



New Product Announcement

BZT52HCxxWF
Zener Diodes

SOD123F Zener Diodes Offer Low-Profile and High Thermal Performance

Diodes Incorporated announces the introduction of a new Zener diode series, housed in the compact SOD123F package. This high-performance, small footprint flat-lead package is designed with lower thermal resistance ($R_{\theta JA} = 150^{\circ} \text{C/W}$) which enables higher power dissipation and better heat transfer properties, compared to the legacy BZT52C series in the traditional SOD123 package.

The BZT52HCxxWF series comprises 32 Zener diodes, with nominal Zener voltage ranging from 2.4V to 47V. These diodes are excellent for precise voltage reference functions, due to the sharp Zener breakdown characteristics and around $\pm 5\%$ voltage tolerance. In addition, with a low leakage current of 50nA for some devices, energy efficiency is greatly improved. This series is an exact pin-for-pin, drop-in replacement to NXP's BZT52H-C series.

These devices are ideally suited for general regulation purposes. The SOD123F package is fully green and RoHS-compliant. (See diodes.com for further details).



The Diodes Advantage

▪ Exceptional Thermal Transfer Characteristics

The flat lead design of the SOD123F package (3.5mm x 1.8mm typical) supports high power dissipation and improved stability.

▪ Good Voltage Tolerance and Low Leakage Current

The voltage tolerance $\pm 5\%$ from nominal which means the voltage variations are kept to a minimum. Furthermore, low leakage current, as low as 50nA, ensures good energy efficiency is achieved.

▪ Wide Selection of Zener Voltages

The BZT52HCxxWF series has a large selection of Zener voltages, ranging from 2.4V to 47V, which covers most design specification requirements.

▪ Low Zener Impedance

With a low Zener impedance rating, these diodes are more stable and accurate in which the voltage stays constant irrespective of current or loading.

Applications

- General Voltage Regulation
- Mobile Devices



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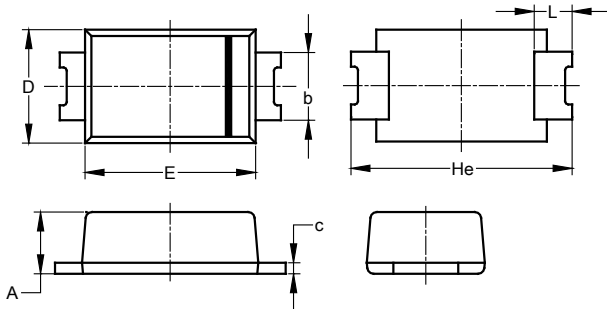
BZT52HCxxWF Zener Diodes

Product Portfolio

Type Number	Marking Codes	Zener Voltage Range (Note 1)			Maximum Zener Impedance (Note 2)			Temperature Coefficient		Total Capacitance	Maximum Reverse Current (Note 1)		Competitors	Cross Reference (Note 3)
		$V_Z @ I_{ZT}$		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/°C)	Max (mV/°C)	Max (pF)	μA	V		
BZT52HC2V4WF	WX	2.2	2.6	5	85	400	1	-3.5	0.0	450	50	1	NXP	BZT52H-C2V4
BZT52HC2V7WF	W1	2.5	2.9	5	83	500	1	-3.5	0.0	450	20	1	NXP	BZT52H-C2V7
BZT52HC3V0WF	W2	2.8	3.2	5	95	500	1	-3.5	0.0	450	10	1	NXP	BZT52H-C3V0
BZT52HC3V3WF	W3	3.1	3.5	5	95	500	1	-3.5	0.0	450	5	1	NXP	BZT52H-C3V3
BZT52HC3V6WF	W4	3.4	3.8	5	95	500	1	-3.5	0.0	450	5	1	NXP	BZT52H-C3V6
BZT52HC3V9WF	W5	3.7	4.1	5	95	500	1	-3.5	0.0	450	3	1	NXP	BZT52H-C3V9
BZT52HC4V3WF	W6	4.0	4.6	5	95	500	1	-3.5	0.0	450	3	1	NXP	BZT52H-C4V3
BZT52HC4V7WF	W7	4.4	5.0	5	78	500	1	-3.5	0.2	300	3	2	NXP	BZT52H-C4V7
BZT52HC5V1WF	W8	4.8	5.4	5	60	480	1	-2.7	1.2	300	2	2	NXP	BZT52H-C5V1
BZT52HC5V6WF	W9	5.2	6.0	5	40	400	1	-2.0	2.5	300	1	2	NXP	BZT52H-C5V6
BZT52HC6V2WF	WA	5.8	6.6	5	10	150	1	0.4	3.7	200	3	4	NXP	BZT52H-C6V2
BZT52HC6V8WF	WB	6.4	7.2	5	8	80	1	1.2	4.5	200	2	4	NXP	BZT52H-C6V8
BZT52HC7V5WF	WC	7.0	7.9	5	10	80	1	2.5	5.3	150	1	5	NXP	BZT52H-C7V5
BZT52HC8V2WF	WD	7.7	8.7	5	10	80	1	3.2	6.2	150	0.7	5	NXP	BZT52H-C8V2
BZT52HC9V1WF	WE	8.5	9.6	5	10	100	1	3.8	7.0	150	0.5	6	NXP	BZT52H-C9V1
BZT52HC10WF	WF	9.4	10.6	5	10	70	1	4.5	8.0	90	0.2	7	NXP	BZT52H-C10
BZT52HC11WF	WG	10.4	11.6	5	10	70	1	5.4	9.0	85	0.1	8	NXP	BZT52H-C11
BZT52HC12WF	WH	11.4	12.7	5	10	90	1	6.0	10.0	85	0.1	8	NXP	BZT52H-C12
BZT52HC13WF	WI	12.4	14.1	5	10	110	1	7.0	11.0	80	0.1	8	NXP	BZT52H-C13
BZT52HC15WF	WJ	13.8	15.6	5	15	110	1	9.2	13.0	75	0.05	10.5	NXP	BZT52H-C15
BZT52HC16WF	WK	15.3	17.1	5	20	170	1	10.4	14.0	75	0.05	11.2	NXP	BZT52H-C16
BZT52HC18WF	WL	16.8	19.1	5	20	170	1	12.4	16.0	70	0.05	12.6	NXP	BZT52H-C18
BZT52HC20WF	WM	18.8	21.2	5	20	220	1	14.4	18.0	60	0.05	14.0	NXP	BZT52H-C20
BZT52HC22WF	WN	20.8	23.3	5	25	220	1	16.4	-	60	0.05	15.4	NXP	BZT52H-C22
BZT52HC24WF	WO	22.8	25.6	5	30	220	1	18.4	-	55	0.05	16.8	NXP	BZT52H-C24
BZT52HC27WF	WP	25.1	28.9	2	40	250	1	21.4	-	50	0.05	18.9	NXP	BZT52H-C27
BZT52HC30WF	WQ	28.0	32.0	2	40	250	1	24.4	-	50	0.05	21.0	NXP	BZT52H-C30
BZT52HC33WF	WR	31.0	35.0	2	40	250	1	27.4	-	45	0.05	23.1	NXP	BZT52H-C33
BZT52HC36WF	WS	34.0	38.0	2	60	250	1	30.4	-	45	0.05	25.2	NXP	BZT52H-C36
BZT52HC39WF	WT	37.0	41.0	2	75	300	1	33.4	-	45	0.05	27.3	NXP	BZT52H-C39
BZT52HC43WF	WU	40.0	46.0	2	80	325	1	37.6	-	40	0.05	30.1	NXP	BZT52H-C43
BZT52HC47WF	WV	44.0	50.0	2	90	325	1	42.0	-	40	0.05	32.9	NXP	BZT52H-C47

Notes: 1. Short duration pulse test used to minimize self-heating effect.
2. $f = 1\text{kHz}$.
3. Exact cross to NXP's BZT52H-Cxx series

Package Outline Dimensions



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			