

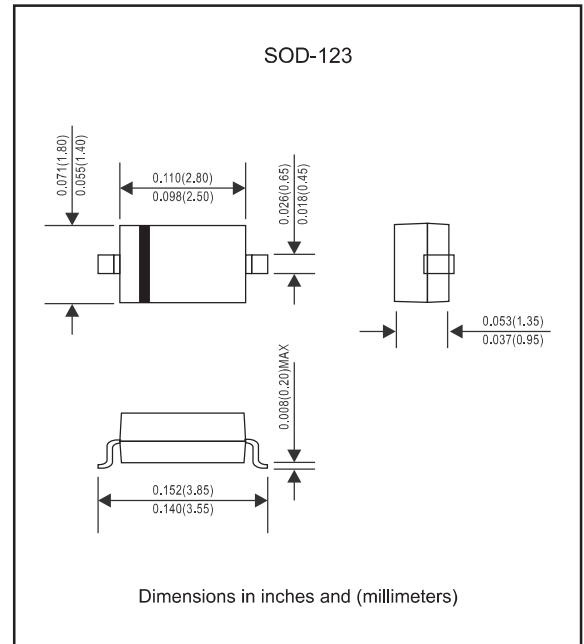
Features

- Silicon epitaxial planar chip structure.
- Zener Breakdown Voltage Range, 3.3V ex.BZT52B3V3.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Pb-Free package is available.
- Compliant to Halogen-free

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	@ $I_F = 10\text{mA}$	V_F			0.9	V
Total power dissipation	at $T_A=25^\circ\text{C}$ note1	P_D			500	mW
Thermal resistance	Junction to ambient, note 1 Junction to case, note1	$R_{\theta JA}$ $R_{\theta JC}$		305 200		$^\circ\text{C/W}$ $^\circ\text{C/W}$
Operating junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+150	$^\circ\text{C}$

Note1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad area 25mm²

Electrical characteristics (at $T_A=25^\circ\text{C}$ unless otherwise noted)

Type Number	Type Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @ I_{ZTC}		Test Current I_{ZTC}
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R	mV/ $^\circ\text{C}$		
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V	Min	Max	
BZT52B3V3	2W3/4F	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5

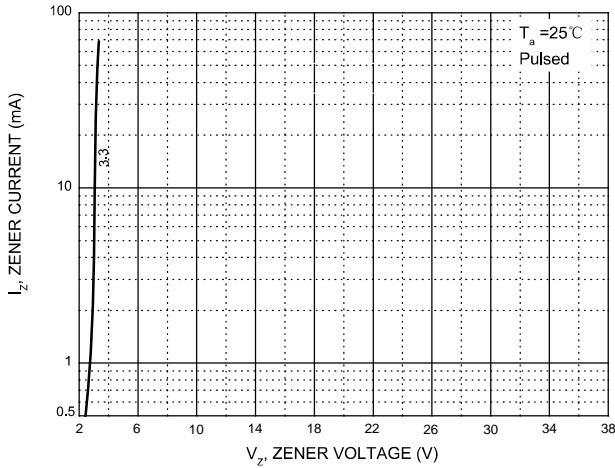
Notes: 1. Device mounted on ceramic PCB:7.6mm x 9.4mm x 0.87mm with pad areas 25mm²

2. Short duration test pulse used to minimize self-heating effect

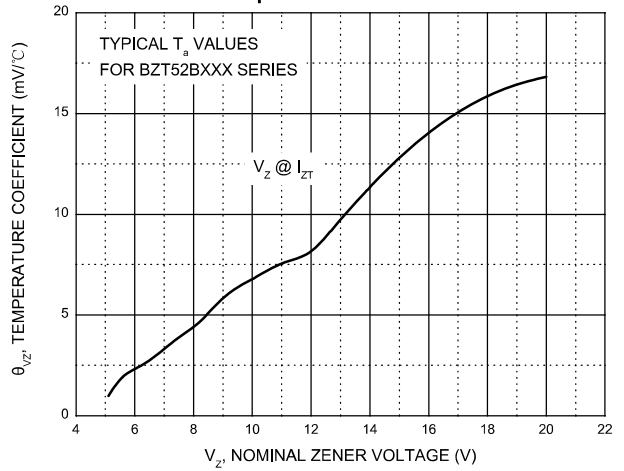
3 $f = 1\text{kHz}$

Rating and characteristic curves

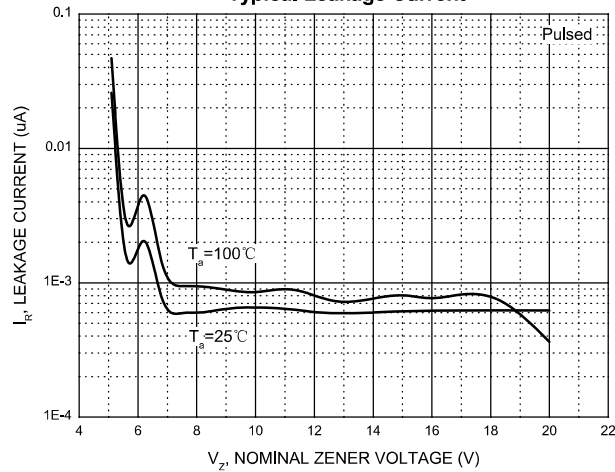
Zener Characteristics (V_z 5.1V to 20 V)



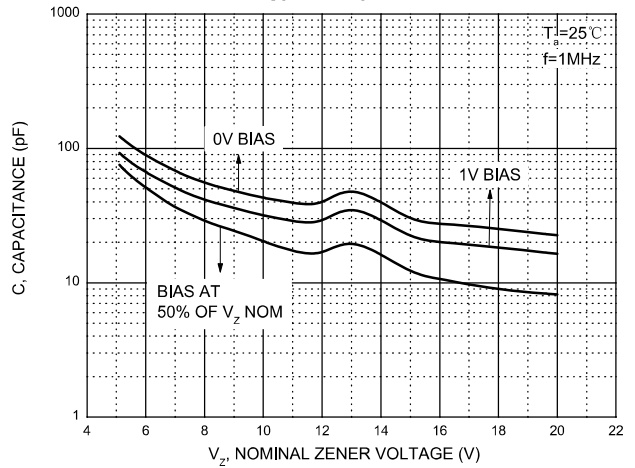
Temperature Coefficients



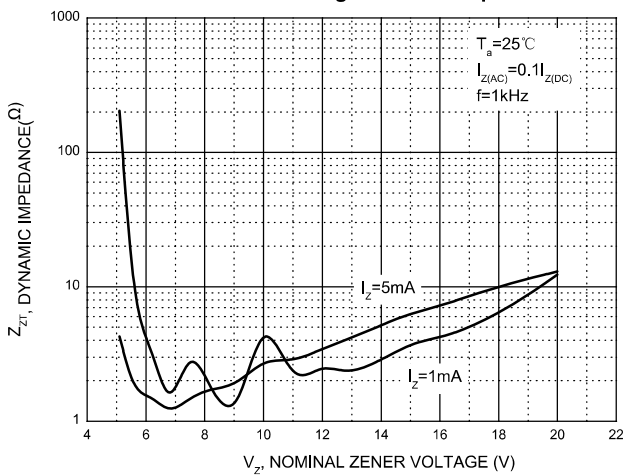
Typical Leakage Current



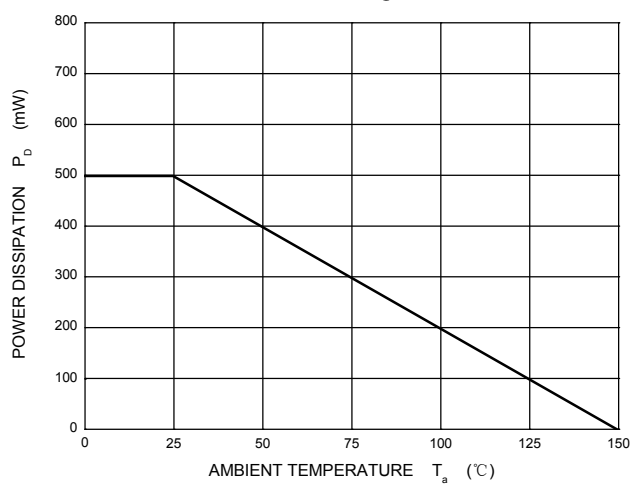
Typical Capacitance





Effect of Zener Voltage on Zener Impedance



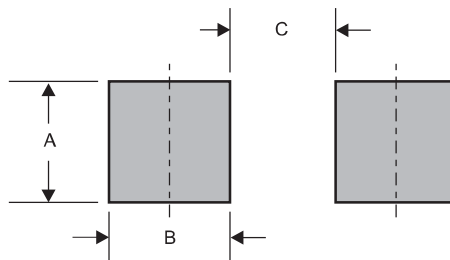
Power Derating Curve



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.048 (1.22)	0.036 (0.91)	0.093 (2.36)