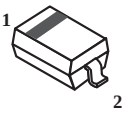
Surface Mount Zener Diodes

BZT52MBxx Series S-BZT52MBxx Series

Features:

*500mw Power Dissipation
*Ideal for Surface Mountted Application
*Zener Breakdown Voltage Range 3.6V to 36V
*Pb-Free package is available
*S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



SOD-123

Mechanical Data:

*Case : SOD-123 Molded plastic
*Terminals: Solderable per MIL-STD-202, Method 208
*Polarity: Cathode Indicated by Polarity Band
*Marking: Marking Code (See Specific marking table)
*Weigh: 0.01grams(approx)

Equivalent Circuit Diagram

Cathode Anode

Maximum Ratings and Electrical Characteristics (TA=25 °C Unless Otherwise Noted)

Characteristics	Symbol	Value	Unit
Total Power Dissipation on FR-5 Board(1)	PD	500	mW
Thermal Resistance Junction to Ambient Air(1)	$R_{\theta}JA$	305	°C/W
Forward Voltage @ IF=10mA	VF	0.9	V
Junction and Storage Temperature Range	Tj,TSTG	-55 to +150	°C

NOTES: 1. Device mounted on ceramic PCB; 7.6mm × 9.4mm × 0.87mm with pad areas 25mm²

Device Marking Code

Device	Marking	Device	Marking
BZT52MB3V6	B6	BZT52MB12	BU
BZT52MB3V9	B7	BZT52MB13	BV
BZT52MB4V3	BT	BZT52MB15	BW
BZT52MB4V7	B9	BZT52MB16	B5
BZT52MB5V1	BA	BZT52MB18	BD
BZT52MB5V6	BC	BZT52MB20	BG
BZT52MB6V2	BE	BZT52MB22	BK
BZT52MB6V8	BF	BZT52MB24	BM
BZT52MB7V5	BH	BZT52MB27	BN
BZT52MB8V2	BJ	BZT52MB30	BP
BZT52MB9V1	BL	BZT52MB33	BR
BZT52MB10	B0	BZT52MB36	BS
BZT52MB11	B1	-	-

Ratings and Characteristic curves

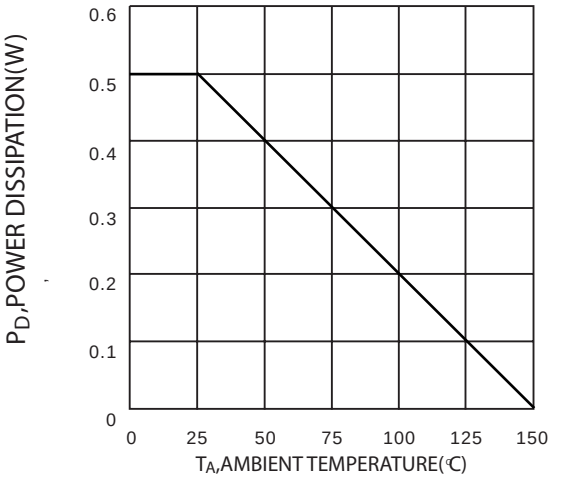


FIG. 1 Power Disspation vs Ambient temperaute

BZT52MBxx Series , S-BZT52MBxx Series

Electrical Characteristics (T_A=25°C unless otherwise noted, V_F=0.9V Max@ I_F=10mA)

Device	Zener voltage			Operating resistance		Rising operating resistance		Reverse curre	
	V_Z(V)			Z_Z(Ω)		Z_{zk}(Ω)		I_R(μA)	
	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)
BZT52MB3V6	3.530	3.670	5	85	5	600	1.0	2	1.0
BZT52MB3V9	3.820	3.980	5	85	5	600	1.0	2	1.0
BZT52MB4V3	4.210	4.390	5	80	5	600	1.0	1	1.0
BZT52MB4V7	4.610	4.790	5	70	5	500	1.0	0.5	1.0
BZT52MB5V1	5.000	5.200	5	50	5	480	1.0	0.1	1.0
BZT52MB5V6	5.490	5.710	5	30	5	400	1.0	0.1	1.0
BZT52MB6V2	6.080	6.320	5	10	5	150	1.0	0.1	2.0
BZT52MB6V8	6.660	6.940	5	8	5	80	1.0	0.1	3.0
BZT52MB7V5	7.350	7.650	5	7	5	50	1.0	0.1	5.0
BZT52MB8V2	8.040	8.360	5	7	5	50	1.0	0.1	6.1
BZT52MB9V1	8.920	9.280	5	10	5	50	1.0	0.1	6.8
BZT52MB10	9.800	10.200	5	15	5	70	1.0	0.1	7.5
BZT52MB11	10.780	11.220	5	20	5	70	1.0	0.1	8.2
BZT52MB12	11.760	12.240	5	20	5	90	1.0	0.1	9.0
BZT52MB13	12.740	13.260	5	26	5	110	1.0	0.1	9.7
BZT52MB15	14.700	15.300	5	30	5	110	1.0	0.1	11
BZT52MB16	15.680	16.320	5	40	5	170	1.0	0.1	12
BZT52MB18	17.640	18.360	5	45	5	170	1.0	0.1	14
BZT52MB20	19.600	20.400	5	55	5	220	1.0	0.1	15
BZT52MB22	21.560	22.440	5	55	5	220	1.0	0.1	17
BZT52MB24	23.520	24.480	5	70	5	220	1.0	0.1	18
BZT52MB27	26.460	27.540	5	80	5	220	1.0	0.1	20
BZT52MB30	29.400	30.600	5	80	5	220	1.0	0.1	22
BZT52MB33	32.340	33.660	5	80	5	220	1.0	0.1	24
BZT52MB36	35.280	36.720	5	80	5	220	1.0	0.1	27

Notes) 1. The Zener voltage (V_Z) is measured 40ms after power is supplied.
2. The operating resistances (Z_Z, Z_{ZK}) are measured by superimposing a minute alternating current on the regulated current (I_Z).

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ELECTRICAL CHARACTERISTIC CURVES (Ta=25°C)

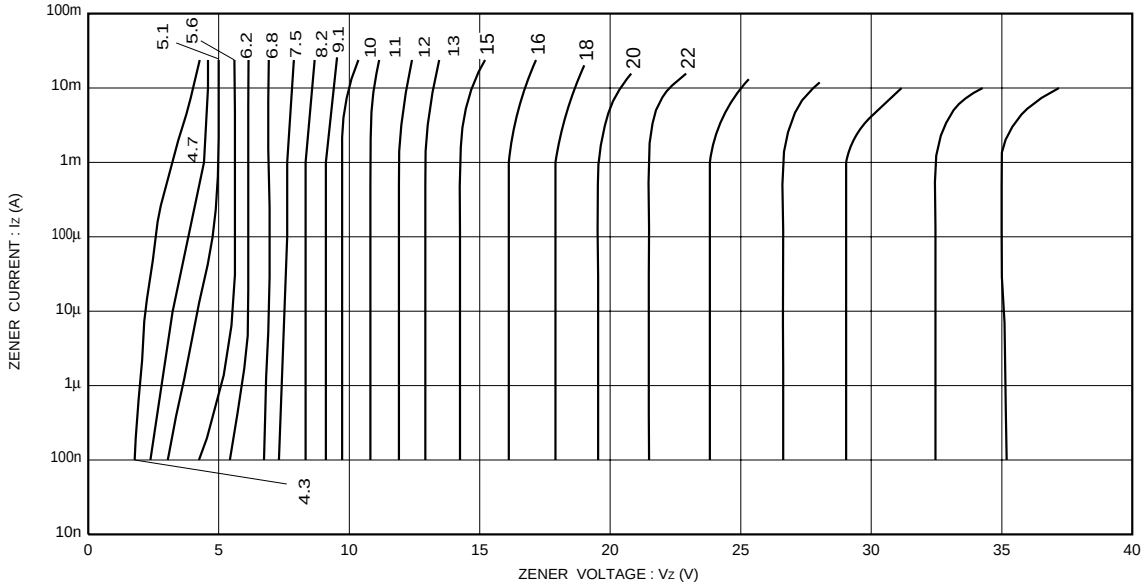

Fig.1 Zener voltage characteristics

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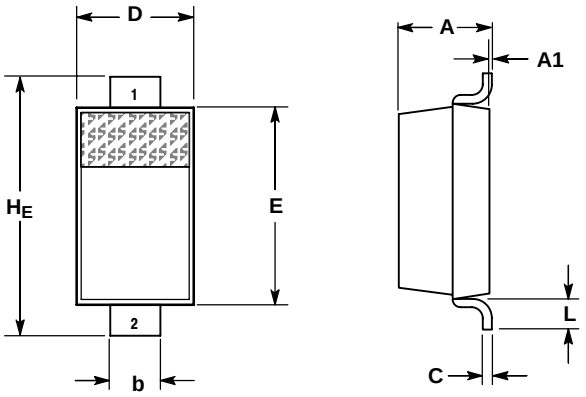
SOD−123

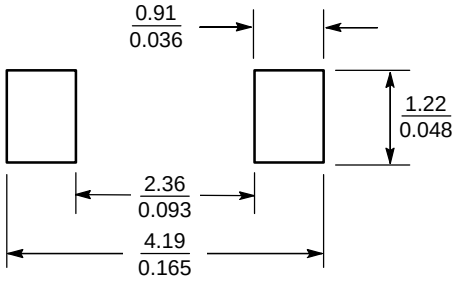


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.94	1.17	1.35	0.037	0.046	0.053
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.51	0.61	0.71	0.020	0.024	0.028
c	---	---	0.15	---	---	0.006
D	1.40	1.60	1.80	0.055	0.063	0.071
E	2.54	2.69	2.84	0.100	0.106	0.112
H_E	3.56	3.68	3.86	0.140	0.145	0.152
L	0.25	---	---	0.010	---	---

STYLE 1:
PIN 1. CATHODE
2. ANODE

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{mm}{inches}\right)$