



DESCRIPTION

The BZT52C2V4-Q ~ BZT52C51-Q are available in SOD-123 package.

ORDERING INFORMATION

Package Type	Part Number	
SOD-123	BZT52C2V4-Q	BZT52C12-Q
	BZT52C2V7-Q	BZT52C13-Q
	BZT52C3V0-Q	BZT52C15-Q
	BZT52C3V3-Q	BZT52C16-Q
	BZT52C3V6-Q	BZT52C18-Q
	BZT52C3V9-Q	BZT52C20-Q
	BZT52C4V3-Q	BZT52C22-Q
	BZT52C4V7-Q	BZT52C24-Q
	BZT52C5V1-Q	BZT52C27-Q
	BZT52C5V6-Q	BZT52C30-Q
	BZT52C6V2-Q	BZT52C33-Q
	BZT52C6V8-Q	BZT52C36-Q
	BZT52C7V5-Q	BZT52C39-Q
	BZT52C8V2-Q	BZT52C43-Q
	BZT52C9V1-Q	BZT52C47-Q
	BZT52C10-Q	BZT52C51-Q
	BZT52C11-Q	
3,000pcs/Reel		
AiT provides all RoHS Compliant Products		

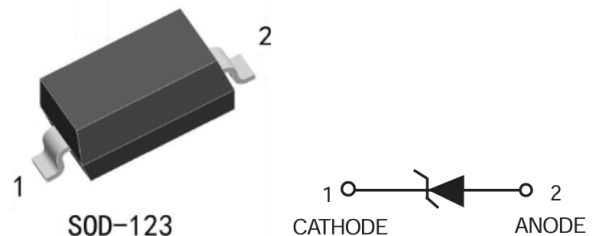
FEATURE

- 500mW Power Dissipation.
- Zener Breakdown Voltage Range: 2.4V to 51V.
- RoHS and Halogen Free.
- AEC-Q101 Qualified.

MECHANICAL DATA

- CASE: Void- SOD-123 Molded plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Indicated by Polarity Band
- Weight: 0.01grams(approx.)

PIN DESCRIPTION



PIN#	DESCRIPTION
1	CATHODE
2	ANODE

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

P _D , Total Device Dissipation FR-5 Board	T _A = 25°C	500mW
R _{θJA} , Thermal Resistance Junction to Ambient		305°C/W
T _J Junction Temperature Range		-55°C ~ +150°C
T _{STG} , Storage Temperature Range		-55°C ~ +150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability. Device mounted on ceramic PCB; 7.6mm 9.4mm 0.87mm with pad areas 25mm².



ELECTRICAL CHARACTERISTICS

T_A=25°C unless otherwise specified. V_F = 0.9V Max. @ I_F = 10 mA for all types.

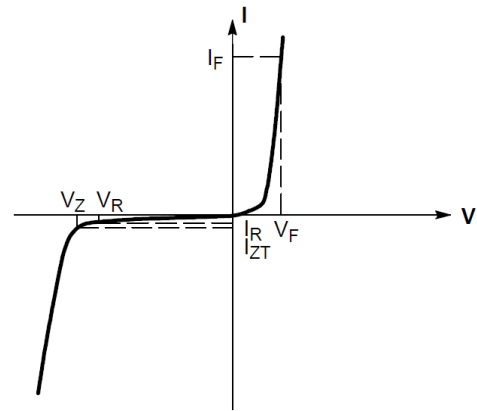
Part Number	Zener Voltage Range ⁽¹⁾				Maximum Zener Impedance ⁽²⁾			Maximum Reverse Current		Typical Temperature Coefficient @ I _{ZT} mV/°C		Test Current I _{ZTC}
	V _Z @ I _{ZT}			@I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	@V _R			
	Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V	Min	Max	mA
BZT52C2V4-Q	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52C2V7-Q	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52C3V0-Q	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52C3V3-Q	3.3	3.1	3.5	5	95	600	1.0	5.0	1.0	-3.5	0	5
BZT52C3V6-Q	3.6	3.4	3.8	5	90	600	1.0	5.0	1.0	-3.5	0	5
BZT52C3V9-Q	3.9	3.7	4.1	5	90	600	1.0	3.0	1.0	-3.5	0	5
BZT52C4V3-Q	4.3	4.0	4.6	5	90	600	1.0	3.0	1.0	-3.5	0	5
BZT52C4V7-Q	4.7	4.4	5.0	5	80	500	1.0	3.0	2.0	-3.5	0.2	5
BZT52C5V1-Q	5.1	4.8	5.4	5	60	480	1.0	2.0	2.0	-2.7	1.2	5
BZT52C5V6-Q	5.6	5.2	6.0	5	40	400	1.0	1.0	2.0	-2.0	2.5	5
BZT52C6V2-Q	6.2	5.8	6.6	5	10	150	1.0	3.0	4.0	0.4	3.7	5
BZT52C6V8-Q	6.8	6.4	7.2	5	15	80	1.0	2.0	4.0	1.2	4.5	5
BZT52C7V5-Q	7.5	7.0	7.9	5	15	80	1.0	1.0	5.0	2.5	5.3	5
BZT52C8V2-Q	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1-Q	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10-Q	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11-Q	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12-Q	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13-Q	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15-Q	15	13.8	15.8	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16-Q	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18-Q	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20-Q	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22-Q	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24-Q	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C27-Q	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30-Q	30	28.0	32	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33-Q	33	31.0	35	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36-Q	36	34.0	38	2	90	350	0.5	0.1	25.2	30.4	37.4	2
BZT52C39-Q	39	37.0	41	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43-Q	43	40.0	46	2	100	700	1.0	0.1	32	10.0	12.0	5
BZT52C47-Q	47	44.0	50	2	100	750	1.0	0.1	35	10.0	12.0	5
BZT52C51-Q	51	48.0	54	2	100	750	1.0	0.1	38	10.0	12.0	5

1. Tested with pulses, period = 5ms, pulse width = 300us.

2. f=1KHz



Symbols	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
θ_{VZ}	Maximum Temperature Coefficient of V_Z
C	Max. Capacitance @ $V_R = 0$ and $f = 1\text{MHz}$



Zener Voltage Regulator

TYPICAL CHARACTERISTICS

Fig 1. Power Dissipation vs Ambient temperature

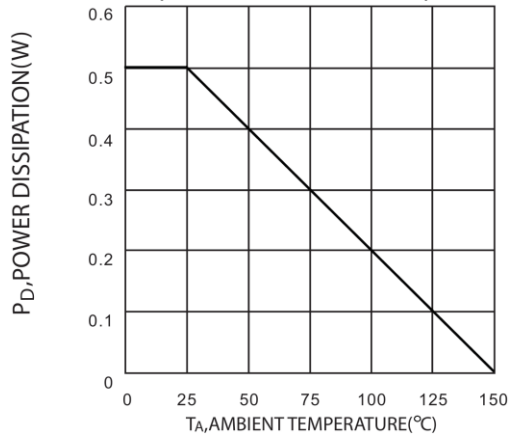
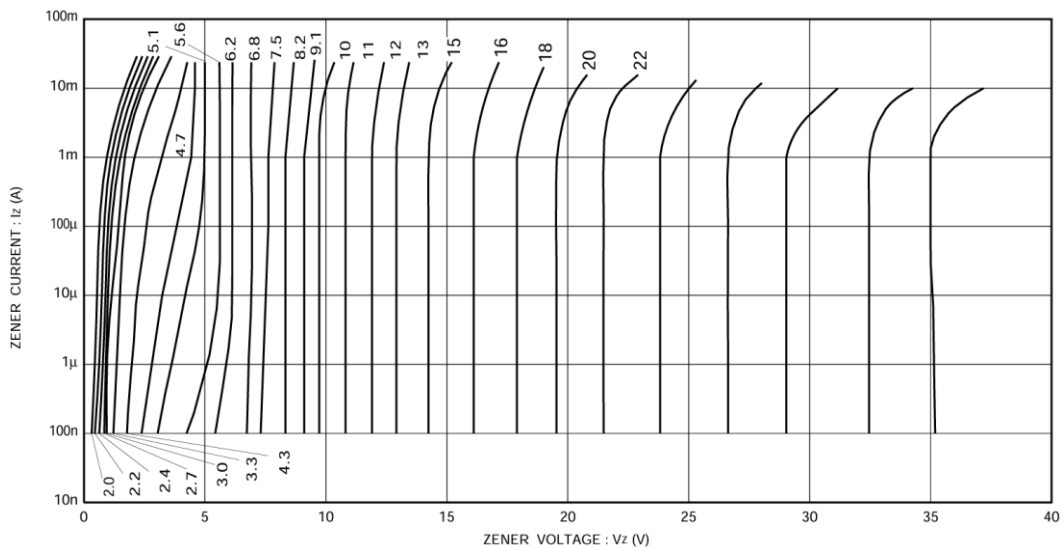


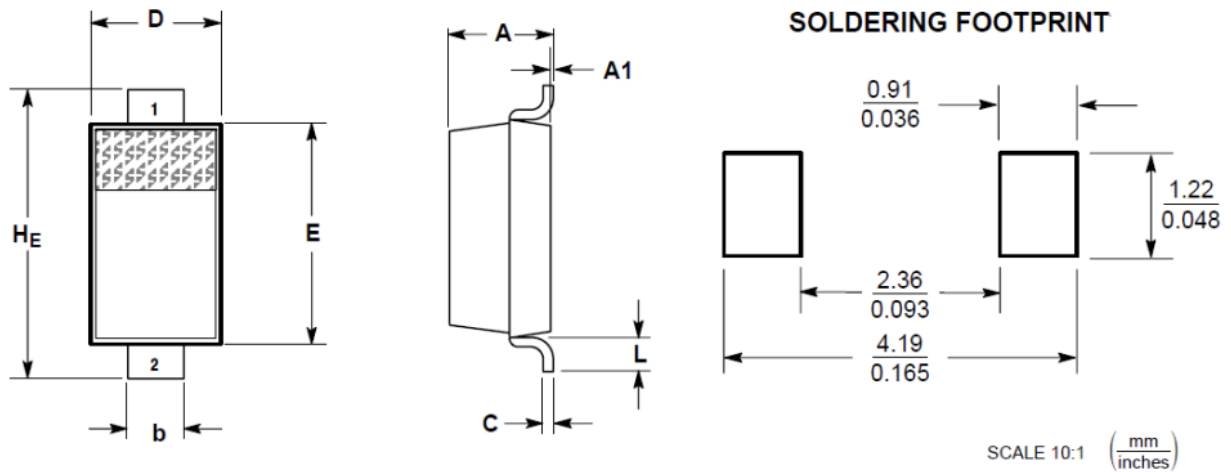
Fig 2 Zener Voltage Characteristics





PACKAGE INFORMATION

Dimension in SOD-123 (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.94	1.35	0.037	0.053
A1	0.00	0.10	0.000	0.004
b	0.51	0.71	0.020	0.028
c	-	0.15	-	0.006
D	1.40	1.80	0.055	0.071
E	2.54	2.84	0.100	0.112
HE	3.56	3.86	0.140	0.152
L	0.25	-	0.010	-



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