

# DATA SHEET

## BZT52-C2V4S SERIES

### SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE****2.4 to 39 Volts****POWER****200 mWatts****SOD-323**

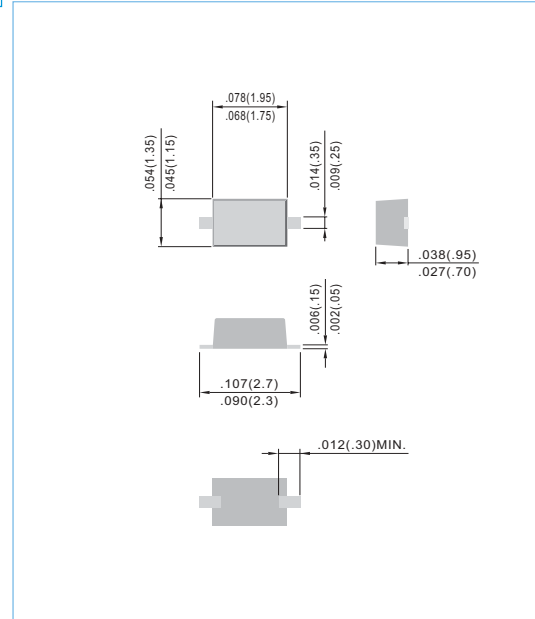
Unit: inch (mm)

#### FEATURES

- Planar Die construction
- 200mW Power Dissipation
- Zener Voltages from 2.4~39V
- Ideally Suited for Automated Assembly Processes
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

#### MECHANICAL DATA

- Case: SOD-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram Below
- Approx. Weight: 0.008 grams
- Mounting Position: Any



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Maximum Forward Voltage Drop at $I_F=10\text{mA}$	$V_F$	0.9	V
Maximum Power Dissipation (Notes A) at 25°C	$P_D$	200	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Notes B)	$I_{FSM}$	2.0	Amps
Operating Junction and Storage Temperature Range	$T_J$	-55 to +150	°C

#### NOTES:

A. Mounted on 5.0mm<sup>2</sup>(.013mm thick) land areas.

B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

Part Number	Marking Code	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current	
		V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>VT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>	
		Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V
<b>200 mWatts Zener Diodes</b>										
BZT52-C2V4S	W1	2.4	2.28	2.52	85	5.0	600	1.00	100	1.0
BZT52-C2V7S	W2	2.7	2.57	2.84	83	5.0	500	1.00	75	1.0
BZT52-C3S	W3	3.0	2.85	3.15	95	5.0	500	1.00	50	1.0
BZT52-C3V3S	W4	3.3	3.14	3.47	95	5.0	500	1.00	25	1.0
BZT52-C3V6S	W5	3.6	3.42	3.78	95	5.0	500	1.00	15	1.0
BZT52-C3V9S	W6	3.9	3.71	4.10	95	5.0	500	1.00	10	1.0
BZT52-C4V3S	W7	4.3	4.09	4.52	95	5.0	500	1.00	5.0	1.0
BZT52-C4V7S	W8	4.7	4.47	4.94	78	5.0	500	1.00	5.0	2.0
BZT52-C5V1S	W9	5.1	4.85	5.36	60	5.0	480	1.00	0.1	0.8
BZT52-C5V6S	WA	5.6	5.32	5.88	40	5.0	400	1.00	0.1	1.0
BZT52-C6V2S	WB	6.2	5.89	6.51	10	5.0	200	1.00	0.1	2.0
BZT52-C6V8S	WC	6.8	6.46	7.14	8	5.0	150	1.00	0.1	3.0
BZT52-C7V5S	WD	7.5	7.13	7.88	7	5.0	50	1.00	0.1	5.0
BZT52-C8V2S	WE	8.2	7.79	8.61	7	5.0	50	1.00	0.1	6.0
BZT52-C9V1S	WF	9.1	8.65	9.56	10	5.0	50	1.00	0.1	7.0
BZT52-C10S	WG	10	9.50	10.50	15	5.0	70	1.00	0.1	7.5
BZT52-C11S	WH	11	10.45	11.55	20	5.0	70	1.00	0.1	8.5
BZT52-C12S	WI	12	11.40	12.60	20	5.0	90	1.00	0.1	9.0
BZT52-C13S	WK	13	12.35	13.65	25	5.0	110	1.00	0.1	10.0
BZT52-C15S	WL	15	14.25	15.75	30	5.0	110	1.00	0.1	11.0
BZT52-C16S	WM	16	15.20	16.80	40	5.0	170	1.00	0.1	12.0
BZT52-C18S	WN	18	17.10	18.90	50	5.0	170	1.00	0.1	14.0
BZT52-C20S	WO	20	19.00	21.00	50	5.0	220	1.00	0.1	15.0
BZT52-C22S	WP	22	20.90	23.10	55	5.0	220	1.00	0.1	17.0
BZT52-C24S	WR	24	22.80	25.20	80	5.0	220	1.00	0.1	18.0
BZT52-C27S	WS	27	25.65	28.35	80	5.0	250	1.00	0.1	20.0
BZT52-C30S	WT	30	28.50	31.50	80	5.0	250	1.00	0.1	22.5
BZT52-C33S	WU	33	31.35	34.65	80	5.0	250	1.00	0.1	25.0
BZT52-C36S	WW	36	34.20	37.80	90	5.0	250	1.00	0.1	27.0
BZT52-C39S	WX	39	37.05	40.95	90	5.0	300	1.00	0.1	29.0

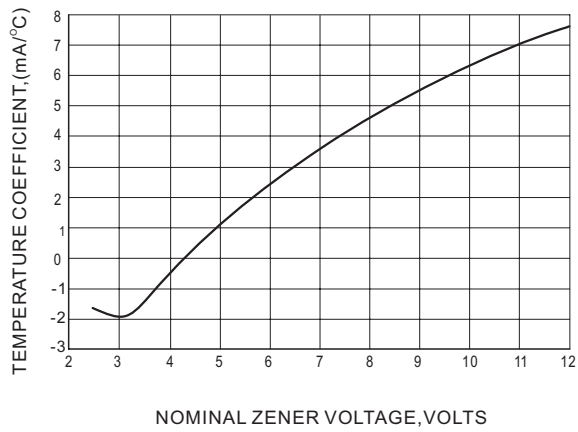


Fig.1 TEMPERATURE COEFFICIENTS

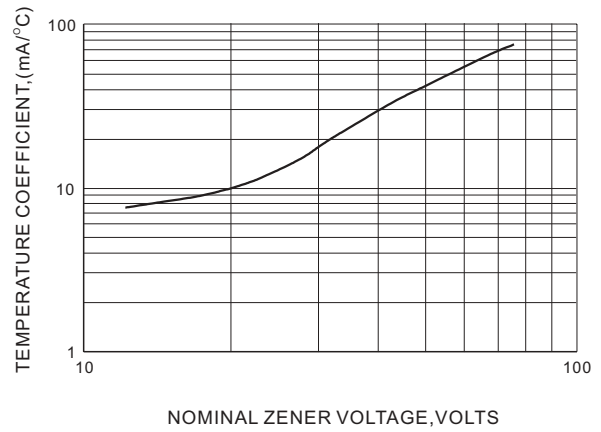


Fig.2 TEMPERATURE COEFFICIENTS

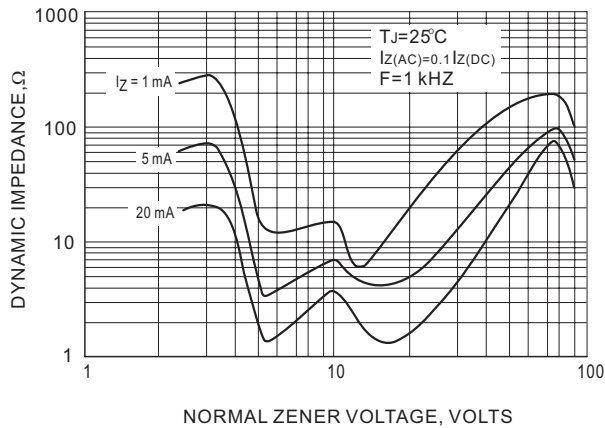


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

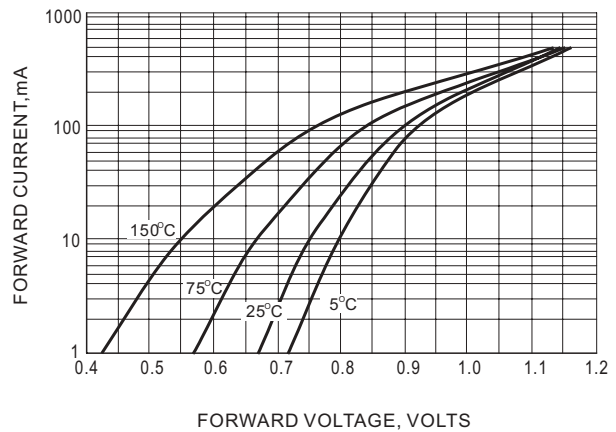


Fig.4 TYPICAL FORWARD VOLTAGE

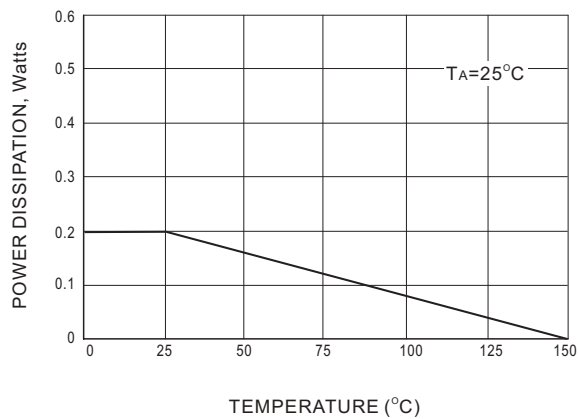


Fig.5 STEADY STATE POWER DERATING

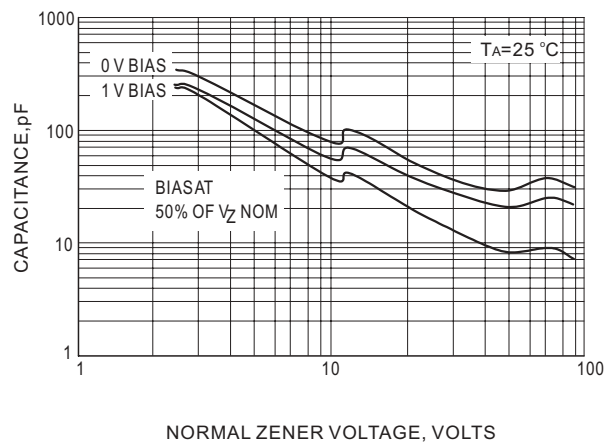


Fig.6 TYPICAL CAPACITANCE

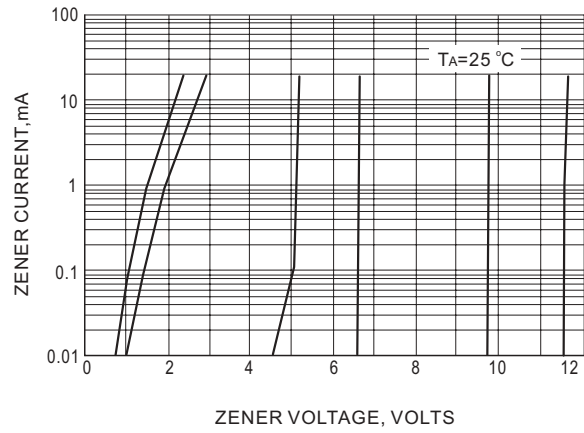


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

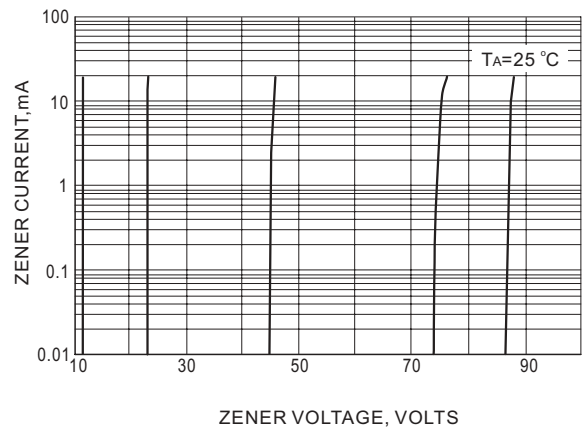


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

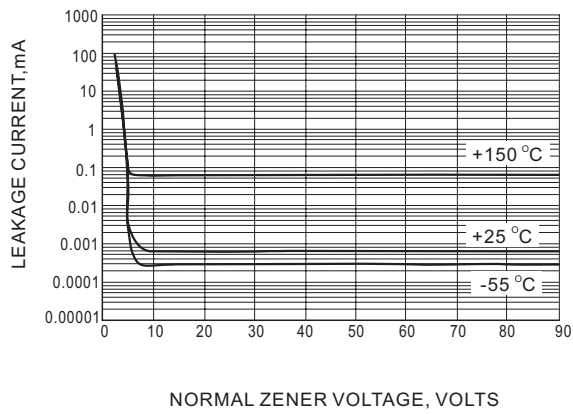


Fig.9 TYPICAL LEAKAGE CURRENT