

Features

- Flat Lead Package Design for Low Profile and High Power Dissipation
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**
- The BZT52HC5V6WFQ - BZT52HC18WFQ are suitable for automotive applications requiring specific change control; these parts are AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**
<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

- Case: SOD123F
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish—Matte Tin Annealed over Copper Alloy Leadframe. Solderable per MIL-STD-202, Method 208 
- Polarity: Cathode Band
- Weight: 0.015 grams (Approximate)

SOD123F (Type B)



Top View



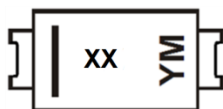
Bottom View

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
BZT52HC5V6WFQ-7	Automotive	SOD123F (Type B)	3000/Tape & Reel
BZT52HC18WFQ-7	Automotive	SOD123F (Type B)	3000/Tape & Reel

- Notes:
- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 - See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



XX = Product Type Marking Code
 (See Electrical Characteristics Table)
 YM = Date Code Marking
 Y = Year (ex: 1 = 2021)
 M = Month (ex: 9 = September)

Date Code Key

Year	2018		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Code	F		I	J	K	L	M	N	O	P	R	S

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

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 5) @ $I_F = 10\text{mA}$	V_F	0.9	V
Forward Current	I_F	250	mA

Thermal Characteristics

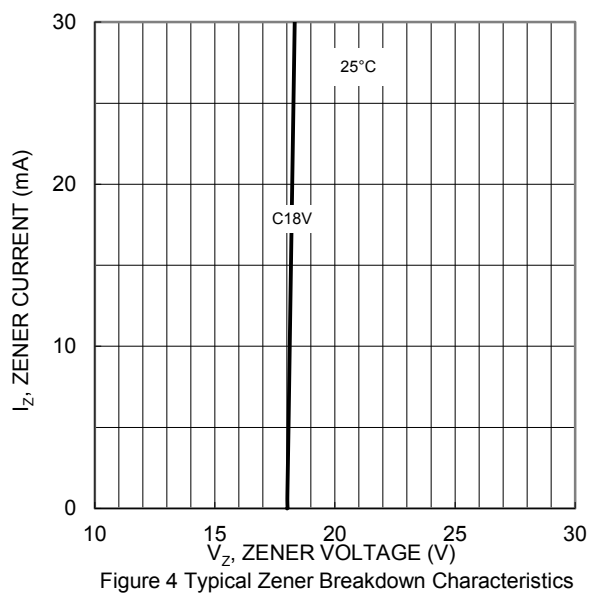
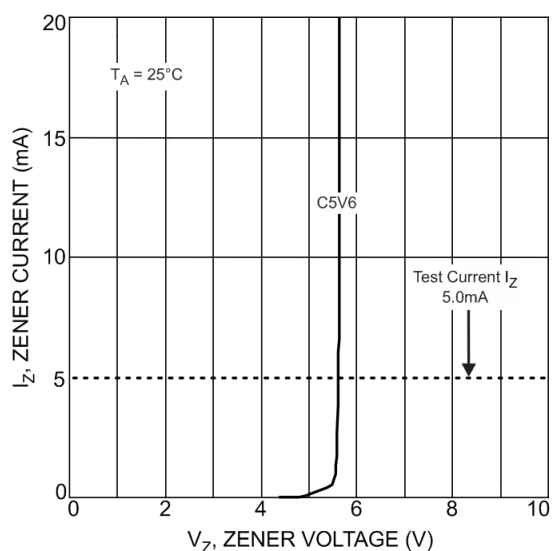
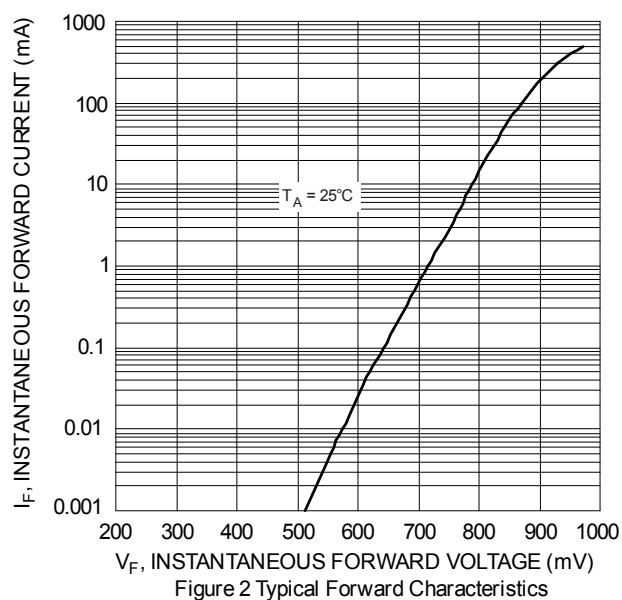
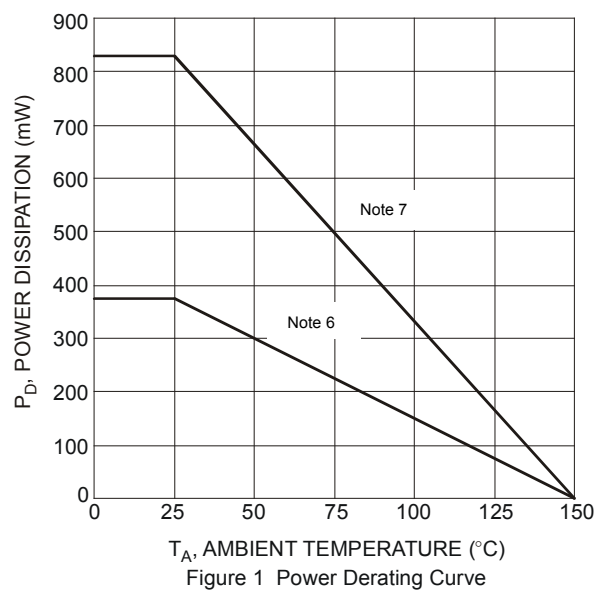
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_D	375	mW
Power Dissipation (Note 7)	P_D	830	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	$R_{\theta JA}$	330	$^\circ\text{C/W}$
Thermal Resistance, Junction to Ambient Air (Note 7)	$R_{\theta JA}$	150	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Notes: 5. Short duration pulse test used to minimize self-heating effect.
6. Device mounted on FR-4 PCB with minimum recommended pad layout, as shown in Diodes Incorporated's Suggested Pad Layout document, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
7. Device mounted on FR-4 PCB with mounting pad for cathode 1cm^2 .

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Type Number	Marking Codes	Zener Voltage Range (Note 8)			Maximum Zener Impedance (Note 9)			Temperature Coefficient		Total Capacitance	Maximum Reverse Current (Note 8)	
		$V_Z @ I_{ZT}$		I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$T_C @ I_{ZT}$		$C_T @ f = 1\text{MHz}, V_R = 0\text{V}$	I_R	@ V_R
		Min (V)	Max (V)	mA	Ω		mA	Min (mV/ $^\circ\text{C}$)	Max (mV/ $^\circ\text{C}$)	Max (pF)	μA	V
BZT52HC5V6WFQ	W9	5.2	6.0	5	40	400	1	-2.0	2.5	300	1	2
BZT52HC18WFQ	WL	16.8	19.1	5	20	170	1	12.4	16.0	70	0.05	12.6

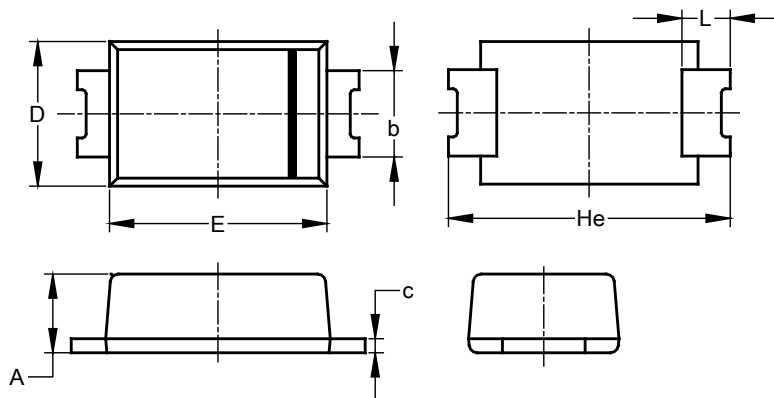
Notes: 8. Short duration pulse test used to minimize self-heating effect.
9. $f = 1\text{kHz}$.



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOD123F (Type B)

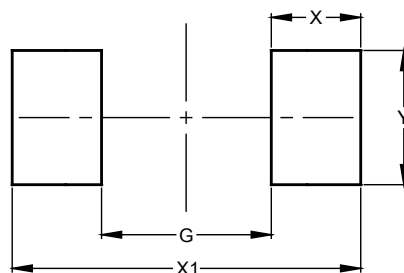


SOD123F (Type B)			
Dim	Min	Max	Typ
A	0.81	1.15	--
b	0.80	1.35	--
c	0.05	0.30	--
D	1.70	1.90	1.80
E	2.60	2.80	2.70
He	3.30	3.70	3.50
L	0.35	0.85	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOD123F (Type B)



Dimensions	Value (in mm)
G	1.90
X	1.00
X1	3.90
Y	1.50

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