

## FEATURES

- Large selection of zener voltages: 2.0V ~ 75V
- Tight voltage tolerance:  $\pm 5\%$  for C-series
- Ultra low-profile package well suited for automated assembly
- MSL Class 1 compatible



## APPLICATIONS

- General voltage regulation
- Mobile & handheld systems



## ORDERING INFORMATION

Part Number	Marking	Package
BZT52C2V0SQ - BZT52C75SQ	See Page 2	SOD-323

## MAXIMUM RATING (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward Voltage @ $I_F=10\text{mA}$	$V_F$	0.9	V
Power Dissipation (Collector)	$P_C$	200	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	337	$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 ~ +150	$^\circ\text{C}$

Note: These ratings are limiting values above which the serviceability of the diodes may be impaired.

**ELECTRICAL CHARACTERISTICS** (@ T<sub>A</sub> = 25°C unless otherwise specified)

Part Number	Marking Code	Zener Voltage V <sub>Z</sub> (V)			@ I <sub>ZT</sub> (mA)	Maximum Zener Impedance			Temperature Coefficient @ I <sub>ZT</sub> T <sub>C</sub> (mV/°C)		Maximum Reverse Current I <sub>R</sub> (μA)	@ V <sub>R</sub> (V)
		Min.	Typ.	Max.		Z <sub>ZT</sub> (Ω) @ I <sub>ZT</sub>	Z <sub>ZK</sub> (Ω)	@ I <sub>ZK</sub> (mA)	Min.	Max.		
BZT52C2V0SQ	WY	1.90	2.00	2.10	5	100	600	1.0	-3.5	0.0	150.000	1.0
BZT52C2V2SQ	22•	2.09	2.20	2.31	5	100	600	1.0	-3.5	0.0	150.000	1.0
BZT52C2V4SQ	WX	2.28	2.40	2.52	5	100	600	1.0	-3.5	0.0	50.000	1.0
BZT52C2V7SQ	W1	2.57	2.70	2.84	5	100	600	1.0	-3.5	0.0	20.000	1.0
BZT52C3V0SQ	W2	2.85	3.00	3.15	5	95	600	1.0	-3.5	0.0	10.000	1.0
BZT52C3V3SQ	W3	3.14	3.30	3.47	5	95	600	1.0	-3.5	0.0	5.000	1.0
BZT52C3V6SQ	W4	3.42	3.60	3.78	5	90	600	1.0	-3.5	0.0	5.000	1.0
BZT52C3V9SQ	W5	3.71	3.90	4.10	5	90	600	1.0	-3.5	0.0	3.000	1.0
BZT52C4V3SQ	W6	4.09	4.30	4.52	5	90	600	1.0	-3.5	0.0	3.000	1.0
BZT52C4V7SQ	W7	4.47	4.70	4.94	5	80	500	1.0	-3.5	0.2	3.000	2.0
BZT52C5V1SQ	W8	4.85	5.10	5.36	5	60	480	1.0	-2.7	1.2	2.000	2.0
BZT52C5V6SQ	W9	5.32	5.60	5.88	5	40	400	1.0	-2.0	2.5	1.000	2.0
BZT52C6V2SQ	WA	5.89	6.20	6.51	5	10	150	1.0	0.4	3.7	3.000	4.0
BZT52C6V8SQ	WB	6.46	6.80	7.14	5	15	80	1.0	1.2	4.5	2.000	4.0
BZT52C7V5SQ	WC	7.13	7.50	7.88	5	15	80	1.0	2.5	5.3	1.000	5.0
BZT52C8V2SQ	WD	7.79	8.20	8.61	5	15	80	1.0	3.2	6.2	0.700	5.0
BZT52C9V1SQ	WE	8.65	9.10	9.56	5	15	100	1.0	3.8	7.0	0.500	6.0
BZT52C10SQ	WF	9.50	10.00	10.50	5	20	150	1.0	4.5	8.0	0.200	7.0
BZT52C11SQ	WG	10.45	11.00	11.55	5	20	150	1.0	5.4	9.0	0.100	8.0
BZT52C12SQ	WH	11.40	12.00	12.60	5	25	150	1.0	6.0	10.0	0.100	8.0
BZT52C13SQ	WI	12.35	13.00	13.65	5	30	170	1.0	7.0	11.0	0.100	8.0
BZT52C15SQ	WJ	14.25	15.00	15.75	5	30	200	1.0	9.2	13.0	0.100	10.5
BZT52C16SQ	WK	15.20	16.00	16.80	5	40	200	1.0	10.4	14.0	0.100	11.2
BZT52C18SQ	WL	17.10	18.00	18.90	5	45	225	1.0	12.4	16.0	0.100	12.6
BZT52C20SQ	WM	19.00	20.00	21.00	5	55	225	1.0	14.4	18.0	0.100	14.0
BZT52C22SQ	WN	20.90	22.00	23.10	5	55	250	1.0	16.4	20.0	0.100	15.4
BZT52C24SQ	WO	22.80	24.00	25.20	5	70	250	1.0	18.4	22.0	0.100	16.8
BZT52C27SQ	WP	25.65	27.00	28.35	2	80	300	0.5	21.4	25.3	0.100	18.9
BZT52C30SQ	WQ	28.50	30.00	31.50	2	80	300	0.5	24.4	29.4	0.100	21.0
BZT52C33SQ	WR	31.35	33.00	34.65	2	80	325	0.5	27.4	33.4	0.100	23.1
BZT52C36SQ	WS	34.20	36.00	37.80	2	90	350	0.5	30.4	37.4	0.100	25.2
BZT52C39SQ	WT	37.05	39.00	40.95	2	130	350	0.5	33.4	41.2	0.100	27.3
BZT52C43SQ	WU	40.85	43.00	45.15	2	100	700	1.0	10.0	12.0	0.100	32.0
BZT52C47SQ	WV	44.65	47.00	49.35	2	100	750	1.0	10.0	12.0	0.100	35.0
BZT52C51SQ	WW	48.45	51.00	53.55	2	100	750	1.0	10.0	12.0	0.100	38.0
BZT52C56SQ	WX•	53.20	56.00	58.80	2	200	400	0.5	10.0	12.0	0.045	39.2
BZT52C62SQ	WY•	58.90	62.00	65.10	2	215	423	0.5	10.0	12.0	0.045	43.4
BZT52C68SQ	WZ	64.60	68.00	71.40	2	240	447	0.5	10.0	12.0	0.045	47.6
BZT52C75SQ	6H	71.25	75.00	78.75	2	255	470	0.5	10.0	12.0	0.045	52.5

**TYPICAL CHARACTERISTICS** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

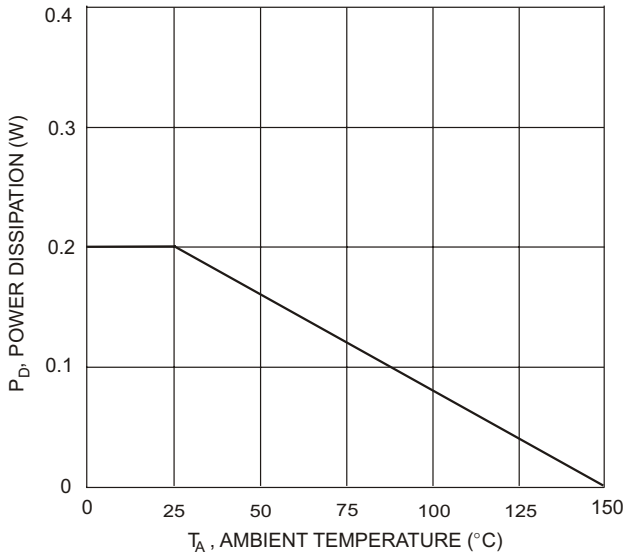


Fig. 1 Power Derating Curve

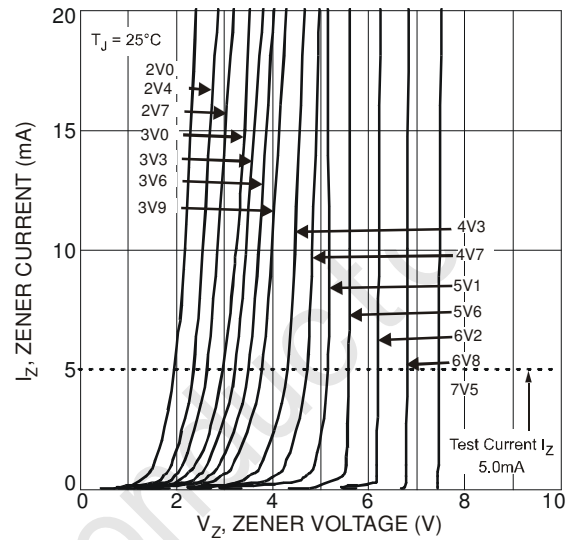


Fig. 2 Typical Zener Breakdown Characteristics



Fig. 3 Typical Zener Breakdown Characteristics

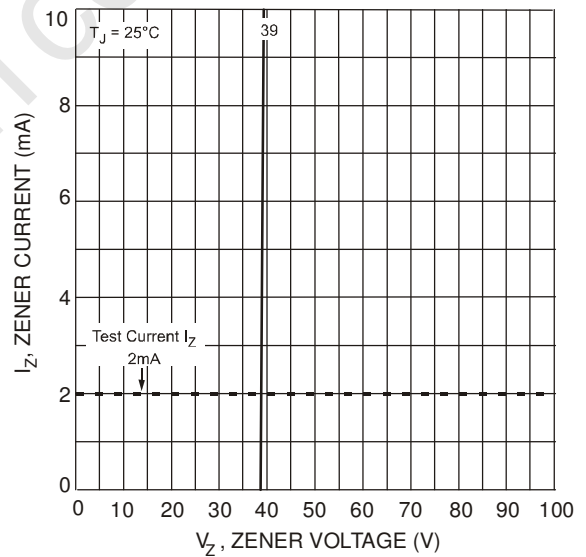


Fig. 4 Typical Zener Breakdown Characteristics



Fig. 5 Typical Temperature Coefficient of Zener Voltage

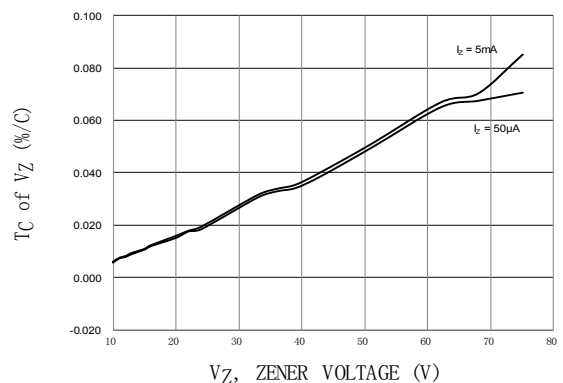
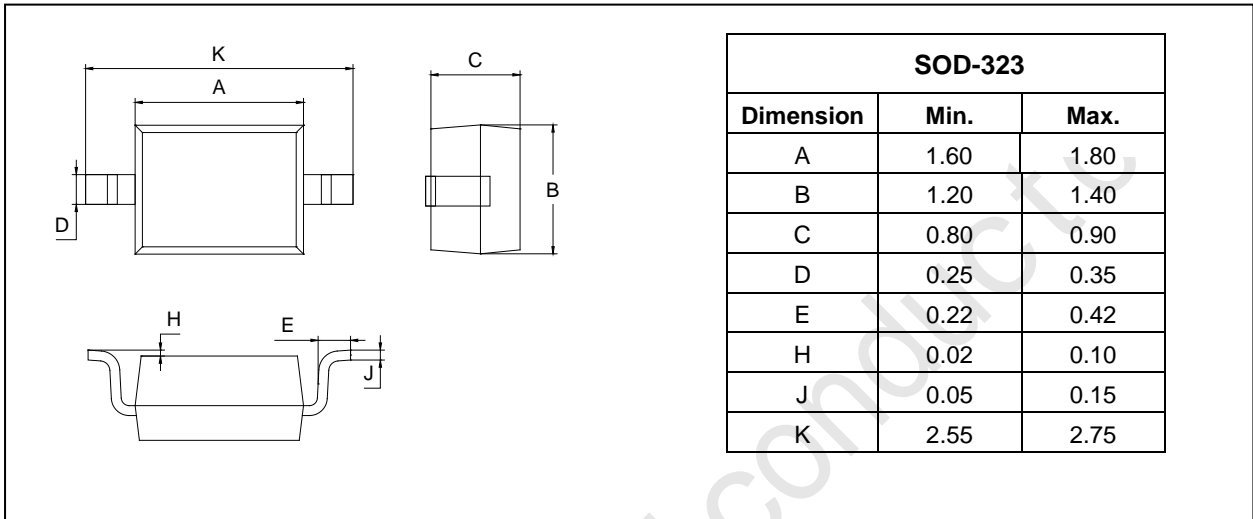


Fig. 6 Typical Temperature Coefficient of Zener Voltage

**PACKAGE OUTLINE** (Unit: mm)

Plastic surface mounted package


**MOUNTING PAD LAYOUT** (Unit: mm)

**PACKAGE INFORMATION**

Part Number	Package	Shipping Quantity
BZT52C2V0SQ - BZT52C75SQ	SOD-323	3000pcs / Tape & Reel