device mounted on PCB measuring 11 x 25 x 1.6mm

Parameters list	
Symbol	Parameter
$V_Z$	Reverse Zener Voltage @ $I_{ZT}$
$I_{ZT}$	Reverse Current
$I_R$	Reverse Leakage Current @ $V_R$
$V_R$	Reverse Voltage
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

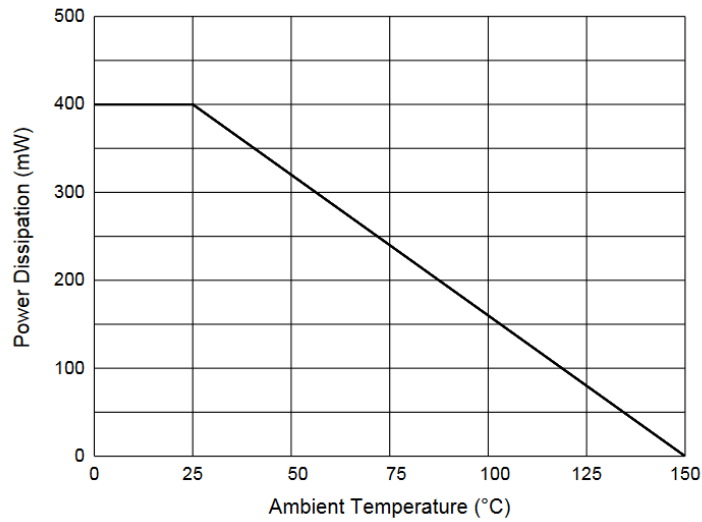


**Characteristics table ( $T_a = 25^\circ\text{C}$ )**

Type	Zener Voltage @ $I_{ZT}=5\text{mA}$		Dynamic Resistance				Reverse Current		Marking Code
	$V_Z$ nom. V	$V_{ZT}$ V	$r_{ZIT}$ @ $I_{ZK}$		$r_{ZIK}$ @ $I_{ZK}$		$I_R$ @ $V_R$		
			$\Omega$	mA	$\Omega$	mA	$\mu\text{A}$	V	
BZT52B3V0BS	3.0	2.94 ~ 3.06	<89	5.0	<564	1.0	<9.0	1.0	B2Z
BZT52B3V3BS	3.3	3.23 ~ 3.37	<89	5.0	<564	1.0	<4.5	1.0	B3Z
BZT52B3V6BS	3.6	3.53 ~ 3.67	<84	5.0	<564	1.0	<4.5	1.0	B4Z
BZT52B3V9BS	3.9	3.82 ~ 3.98	<84	5.0	<564	1.0	<2.7	1.0	B5Z
BZT52B4V3BS	4.3	4.21 ~ 4.39	<84	5.0	<564	1.0	<2.7	1.0	B6Z
BZT52B4V7BS	4.7	4.61 ~ 4.79	<75	5.0	<564	1.0	<2.7	2.0	B7Z
BZT52B5V1BS	5.1	5.00 ~ 5.20	<60	5.0	<480	1.0	<2.0	2.0	B8Z
BZT52B5V6BS	5.6	5.49 ~ 5.71	<40	5.0	<400	1.0	<1.0	2.0	B9Z
BZT52B6V2BS	6.2	6.08 ~ 6.32	<10	5.0	<150	1.0	<3.0	4.0	BAZ
BZT52B6V8BS	6.8	6.66 ~ 6.94	<15	5.0	<141	1.0	<2.0	4.0	BBZ
BZT52B7V5BS	7.5	7.35 ~ 7.65	<15	5.0	<80	1.0	<1.0	5.0	BCZ
BZT52B8V2BS	8.2	8.04 ~ 8.36	<15	5.0	<80	1.0	<0.7	5.0	BDZ
BZT52B9V1BS	9.1	8.92 ~ 9.28	<15	5.0	<100	1.0	<0.5	6.0	BEZ
BZT52B10BS	10	9.80 ~ 10.20	<20	5.0	<150	1.0	<0.2	7.0	BFZ
BZT52B11BS	11	10.78 ~ 11.22	<20	5.0	<150	1.0	<0.1	8.0	BGZ
BZT52B12BS	12	11.76 ~ 12.24	<25	5.0	<150	1.0	<0.1	8.0	BHZ
BZT52B13BS	13	12.74 ~ 13.26	<30	5.0	<170	1.0	<0.1	8.0	BJZ
BZT52B15BS	15	14.70 ~ 15.30	<30	5.0	<200	1.0	<0.1	10.5	BKZ
BZT52B16BS	16	15.68 ~ 16.32	<40	5.0	<200	1.0	<0.1	11.2	BLZ
BZT52B18BS	18	17.64 ~ 18.36	<45	5.0	<225	1.0	<0.1	12.6	BMZ
BZT52B20BS	20	19.60 ~ 20.40	<55	5.0	<225	1.0	<0.1	14.0	BNZ
BZT52B22BS	22	21.56 ~ 22.44	<51	5.0	<235	1.0	<0.045	15.4	BPZ
BZT52B24BS	24	23.52 ~ 24.48	<65	5.0	<235	1.0	<0.045	16.8	BRZ
BZT52B27BS	27	26.46 ~ 27.54	<75	5.0	<282	0.5	<0.045	18.9	BSZ
BZT52B30BS	30	29.40 ~ 30.60	<75	5.0	<282	0.5	<0.045	21.0	BTZ
BZT52B33BS	33	32.34 ~ 33.66	<75	5.0	<306	0.5	<0.045	23.0	BUZ
BZT52B36BS	36	35.28 ~ 36.72	<84	5.0	<329	0.5	<0.045	25.2	BVZ
BZT52B39BS	39	38.22 ~ 39.78	<122	5.0	<329	0.5	<0.045	27.3	BWZ
BZT52B43BS	43	42.14 ~ 43.86	<141	5.0	<353	0.5	<0.045	30.1	BXZ
BZT52B47BS	47	46.06 ~ 47.94	<160	5.0	<353	0.5	<0.045	33.0	BYZ
BZT52B51BS	51	49.98 ~ 52.02	<169	5.0	<376	0.5	<0.045	35.7	BZZ

## Power derating curve

Fig. 1 - Power Derating Curve



## Typical Zener breakdown characteristics

Fig. 2 - Typical Zener Breakdown Characteristics

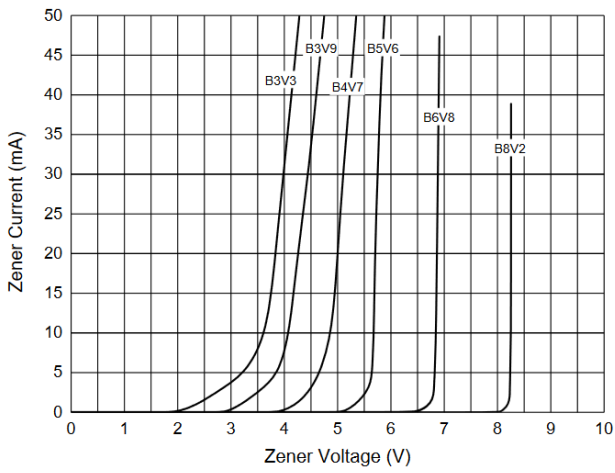
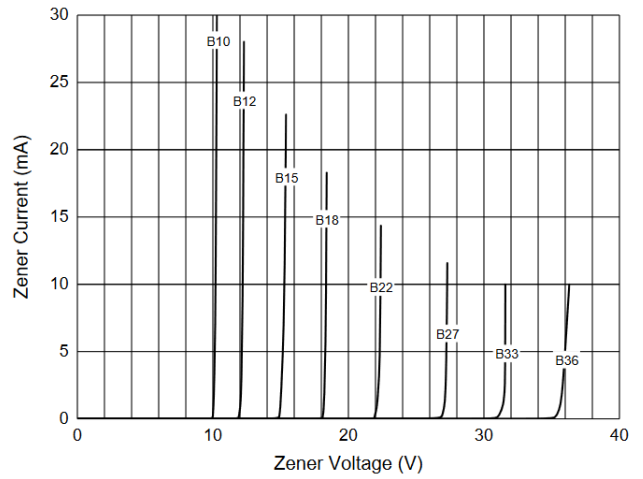
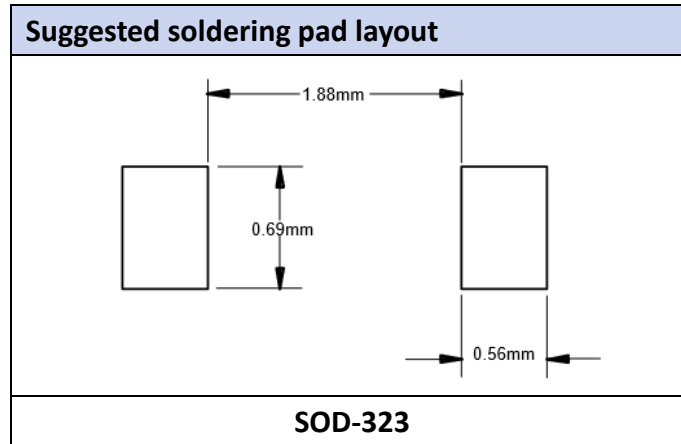


Fig. 3 - Typical Zener Breakdown Characteristics





Ordering information			
Part Number	Package	Shipping Quantity	Dimensions
BZT52B3V0BS ~ BZT52B51BS	SOD-323	3000 pcs / reel	---

## Disclaimer

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