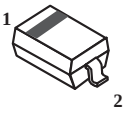
Surface Mount Zener Diodes

BZT52Bxx Series

Features:

*500mw Power Dissipation
*Ideal for Surface Mountted Application
*Zener Breakdown Voltage Range 2.0V to 36V
*Pb-Free package is available



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
BZT52B2V0	02	BZT52B9V1	L2
BZT52B2V2	12	BZT52B10	05
BZT52B2V4	22	BZT52B11	15
BZT52B2V7	32	BZT52B12	25
BZT52B3V0	42	BZT52B13	35
BZT52B3V3	52	BZT52B15	45
BZT52B3V6	62	BZT52B16	55
BZT52B3V9	72	BZT52B18	65
BZT52B4V3	82	BZT52B20	75
BZT52B4V7	92	BZT52B22	85
BZT52B5V1	A2	BZT52B24	95
BZT52B5V6	C2	BZT52B27	A5
BZT52B6V2	E2	BZT52B30	C5
BZT52B6V8	F2	BZT52B33	E5
BZT52B7V5	H2	BZT52B36	F5
BZT52B8V2	J2	-	-

Ratings and Characteristic curves

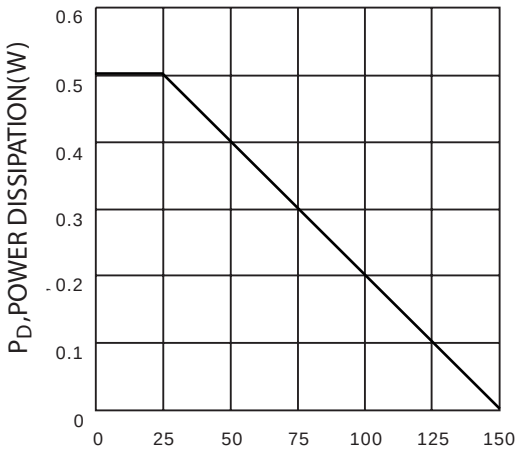


FIG. 1 Power Disspation vs Ambient temperaute

BZT52Bxx Series

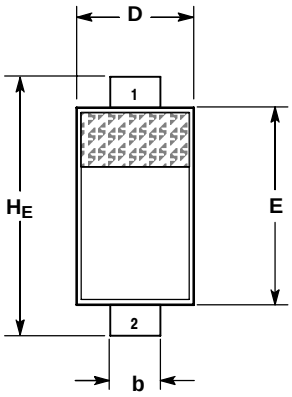
Electrical Characteristics (T_A=25°C unless otherwise noted, V_F=0.9V Max@ I_F=10mA)

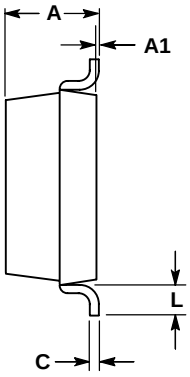
Device	Zener voltage			Operating resistance		Rising operating resistance		Reverse curre	
	V_Z(V)			Z_Z(Ω)		Z_{zk}(Ω)		I_R(μA)	
	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)
BZT52B2V0	2.020	2.200	5	100	5	1000	0.5	120	0.5
BZT52B2V2	2.220	2.410	5	100	5	1000	0.5	120	0.7
BZT52B2V4	2.430	2.630	5	100	5	1000	0.5	100	1.0
BZT52B2V7	2.690	2.910	5	110	5	1000	0.5	100	1.0
BZT52B3V0	3.010	3.220	5	120	5	1000	0.5	50	1.0
BZT52B3V3	3.320	3.530	5	120	5	1000	0.5	20	1.0
BZT52B3V6	3.600	3.845	5	100	5	1000	1.0	10	1.0
BZT52B3V9	3.890	4.160	5	100	5	1000	1.0	5	1.0
BZT52B4V3	4.170	4.430	5	100	5	1000	1.0	5	1.0
BZT52B4V7	4.550	4.750	5	100	5	800	0.5	2	1.0
BZT52B5V1	4.980	5.200	5	80	5	500	0.5	2	1.5
BZT52B5V6	5.490	5.730	5	60	5	200	0.5	1	2.5
BZT52B6V2	6.060	6.330	5	60	5	100	0.5	1	3.0
BZT52B6V8	6.650	6.930	5	40	5	60	0.5	0.5	3.5
BZT52B7V5	7.280	7.600	5	30	5	60	0.5	0.5	4.0
BZT52B8V2	8.020	8.360	5	30	5	60	0.5	0.5	5.0
BZT52B9V1	8.850	9.230	5	30	5	60	0.5	0.5	6.0
BZT52B10	9.770	10.210	5	30	5	60	0.5	0.1	7.0
BZT52B11	10.760	11.220	5	30	5	60	0.5	0.1	8.0
BZT52B12	11.740	12.240	5	30	5	80	0.5	0.1	9.0
BZT52B13	12.910	13.490	5	37	5	80	0.5	0.1	10.0
BZT52B15	14.340	14.980	5	42	5	80	0.5	0.1	11.0
BZT52B16	15.850	16.510	5	50	5	80	0.5	0.1	12.0
BZT52B18	17.560	18.350	5	65	5	80	0.5	0.1	13.0
BZT52B20	19.520	20.390	5	85	5	100	0.5	0.1	15.0
BZT52B22	21.540	22.470	5	100	5	100	0.5	0.1	17.0
BZT52B24	23.720	24.780	5	120	5	120	0.5	0.1	19.0
BZT52B27	26.190	27.530	5	150	5	150	0.5	0.1	21.0
BZT52B30	29.190	30.690	5	200	5	200	0.5	0.1	23.0
BZT52B33	32.150	33.790	5	250	5	250	0.5	0.1	25.0
BZT52B36	35.070	36.870	5	300	5	300	0.5	0.1	27.0

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).

BZT52Bxx Series

SOD−123



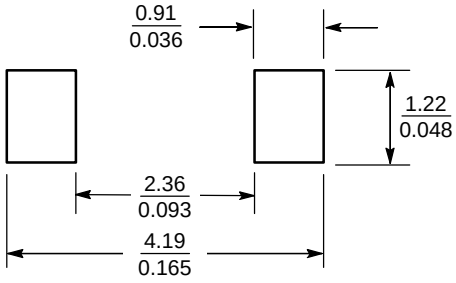


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	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 $\left(\frac{mm}{inches}\right)$