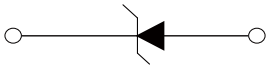
FEATURES

- Planar die construction
- 200mW power dissipation on ceramic PBC
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version



SOD-323



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUMRATINGS (T_A=25°C)

Parameter	Symbo	Value	Unit
Forward Voltage (Note 2) @ I_F= 10mA	V_F	0.9	V
Power Dissipation(Note 1)	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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.

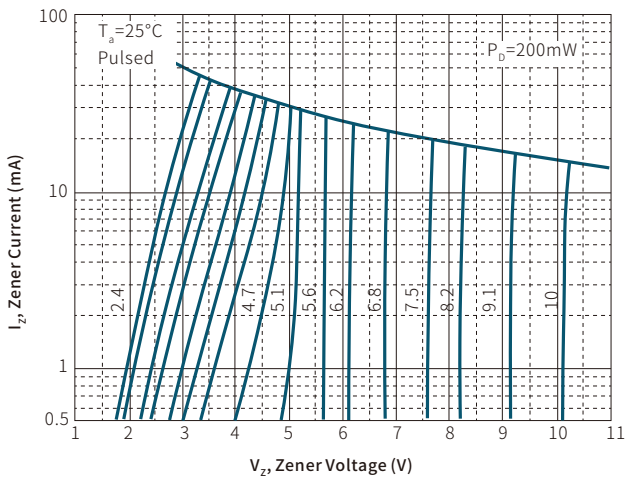
ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient of Zener voltage @Izt=5mA mV/°C		Test Current IZTC
		V_Z@I_{ZT}			I_{ZT}(mA)	Z_{ZT}@I_{ZT}	Z_{ZK}@I_{ZK}	I_{ZK}(mA)	I_R	V_R			
		Nom.(V)	Min.(V)	Max.(V)	mA	Ω	Ω	mA	uA	V	Min.	Max.	mA
BZT52C2V0S	WY	2.0	1.8	2.15	5	150	600	1.0	100	1.0	-3.5	0	5
BZT52C2V4S	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
BZT52C2V7S	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
BZT52C3V0S	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
BZT52C3V3S	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
BZT52C3V6S	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
BZT52C3V9S	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52C4V3S	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
BZT52C4V7S	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
BZT52C5V1S	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
BZT52C5V6S	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
BZT52C6V2S	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
BZT52C6V8S	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
BZT52C7V5S	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
BZT52C8V2S	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
BZT52C9V1S	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
BZT52C10S	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
BZT52C11S	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
BZT52C12S	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
BZT52C13S	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
BZT52C15S	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
BZT52C16S	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
BZT52C18S	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
BZT52C20S	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
BZT52C22S	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
BZT52C24S	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
BZT52C27S	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
BZT52C30S	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
BZT52C33S	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
BZT52C36S	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2

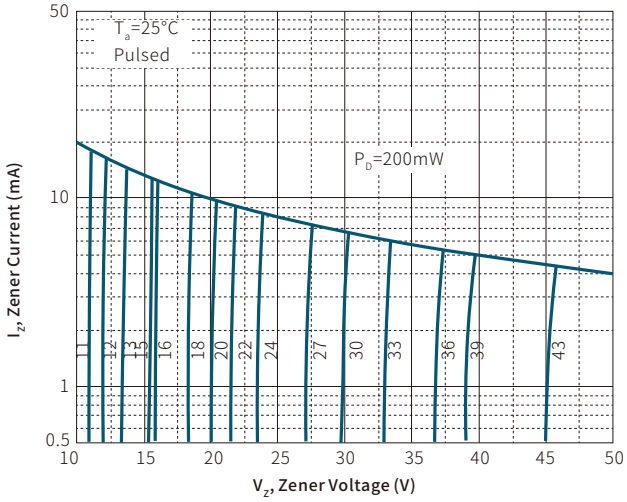
Part Number	Device Marking Code	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Temperature Coefficient of Zener voltage @Izt=5mA mV/°C		Test Current IZTC
		$V_Z@I_{ZT}$			I_{ZT}(mA)	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}(mA)	I_R	V_R			
		Nom.(V)	Min.(V)	Max.(V)	mA	Ω	Ω	mA	uA	V	Min.	Max.	mA
BZT52C39S	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
BZT52C43S	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
BZT52C47S	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
BZT52C51S	WW	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5
BZT52C56S	XW	56	52.0	60.0	2	135	700	1.0	0.1	39.0	10.0	12.0	5
BZT52C62S	6E	62	58.0	66.0	2	200	1000	1.0	0.2	47.0	10.0	12.0	5
BZT52C68S	6F	68	64.0	72.0	2	250	1000	1.0	0.2	52.0	10.0	12.0	5
BZT52C75S	6H	75	70.0	79.0	2	300	1000	1.0	0.2	57.0	10.0	12.0	5

CHARACTERISTIC CURVES

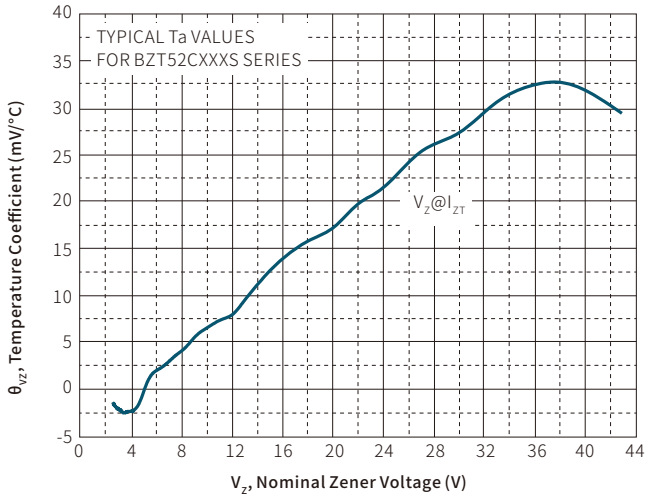
Zener Characteristics(V_Z Up to 10 V)



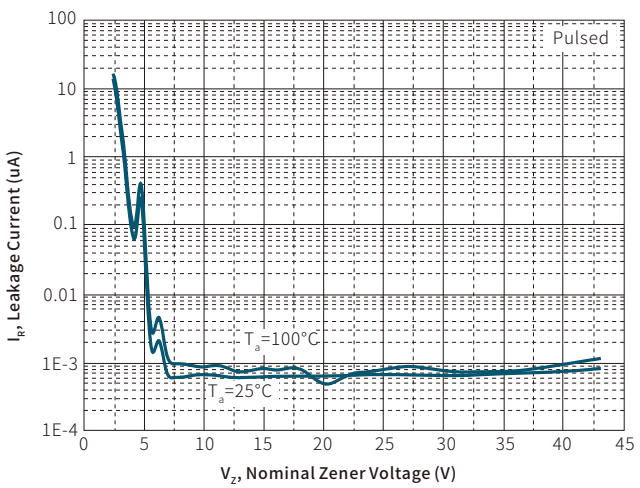
Zener Characteristics(11 V to 43 V)



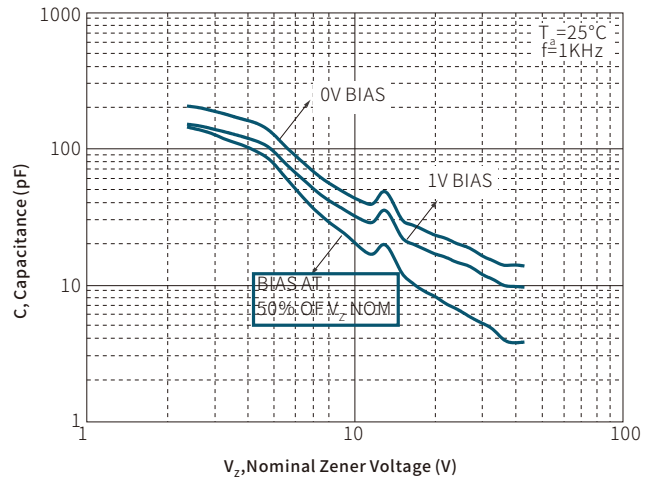
Temperature Coefficients



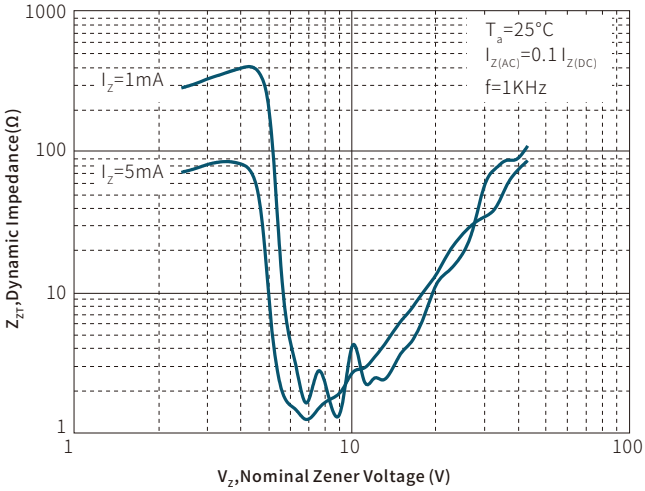
Typical Leakage Current

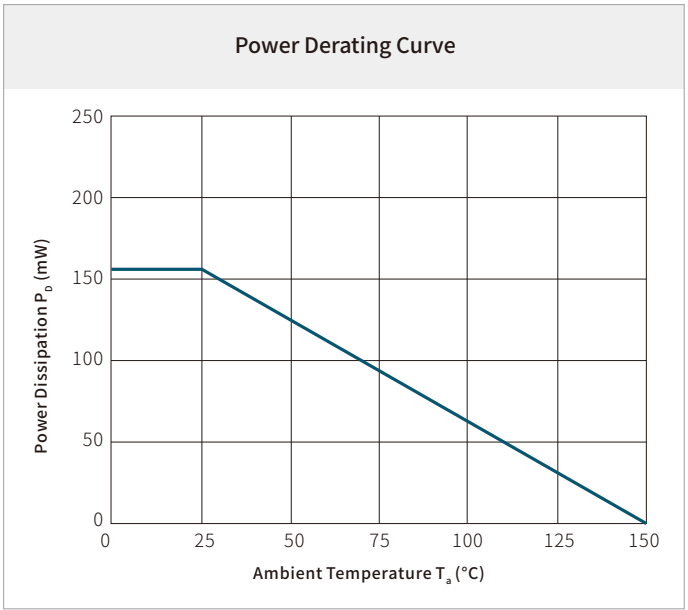


Typical Capacitance



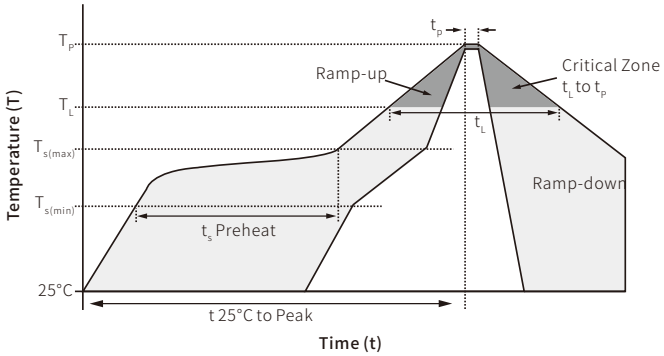
Effect of Zener Voltage on Zener Impedance



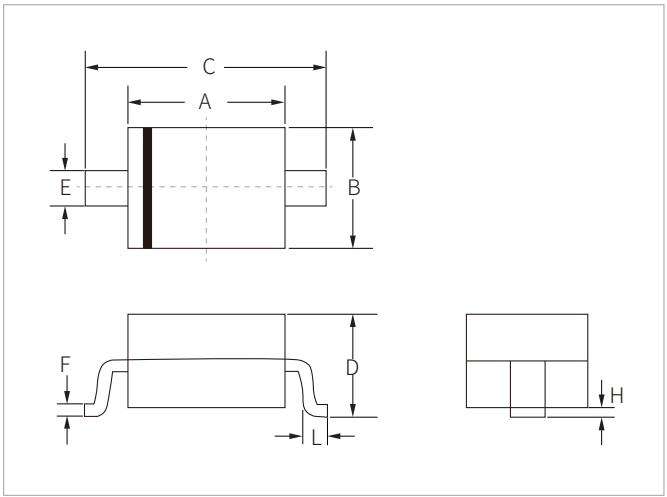


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_P)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

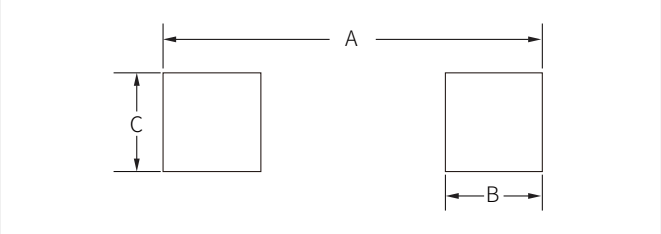


SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.39	2.75	0.094	0.108
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	0.40	0.008	0.016

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BZT52CxxxS Series	SOD-323	3000PCS	7”

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