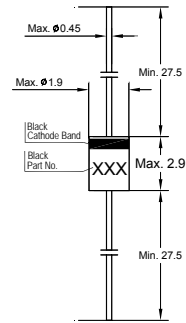


# BS Series

## Silicon Epitaxial Planar Zener Diodes



Glass Case DO-34  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{\text{tot}}$	500 <sup>1)</sup>	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{stg}}$	- 65 to + 175	$^\circ\text{C}$

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	$R_{\text{thA}}$	0.3 <sup>1)</sup>	K/mW
Forward Voltage at $I_F = 100\text{ mA}$	$V_F$	1	V

<sup>1)</sup> Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

### Characteristics at $T_a = 25^\circ\text{C}$

Type	Zener Voltage <sup>1)</sup>			Dynamic Resistance		Reverse Leakage Current	
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
2V0BS	1.88	2.2	5	100	5	120	0.5
2V0BSA	1.88	2.1	5	100	5	120	0.5
2V0BSB	2.02	2.2	5	100	5	120	0.5
2V2BS	2.12	2.41	5	100	5	120	0.7
2V2BSA	2.12	2.3	5	100	5	120	0.7
2V2BSB	2.22	2.41	5	100	5	120	0.7
2V4BS	2.33	2.63	5	100	5	120	1
2V4BSA	2.33	2.52	5	100	5	120	1
2V4BSB	2.43	2.63	5	100	5	120	1
2V7BS	2.54	2.91	5	110	5	100	1
2V7BSA	2.54	2.75	5	110	5	100	1
2V7BSB	2.69	2.91	5	110	5	100	1

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## Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Type	Zener Voltage <sup>1)</sup>			Dynamic Resistance		Reverse Leakage Current	
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
3V0BS	2.85	3.22	5	120	5	50	1
3V0BSA	2.85	3.07	5	120	5	50	1
3V0BSB	3.01	3.22	5	120	5	50	1
3V3BS	3.16	3.53	5	120	5	20	1
3V3BSA	3.16	3.38	5	120	5	20	1
3V3BSB	3.32	3.53	5	120	5	20	1
3V6BS	3.47	3.83	5	120	5	10	1
3V6BSA	3.47	3.68	5	120	5	10	1
3V6BSB	3.62	3.83	5	120	5	10	1
3V9BS	3.77	4.14	5	120	5	5	1
3V9BSA	3.77	3.98	5	120	5	5	1
3V9BSB	3.92	4.14	5	120	5	5	1
4V3BS	4.05	4.53	5	120	5	5	1
4V3BSA	4.05	4.26	5	120	5	5	1
4V3BSB	4.2	4.4	5	120	5	5	1
4V3BSC	4.34	4.53	5	120	5	5	1
4V7BS	4.47	4.91	5	100	5	5	1
4V7BSA	4.47	4.65	5	100	5	5	1
4V7BSB	4.59	4.77	5	100	5	5	1
4V7BSC	4.71	4.91	5	100	5	5	1
5V1BS	4.85	5.35	5	70	5	5	1.5
5V1BSA	4.85	5.03	5	70	5	5	1.5
5V1BSB	4.97	5.18	5	70	5	5	1.5
5V1BSC	5.12	5.35	5	70	5	5	1.5
5V6BS	5.29	5.88	5	40	5	5	2.5
5V6BSA	5.29	5.52	5	40	5	5	2.5
5V6BSB	5.46	5.7	5	40	5	5	2.5
5V6BSC	5.64	5.88	5	40	5	5	2.5
6V2BS	5.81	6.4	5	30	5	5	3
6V2BSA	5.81	6.06	5	30	5	5	3
6V2BSB	5.99	6.24	5	30	5	5	3
6V2BSC	6.16	6.4	5	30	5	5	3
6V8BS	6.32	6.97	5	25	5	2	3.5
6V8BSA	6.32	6.59	5	25	5	2	3.5
6V8BSB	6.52	6.79	5	25	5	2	3.5
6V8BSC	6.70	6.97	5	25	5	2	3.5
7V5BS	6.88	7.64	5	25	5	0.5	4
7V5BSA	6.88	7.19	5	25	5	0.5	4
7V5BSB	7.11	7.41	5	25	5	0.5	4
7V5BSC	7.33	7.64	5	25	5	0.5	4

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## Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Type	Zener Voltage <sup>1)</sup>			Dynamic Resistance		Reverse Leakage Current	
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
8V2BS	7.56	8.41	5	20	5	0.5	5
8V2BSA	7.56	7.9	5	20	5	0.5	5
8V2BSB	7.82	8.15	5	20	5	0.5	5
8V2BSC	8.07	8.41	5	20	5	0.5	5
9V1BS	8.33	9.29	5	20	5	0.5	6
9V1BSA	8.33	8.7	5	20	5	0.5	6
9V1BSB	8.61	8.99	5	20	5	0.5	6
9V1BSC	8.89	9.29	5	20	5	0.5	6
10BS	9.19	10.3	5	20	5	0.2	7
10BSA	9.19	9.59	5	20	5	0.2	7
10BSB	9.48	9.9	5	20	5	0.2	7
10BSC	9.82	10.3	5	20	5	0.2	7
11BS	10.18	11.26	5	20	5	0.2	8
11BSA	10.18	10.63	5	20	5	0.2	8
11BSB	10.5	10.95	5	20	5	0.2	8
11BSC	10.82	11.26	5	20	5	0.2	8
12BS	11.13	12.3	5	25	5	0.2	9
12BSA	11.13	11.63	5	25	5	0.2	9
12BSB	11.5	11.92	5	25	5	0.2	9
12BSC	11.8	12.3	5	25	5	0.2	9
13BS	12.18	13.62	5	25	5	0.2	10
13BSA	12.18	12.71	5	25	5	0.2	10
13BSB	12.59	13.16	5	25	5	0.2	10
13BSC	13.03	13.62	5	25	5	0.2	10
15BS	13.48	15.02	5	25	5	0.2	11
15BSA	13.48	14.09	5	25	5	0.2	11
15BSB	13.95	14.56	5	25	5	0.2	11
15BSC	14.42	15.02	5	25	5	0.2	11
16BS	14.87	16.5	5	25	5	0.2	12
16BSA	14.87	15.5	5	25	5	0.2	12
16BSB	15.33	15.96	5	25	5	0.2	12
16BSC	15.79	16.5	5	25	5	0.2	12
18BS	16.34	18.3	5	30	5	0.2	13
18BSA	16.34	17.06	5	30	5	0.2	13
18BSB	16.9	17.67	5	30	5	0.2	13
18BSC	17.51	18.3	5	30	5	0.2	13
20BS	18.14	20.45	5	30	5	0.2	15
20BSA	18.14	18.96	5	30	5	0.2	15
20BSB	18.8	19.68	5	30	5	0.2	15
20BSC	19.52	20.45	5	30	5	0.2	15

# BS Series

## Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Type	Zener Voltage <sup>1)</sup>			Dynamic Resistance		Reverse Leakage Current	
	$V_Z$		at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
	Min. (V)	Max. (V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
22BS	20.23	22.61	5	30	5	0.2	17
22BSA	20.23	21.08	5	30	5	0.2	17
22BSB	20.76	21.65	5	30	5	0.2	17
22BSC	21.22	22.09	5	30	5	0.2	17
22BSD	21.68	22.61	5	30	5	0.2	17
24BS	22.26	24.81	5	35	5	0.2	19
24BSA	22.26	23.12	5	35	5	0.2	19
24BSB	22.75	23.73	5	35	5	0.2	19
24BSC	23.29	24.27	5	35	5	0.2	19
24BSD	23.81	24.81	5	35	5	0.2	19
27BS	24.26	27.64	5	45	5	0.2	21
27BSA	24.26	25.52	5	45	5	0.2	21
27BSB	24.97	26.26	5	45	5	0.2	21
27BSC	25.63	26.95	5	45	5	0.2	21
27BSD	26.29	27.64	5	45	5	0.2	21
30BS	26.99	30.51	5	55	5	0.2	23
30BSA	26.99	28.39	5	55	5	0.2	23
30BSB	27.7	29.13	5	55	5	0.2	23
30BSC	28.36	29.82	5	55	5	0.2	23
30BSD	29.02	30.51	5	55	5	0.2	23
33BS	29.68	33.11	5	65	5	0.2	25
33BSA	29.68	31.22	5	65	5	0.2	25
33BSB	30.32	31.88	5	65	5	0.2	25
33BSC	30.9	32.5	5	65	5	0.2	25
33BSD	31.49	33.11	5	65	5	0.2	25
36BS	32.14	35.77	5	75	5	0.2	27
36BSA	32.14	33.79	5	75	5	0.2	27
36BSB	32.79	34.49	5	75	5	0.2	27
36BSC	33.4	35.13	5	75	5	0.2	27
36BSD	34.01	35.77	5	75	5	0.2	27
39BS	34.68	38.52	5	85	5	0.2	30
39BSA	34.68	36.47	5	85	5	0.2	30
39BSB	35.36	37.19	5	85	5	0.2	30
39BSC	36	37.85	5	85	5	0.2	30
39BSD	36.63	38.52	5	85	5	0.2	30

<sup>1)</sup> Tested with pulse  $t_p = 20\text{ ms}$ .

# BS Series

