

# BS Series SILICON PLANAR ZENER DIODE

## Silicon Planar Zener Diodes



Glass case JEDEC DO-34

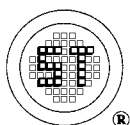
Dimensions in mm

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

	Symbol	Value	Unit
Zener Current see Table "Characteristics"			
Power Dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$	$P_{tot}$	500 <sup>1)</sup>	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-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 $T_{amb} = 25\text{ }^\circ\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient Air	$R_{thA}$	-	-	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.					



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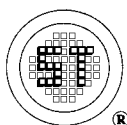
# BS Series SILICON PLANAR ZENER DIODE

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

TYPE	Zener Voltage			Dynamic Resistance		Reverse Leakage Current ( $I_R$ at $V_R$ )	
	Min. (V)	Max (V)	$I_{ZT}$ (mA)	Ohm at $I_{ZT}$	$I_{ZT}$ (mA)	$I_R$ (uA) Max.	$V_R$ (V)
2.0 BS	1.88	2.20	5	100	5	120	0.5
2.0 BSA	1.88	2.10					
2.0 BSB	2.02	2.20					
2.2 BS	2.12	2.41	5	100	5	120	0.7
2.2 BSA	2.12	2.30					
2.2 BSB	2.22	2.41					
2.4 BS	2.33	2.63	5	100	5	120	1.0
2.4 BSA	2.33	2.52					
2.4 BSB	2.43	2.63					
2.7 BS	2.54	2.91	5	110	5	100	1.0
2.7 BSA	2.54	2.75					
2.7 BSB	2.69	2.91					
3.0 BS	2.85	3.22	5	120	5	50	1.0
3.0 BSA	2.85	3.07					
3.0 BSB	3.01	3.22					
3.3 BS	3.16	3.53	5	120	5	20	1.0
3.3 BSA	3.16	3.38					
3.3 BSB	3.32	3.53					
3.6 BS	3.47	3.83	5	120	5	10	1.0
3.6 BSA	3.47	3.68					
3.6 BSB	3.62	3.83					
3.9 BS	3.77	4.14	5	120	5	5	1.0
3.9 BSA	3.77	3.98					
3.9 BSB	3.92	4.14					
4.3 BS	4.05	4.53	5	120	5	5	1.0
4.3 BSA	4.05	4.26					
4.3 BSB	4.20	4.40					
4.3 BSC	4.34	4.53					
4.7 BS	4.47	4.91	5	100	5	5	1.0
4.7 BSA	4.47	4.65					
4.7 BSB	4.59	4.77					
4.7 BSC	4.71	4.91					
5.1 BS	4.85	5.35	5	70	5	5	1.5
5.1 BSA	4.85	5.03					
5.1 BSB	4.97	5.18					
5.1 BSC	5.12	5.35					
5.6 BS	5.29	5.88	5	40	5	5	2.5
5.6 BSA	5.29	5.52					
5.6 BSB	5.46	5.70					
5.6 BSC	5.64	5.88					
6.2 BS	5.81	6.40	5	30	5	5	3.0
6.2 BSA	5.81	6.06					
6.2 BSB	5.99	6.24					
6.2 BSC	6.16	6.40					

1) Tested with pulse  $t_p = 40$  ms.

2) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



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# BS Series SILICON PLANAR ZENER DIODE

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

TYPE	Zener Voltage			Dynamic Resistance		Reverse Leakage Current ( $I_R$ at $V_R$ )	
	Min. (V)	Max (V)	$I_{ZT}$ (mA)	Ohm at $I_{ZT}$	$I_{ZT}$ (mA)	$I_R$ (uA) Max.	$V_R$ (V)
6.8 BS	6.32	6.97	5	25	5	2	3.5
6.8 BSA	6.32	6.59					
6.8 BSB	6.52	6.79					
6.8 BSC	6.70	6.97					
7.5 BS	6.88	7.64	5	25	5	0.5	4.0
7.5 BSA	6.88	7.19					
7.5 BSB	7.11	7.41					
7.5 BSC	7.33	7.64					
8.2 BS	7.56	8.41	5	20	5	0.5	5.0
8.2 BSA	7.56	7.90					
8.2 BSB	7.82	8.15					
8.2 BSC	8.07	8.41					
9.1 BS	8.33	9.29	5	20	5	0.5	6.0
9.1 BSA	8.33	8.70					
9.1 BSB	8.61	8.99					
9.1 BSC	8.89	9.29					
10 BS	9.19	10.30	5	20	5	0.2	7.0
10 BSA	9.19	9.59					
10 BSB	9.48	9.90					
10 BSC	9.82	10.30					
11 BS	10.18	11.26	5	20	5	0.2	8.0
11 BSA	10.18	10.63					
11 BSB	10.50	10.95					
11 BSC	10.82	11.26					
12 BS	11.13	12.30	5	25	5	0.2	9.0
12 BSA	11.13	11.63					
12 BSB	11.50	11.92					
12 BSC	11.80	12.30					
13 BS	12.18	13.62	5	25	5	0.2	10
13 BSA	12.18	12.71					
13 BSB	12.59	13.16					
13 BSC	13.03	13.62					
15 BS	13.48	15.02	5	25	5	0.2	11
15 BSA	13.48	14.09					
15 BSB	13.95	14.56					
15 BSC	14.42	15.02					
16 BS	14.87	16.50	5	25	5	0.2	12
16 BSA	14.87	15.50					
16 BSB	15.33	15.96					
16 BSC	15.79	16.50					
18 BS	16.34	18.30	5	30	5	0.2	13
18 BSA	16.34	17.06					
18 BSB	16.90	17.67					
18 BSC	17.51	18.30					

1) Tested with pulse  $t_p = 40$  ms.

2) Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.



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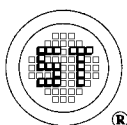
# BS Series SILICON PLANAR ZENER DIODE

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

TYPE	Zener Voltage			Dynamic Resistance		Reverse Leakage Current ( $I_R$ at $V_R$ )	
	Min. (V)	Max (V)	$I_{ZT}$ (mA)	Ohm at $I_{ZT}$	$I_{ZT}$ (mA)	$I_R$ (uA) Max.	$V_R$ (V)
20 BS	18.14	20.45	5	30	5	0.2	15
20 BSA	18.14	18.96					
20 BSB	18.80	19.68					
20 BSC	19.52	20.45					
22 BS	20.23	22.61	5	30	5	0.2	17
22 BSA	20.23	21.08					
22 BSB	20.76	21.65					
22 BSC	21.22	22.09					
22 BSD	21.68	22.61					
24 BS	22.26	24.81	5	35	5	0.2	19
24 BSA	22.26	23.12					
24 BSB	22.75	23.73					
24 BSC	23.29	24.27					
24 BSD	23.81	24.81					
27 BS	24.26	27.64	5	45	5	0.2	21
27 BSA	24.26	25.52					
27 BSB	24.97	26.26					
27 BSC	25.63	26.95					
27 BSD	26.29	27.64					
30 BS	26.99	30.51	5	55	5	0.2	23
30 BSA	26.99	28.39					
30 BSB	27.70	29.13					
30 BSC	28.36	29.82					
30 BSD	29.02	30.51					
33 BS	29.68	33.11	5	65	5	0.2	25
33 BSA	29.68	31.22					
33 BSB	30.32	31.88					
33 BSC	30.90	32.50					
33 BSD	31.49	33.11					
36 BS	32.14	35.77	5	30	5	0.2	27
36 BSA	32.14	33.79					
36 BSB	32.79	34.49					
36 BSC	33.40	35.13					
36 BSD	34.01	35.77					
39 BS	34.68	38.52	5	85	5	0.2	30
39 BSA	34.68	36.47					
39 BSB	35.36	37.19					
39 BSC	36.00	37.85					
39 BSD	36.63	38.52					

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