

## Features

- Planar Die Construction
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 5 and 6)**

## Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)



Top View

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	$P_D$	410	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	305	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	°C

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Type Number	Marking Code (Note 3)	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 4)			Maximum Reverse Current (Note 2)	
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R$	@ $V_R$
		Nom (V)	Min (V)	Max (V)	mA	$\Omega$		mA	$\mu\text{A}$	V
BZT52C43	WU/WU	43	40.0	46.0	5	100	700	1.0	0.1	32
BZT52C47	WV/WZ	47	44.0	50.0	5	100	750	1.0	0.1	35
BZT52C51	WW/X1	51	48.0	54.0	5	100	750	1.0	0.1	38

- Notes:
1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.
  2. Short duration pulse test used to minimize self-heating effect.
  3. When provided, otherwise, parts are provided with date code only, and type number identification appears on reel only.
  4.  $f = 1\text{kHz}$ .
  5. No purposefully added lead. Halogen and Antimony Free.
  6. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb<sub>2</sub>O<sub>3</sub> Fire Retardants.

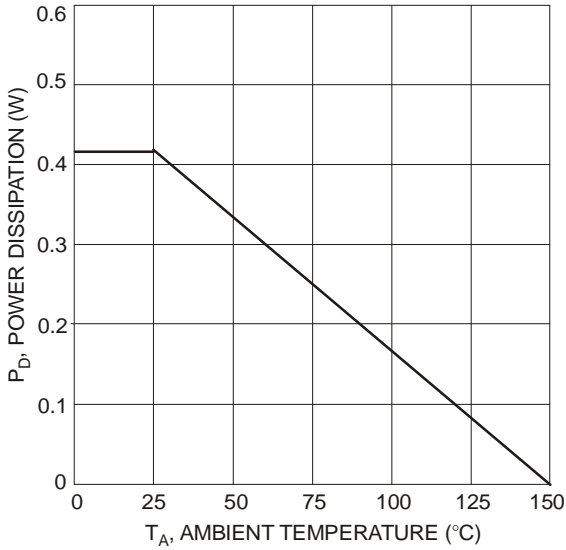


Fig. 1 Power Derating Curve

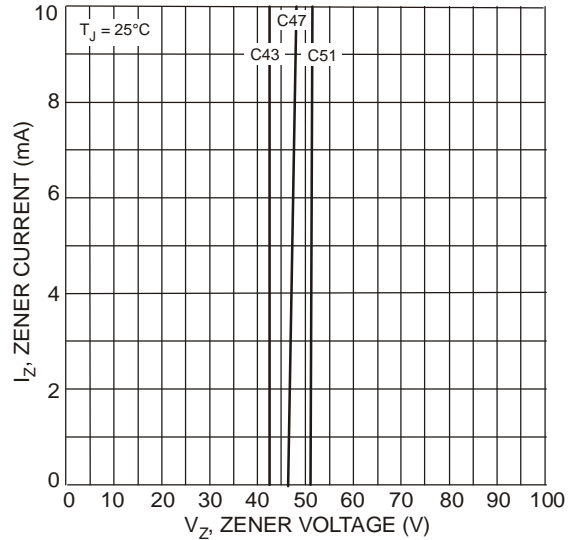


Fig. 2 Typical Zener Breakdown Characteristics

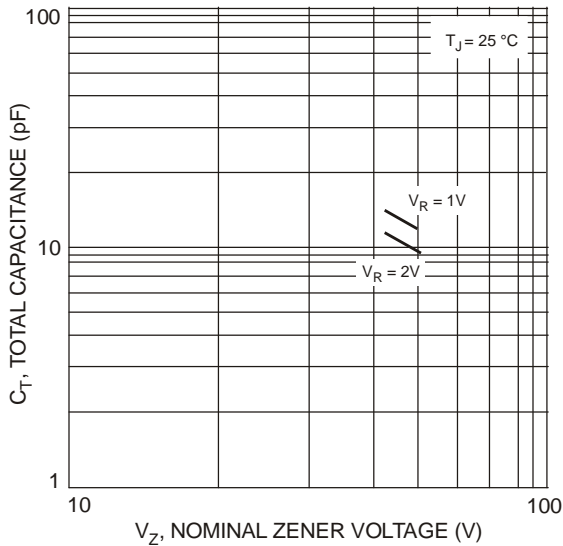


Fig. 3 Typical Total Capacitance vs. Nominal Zener Voltage

**Ordering Information** (Note 7)

Part Number	Case	Packaging
BZT52CXX-7-F*	SOD-123	3000/Tape & Reel

\*Replace "XX" with the nominal Zener breakdown voltage; i.e. Part number for 43V device would be BZT52C43-7-F.

Notes: 7. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



xx = Product Type Marking Code  
 (See Electrical Characteristics Table)  
 YM = Date Code Marking  
 Y = Year (ex: N = 2002)  
 M = Month (ex: 9 = September)

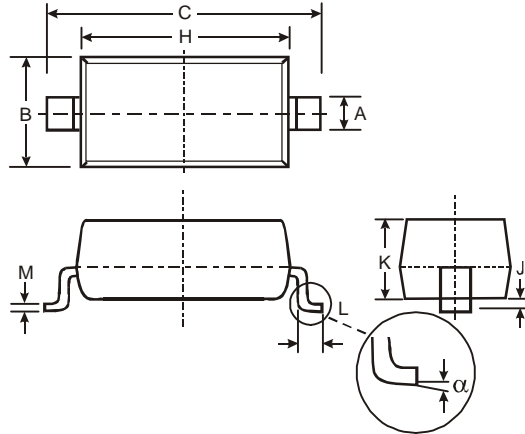
Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2111	2012
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

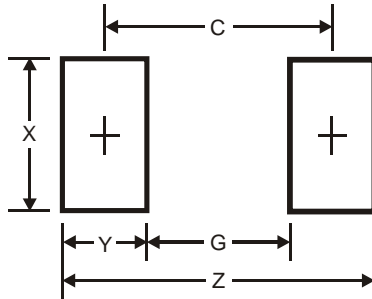
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Package Outline Dimensions**



SOD-123		
Dim	Min	Max
A	0.55 Typ	
B	1.40	1.70
C	3.55	3.85
H	2.55	2.85
J	0.00	0.10
K	1.00	1.35
L	0.25	0.40
M	0.10	0.15
α	0	8°
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	4.9
G	2.5
X	0.7
Y	1.2
C	3.7

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