

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	Ω		mA	μA	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:
- Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
 - Short duration pulse test used to minimize self-heating effect.
 - When provided, otherwise, parts are provided with date code only, and type number identification appears on reel only.
 - $f = 1\text{kHz}$.
 - No purposefully added lead. Halogen and Antimony Free.
 - 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 Sb₂O₃ Fire Retardants.

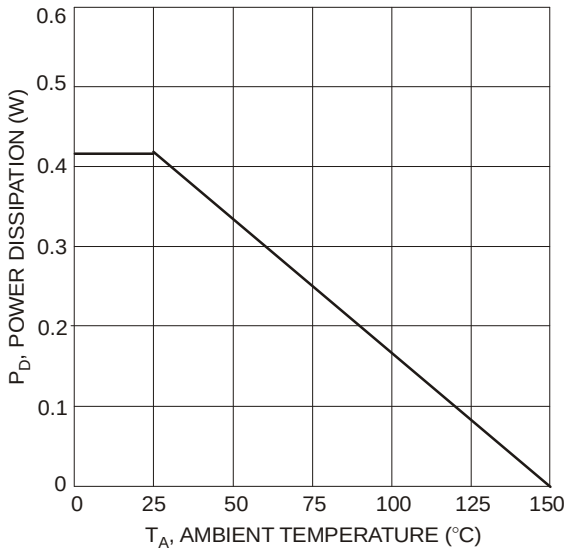


Fig. 1 Power Derating Curve

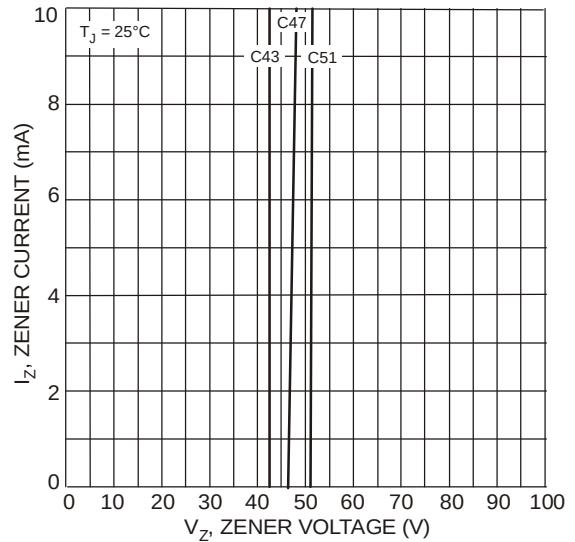


Fig. 2 Typical Zener Breakdown Characteristics

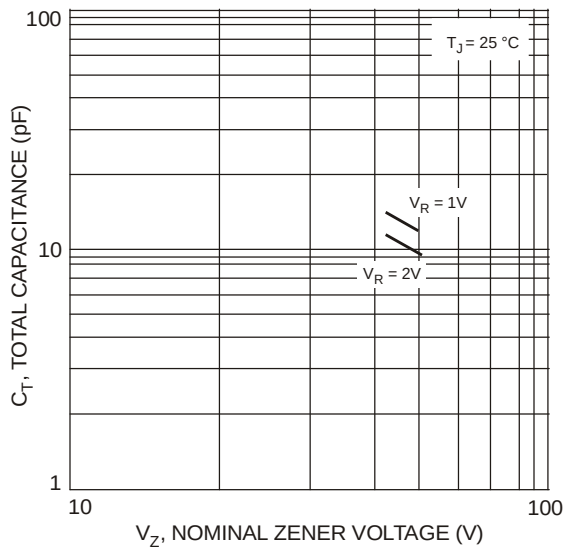


Fig. 3 Typical Total Capacitance vs. Nominal Zener Voltage

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



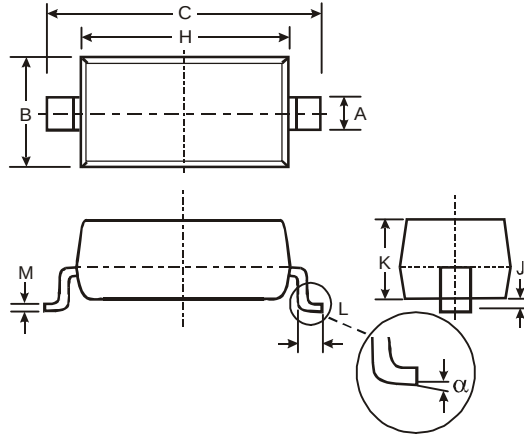
xx = Product Type Marking Code
(See Electrical Characteristics Table)
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

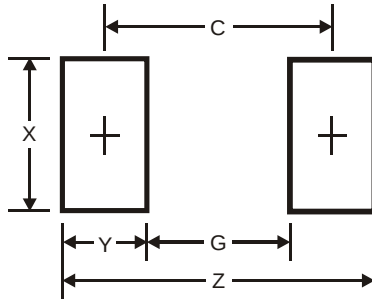
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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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