



Micro Commercial Components  
 21201 Itasca Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# BZT52C2V4S THRU BZT52C39S

**200 mW**  
**Zener Diodes**  
**2.4 to 39 Volts**

## Features

- Planar Die construction
- 200mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Ideally Suited for Automated Assembly Processes

## Mechanical Data

- Case: SOD-323 Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Approx. Weight: 0.008 gram
- Mounting Position: Any
- Storage & Operating Junction Temperature: -55°C to +150°C

Maximum Ratings @ 25°C Unless Otherwise Specified

<b>Zener Current</b>	<b>I<sub>F</sub></b>	<b>100</b>	<b>mA</b>
<b>Maximum Forward Voltage</b>	<b>V<sub>F</sub></b>	<b>1.2</b>	<b>V</b>
<b>Power Dissipation (Notes A)</b>	<b>P<sub>(AV)</sub></b>	<b>200</b>	<b>mWatt</b>
<b>Peak Forward Surge Current (Notes B)</b>	<b>I<sub>FSM</sub></b>	<b>2.0</b>	<b>Amps</b>

### 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.

### SOD323

DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.090	.107	2.30	2.70	
B	.068	.078	1.75	1.95	
C	.045	.054	1.15	1.35	
D	.027	.038	0.70	0.95	
E	.009	.014	0.25	0.35	
F	.002	.006	0.05	0.15	
G	.012	---	0.30	---	

### SUGGESTED SOLDER PAD LAYOUT

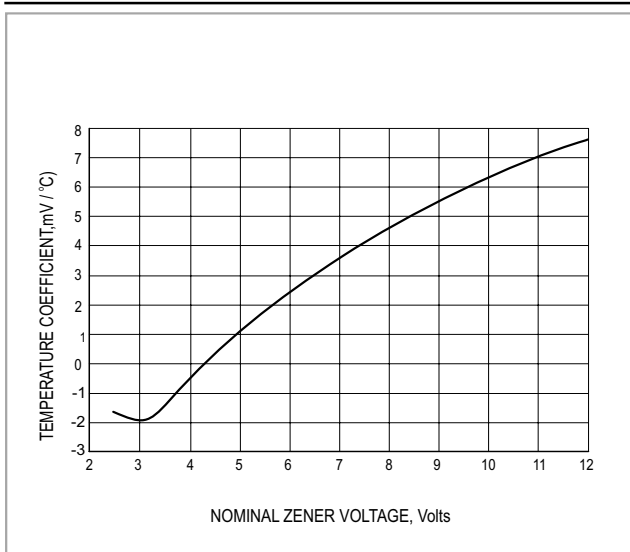
# BZT52C2V4S thru BZT52C39S

Electrical Characteristics @ 25°C Unless Otherwise Specified

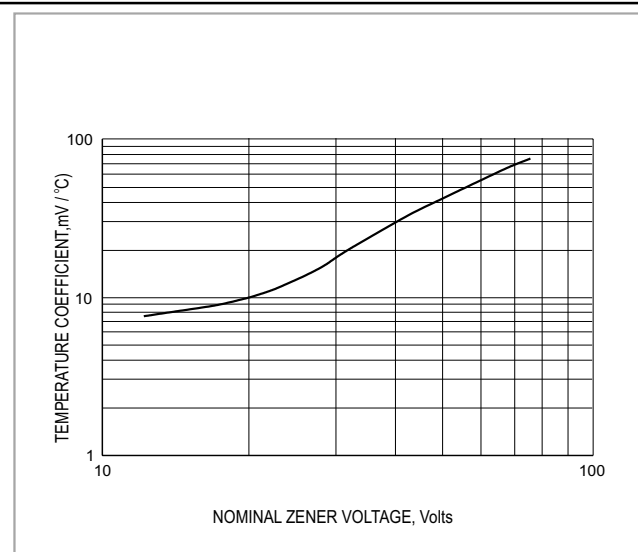
MCC PART NUMBER	Marking	NORMAL ZENER VOLTAGE Vz @ Izt	TEST CURRENT Izt	MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY		MAXIMUM REVERSE LEAKAGE CURRENT		TYPICAL TEMP COEFFICIENT
				Zzt @ Izt	Zzk @ Izk=0.25mA	Ir @ Vr		
		VOLTS	mA	OHMS	OHMS	uA	VOLTS	Tc
BZT52C2V4S	W1	2.4	5	85	600	100	1.0	-0.075
BZT52C2V7S	W2	2.7	5	83	500	75	1.0	-0.065
BZT52C3S	W3	3.0	5	95	500	50	1.0	-0.060
BZT52C3V3S	W4	3.3	5	95	500	25	1.0	-0.055
BZT52C3V6S	W5	3.6	5	95	500	15	1.0	-0.055
BZT52C3V9S	W6	3.9	5	95	500	10	1.0	-0.050
BZT52C4V3S	W7	4.3	5	95	500	5.0	1.0	-0.035
BZT52C4V7S	W8	4.7	5	78	500	5.0	2.0	-0.015
BZT52C5V1S	W9	5.1	5	60	480	0.1	0.8	+0.005
BZT52C5V6S	WA	5.6	5	40	400	0.1	1.0	+0.020
BZT52C6V2S	WB	6.2	5	10	200	0.1	2.0	+0.030
BZT52C6V8S	WC	6.8	5	8.0	150	0.1	3.0	+0.045
BZT52C7V5S	WD	7.5	5	7.0	50	0.1	5.0	+0.050
BZT52C8V2S	WE	8.2	5	7.0	50	0.1	6.0	+0.055
BZT52C9V1S	WF	9.1	5	10	50	0.1	7.0	+0.065
BZT52C10S	WG	10	5	15	70	0.1	7.5	+0.070
BZT52C11S	WH	11	5	20	70	0.1	8.5	+0.075
BZT52C12S	WI	12	5	20	90	0.1	9.0	+0.080
BZT52C13S	WK	13	5	25	110	0.1	10	+0.080
BZT52C15S	WL	15	5	30	110	0.1	11	+0.090
BZT52C16S	WM	16	5	40	170	0.1	12	+0.090
BZT52C18S	WN	18	5	50	170	0.1	14	+0.090
BZT52C20S	WO	20	5	50	220	0.1	15	+0.090
BZT52C22S	WP	22	5	55	220	0.1	17	+0.090
BZT52C24S	WR	24	5	80	220	0.1	18	+0.090
BZT52C27S	WS	27	5	80	250	0.1	20	+0.090
BZT52C30S	WT	30	5	80	250	0.1	22.5	+0.090
BZT52C33S	WU	33	5	80	250	0.1	25	+0.090
BZT52C36S	WW	36	5	90	250	0.1	27	+0.090
BZT52C39S	WX	39	5	90	300	0.1	29	+0.110

**NOTE:**

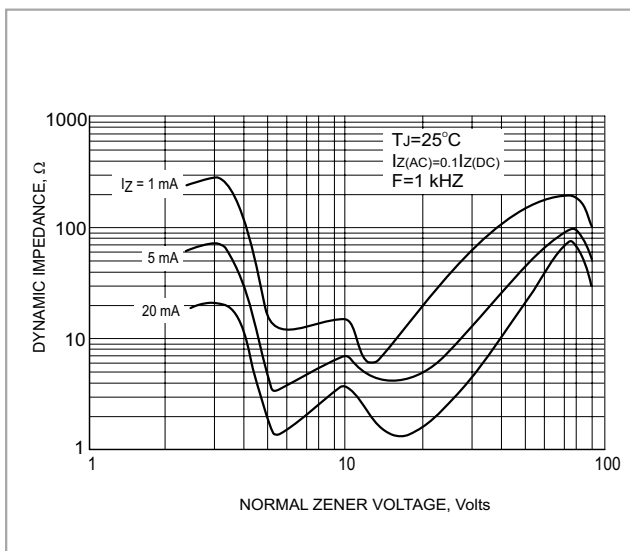
1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
2. Specials Available Include:
  - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - B. Matched sets.
3. Zener Voltage (Vz) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T<sub>L</sub>) at 30°C, from the diode body.
4. Zener Impedance (Zz) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current having an rms value equal to 10% of the dc zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>.
5. Surge Current (I<sub>R</sub>) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I<sub>ZT</sub>, per JEDEC registration; however, actual device capability is as described in Figure 5.



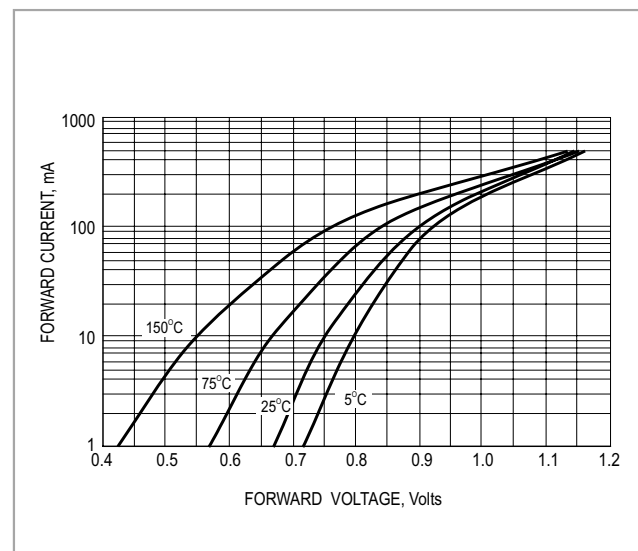
**TYPICAL REVERSE CURRENT**



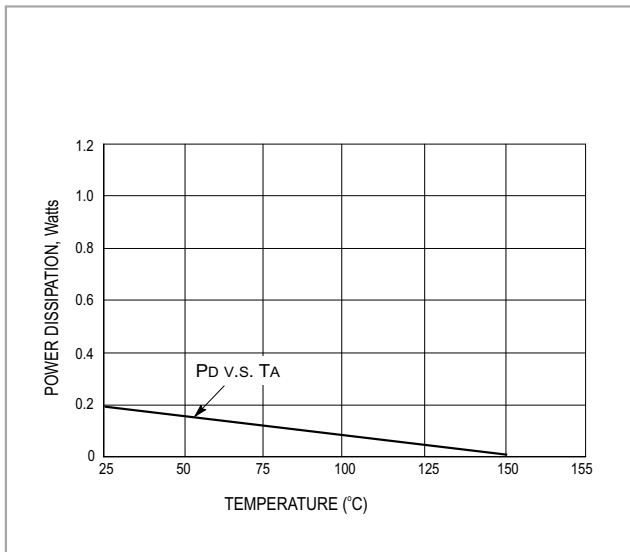
**STEADY STATE POWER DERATING**



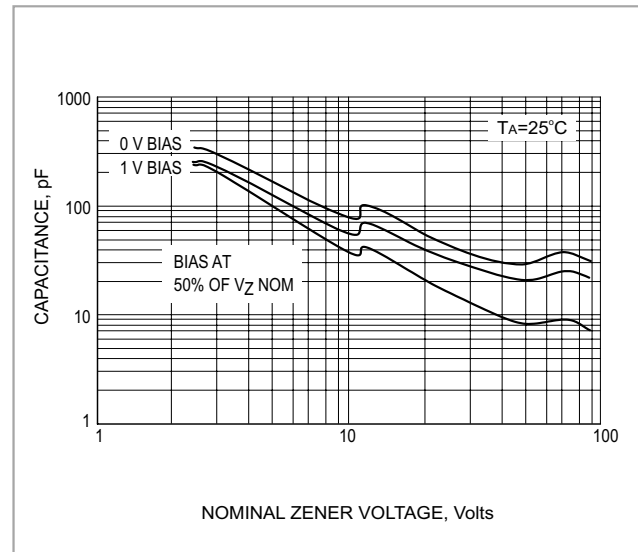
**EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE**



**TYPICAL FORWARD VOLTAGE**



**STEADY STATE POWER DERATING**



**TYPICAL CAPACITANCE**

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