

Zener Diodes

2.4~75V 410mW SOD-123

BZT52B Series

MERITEK

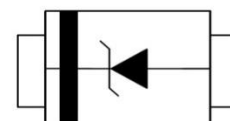
FEATURE

- Zener Voltage Range: 2.4V to 75V
- Power Dissipation: 410mW
- Silicon Planar Zener Diode in SOD-123 package
- Ideally Suited for Automated Assembly Processes
- Application: Power Management Systems, Voltage Regulation



MECHANICAL DATA

- Case: SOD-123, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Band Marking denotes cathode end



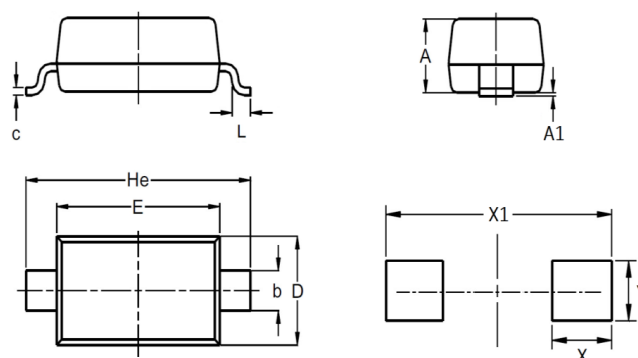
MAXIMUM RATINGS (TA=25 °C unless otherwise noted)



Parameter	Symbols	Value	Unit
Power Dissipation ^(Note 1)	P_D	410	mW
Forward Voltage Drop at $I_F=10\text{mA}$	V_F	0.9	V
Resistance Junction to Ambient ^(Note 2)	$R_{\theta JA}$	430	°C/W
Resistance Junction to Lead ^(Note 2)	$R_{\theta JL}$	320	°C/W
Junction Temperature	T_J	-55~+150	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.95	1.35
A1	-	0.12
b	0.50	0.70
C	-	0.20
D	1.40	1.80
E	2.50	2.80
He	3.60	3.90
L	0.40	-
X	0.97	0.97
X1	3.60	3.90
Y	1.22	1.22



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ELECTRICAL CHARACTERISTICS (TA=25 °C unless otherwise noted)

Part Number	Nominal Zener Voltage V _Z at I _{ZT}			Max Zener Impedance Z _{ZT} at I _{ZT} , Z _{ZK} at I _{ZK} =1mA			Reverse Leakage Current I _R at V _R	
	Nom	Min	Max	Z _{ZT}	I _{ZT}	Z _{ZK}	I _R max	V _R
	(V)	(V)	(V)	(Ω)	(mA)	(Ω)	(μA)	(V)
BZT52B2V4	2.4	2.35	2.45	85	5.0	600	100	1.0
BZT52B2V7	2.7	2.64	2.75	83	5.0	600	75	1.0
BZT52B3V0	3.0	2.94	3.06	95	5.0	600	50	1.0
BZT52B3V3	3.3	3.23	3.37	95	5.0	600	25	1.0
BZT52B3V6	3.6	3.52	3.67	95	5.0	600	15	1.0
BZT52B3V9	3.9	3.82	3.98	95	5.0	600	10	1.0
BZT52B4V3	4.3	4.21	4.39	95	5.0	600	5.0	1.0
BZT52B4V7	4.7	4.61	4.79	78	5.0	500	5.0	1.0
BZT52B5V1	5.1	5.00	5.20	60	5.0	480	0.1	0.8
BZT52B5V6	5.6	5.49	5.71	40	5.0	400	0.1	1.0
BZT52B6V2	6.2	6.08	6.32	10	5.0	150	0.1	2.0
BZT52B6V8	6.8	6.66	6.94	8	5.0	80	0.1	3.0
BZT52B7V5	7.5	7.35	7.65	7	5.0	80	0.1	5.0
BZT52B8V2	8.2	8.04	8.36	7	5.0	80	0.1	6.0
BZT52B8V7	8.7	8.53	8.87	7	5.0	100	0.1	6.5
BZT52B9V1	9.1	8.92	9.28	10	5.0	100	0.1	7.0
BZT52B10	10	9.80	10.20	15	5.0	150	0.1	7.5
BZT52B11	11	10.78	11.22	20	5.0	150	0.1	8.5
BZT52B12	12	11.76	12.24	20	5.0	150	0.1	9.0
BZT52B13	13	12.74	13.26	25	5.0	170	0.1	10.0
BZT52B14	14	13.72	14.28	25	5.0	170	0.1	10.5
BZT52B15	15	14.70	15.30	30	5.0	200	0.1	11.0
BZT52B16	16	15.68	16.32	40	5.0	200	0.1	12.0
BZT52B17	17	16.66	17.34	40	5.0	200	0.1	13.0
BZT52B18	18	17.64	18.36	50	5.0	225	0.1	14.0
BZT52B20	20	19.60	20.40	50	5.0	225	0.1	15.0
BZT52B22	22	21.56	22.44	55	5.0	250	0.1	17.0
BZT52B24	24	23.52	24.48	80	5.0	250	0.1	18.0
BZT52B27	27	26.46	27.54	80	5.0	300	0.1	20.0
BZT52B28	28	27.44	28.56	80	5.0	300	0.1	22.0
BZT52B30	30	29.40	30.60	80	5.0	300	0.1	22.5
BZT52B33	33	32.34	33.66	80	5.0	325	0.1	25.0
BZT52B36	36	35.28	36.72	90	5.0	350	0.1	27.0
BZT52B39	39	38.22	39.78	90	5.0	350	0.1	29.0
BZT52B43	43	42.14	43.86	100	5.0	375	0.1	32.0
BZT52B47	47	46.06	47.94	100	5.0	375	0.1	35.0
BZT52B51	51	49.98	52.02	100	5.0	400	0.1	38.0
BZT52B56	56	54.88	57.12	135	2.5	1000	0.1	42.0

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	Nom	Min	Max	Z _{ZT}	I _{ZT}	Z _{ZK}	I _R max	V _R
	(V)	(V)	(V)	(Ω)	(mA)	(Ω)	(μA)	(V)
BZT52B62	62	60.76	63.24	150	2.5	1000	0.1	46.0
BZT52B68	68	66.64	69.36	200	2.5	1000	0.1	51.0
BZT52B75	75	73.50	76.50	250	2.5	1000	0.1	56.0

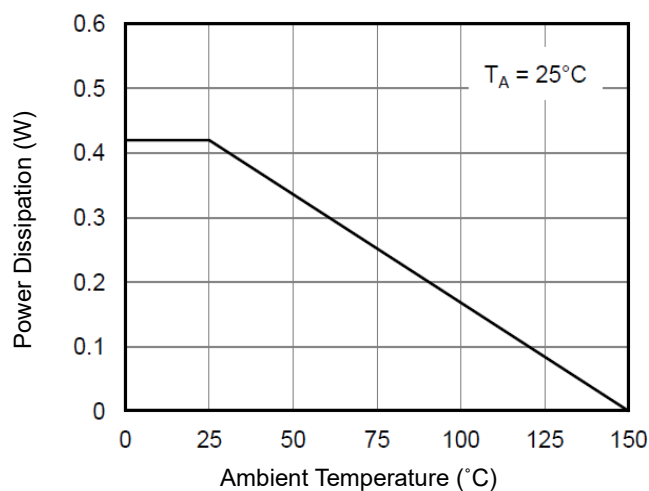
Notes:

1. Mounted on a 48cm² FR-4 PCB.

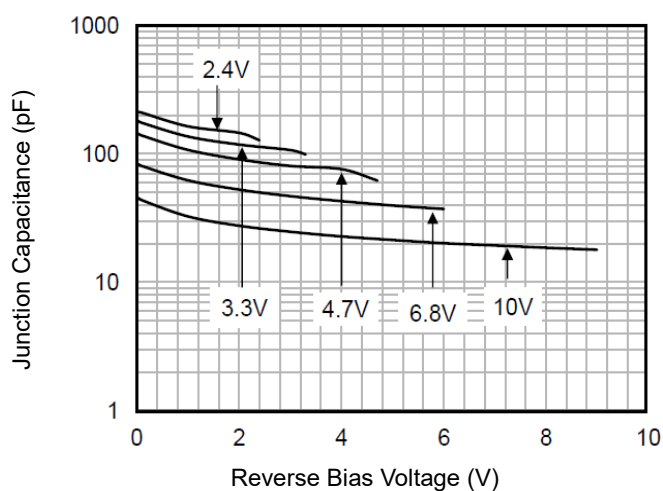
2. Mounted on a FR-4 PCB, with minimum recommended pad.

CHARACTERISTIC CURVES

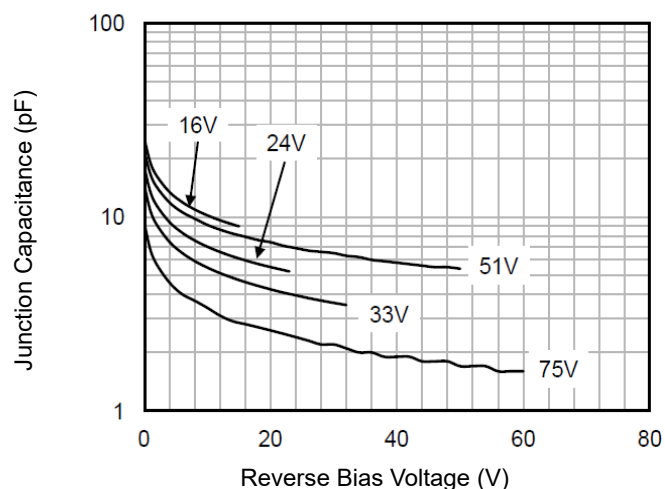
Power Derating



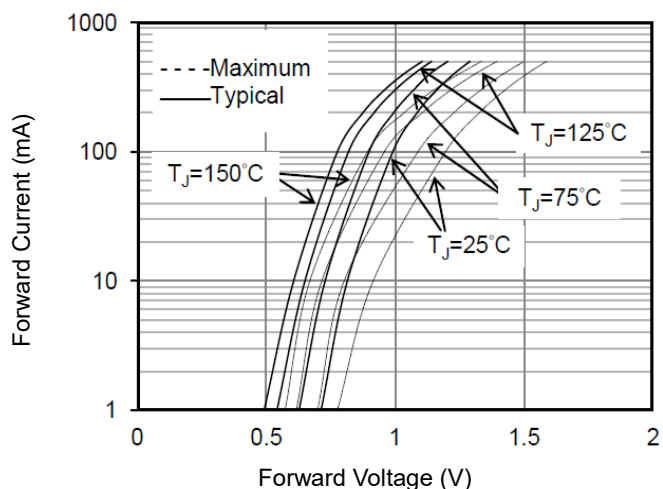
Typical Junction Capacitance



Typical Junction Capacitance



Typical Forward Characteristics



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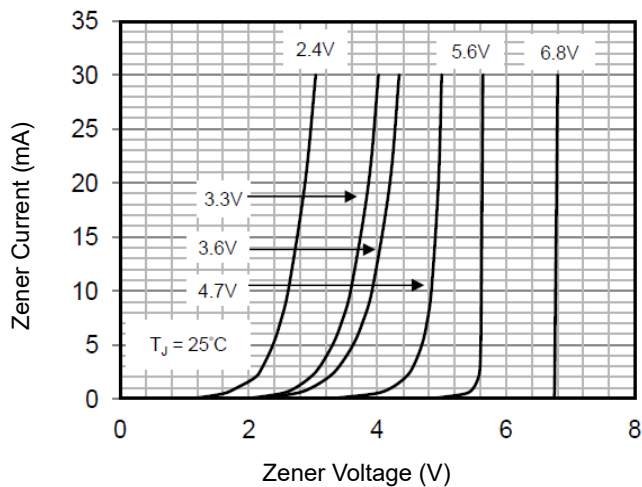
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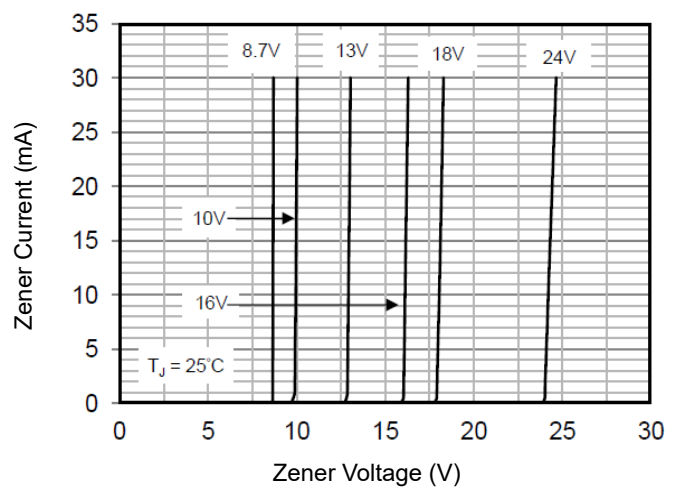
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CHARACTERISTIC CURVES

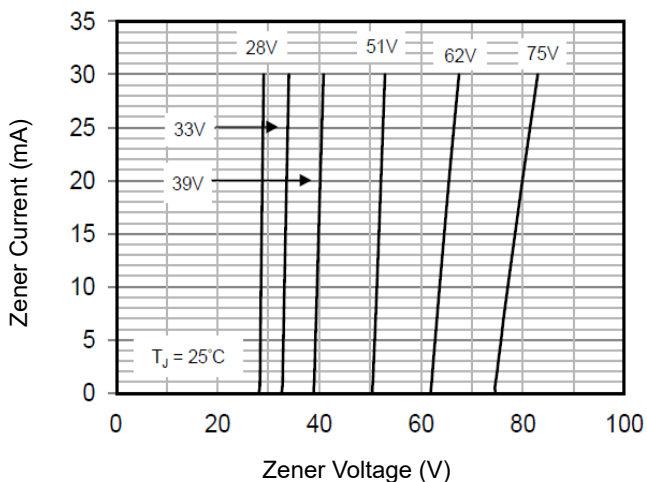
Typical Zener Characteristics



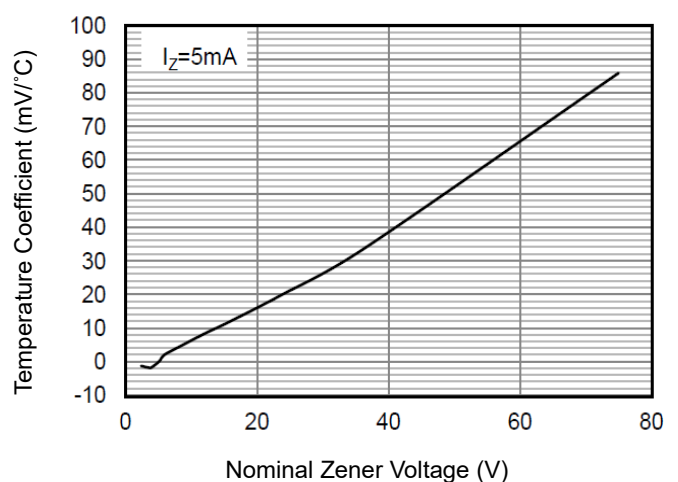
Typical Zener Characteristics



Typical Zener Characteristics



Temperature Coefficient



*Specifications subject to change without notice.