

SOD-323 Plastic-Encapsulate Diodes

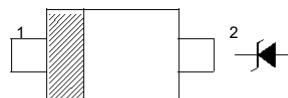
'BZX384C2V4-BZX384C75 ZENER DIODE

FEATURE

- Silicon planar Zener diodes
- The Zener voltages are graded according to the international E24 standard
- Standard Zener voltage tolerance is $\pm 5\%$

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



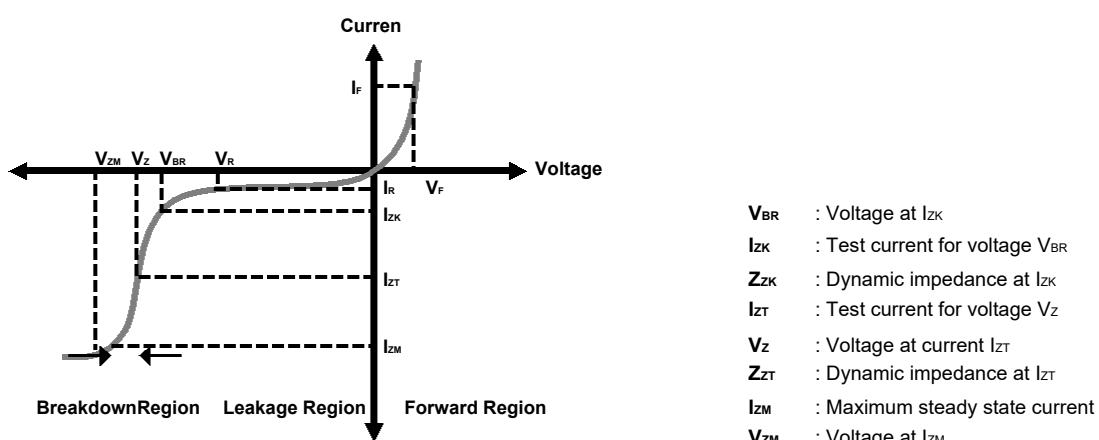
Top View
Simplified outline SOD-323 and symbol

Maximum Ratings($T_a=25^\circ C$ unless otherwise specified)

Characteristic	Symb I	Value	Unit
Forward Voltage @ $I_F = 10mA$	V_F	0.9	
@ $I_F = 100mA$		1.1	V
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^\circ C/W$
Junction Temperature (Note 1)	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 ~ +150	$^\circ C$

Notes:1. Valid provided that electrodes are kept at ambient temperature

Zener I vs. V Characteristics



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, unless otherwise specified)												
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE			TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE	
		V_Z at I_{ZT1}			I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	α_{VZ} at I_{ZT1}	
		V			mA		μA	V	Ω		$10^{-4}/^{\circ}\text{C}$	
		MIN.	NOM.	MAX.			MAX.		TYP.	TYP.	MIN.	MAX.
BZX384C2V4	W1	2.2	2.4	2.6	5	1	50	1	70 (≤ 100)	275	- 9	- 4
BZX384C2V7	W2	2.5	2.7	2.9	5	1	20	1	75 (≤ 100)	300 (≤ 600)	- 9	- 4
BZX384C3V0	W3	2.8	3.0	3.2	5	1	10	1	80 (≤ 95)	325 (≤ 600)	- 9	- 3
BZX384C3V3	W4	3.1	3.3	3.5	5	1	5	1	85 (≤ 95)	350 (≤ 600)	- 8	- 3
BZX384C3V6	W5	3.4	3.6	3.8	5	1	5	1	85 (≤ 90)	375 (≤ 600)	- 8	- 3
BZX384C3V9	W6	3.7	3.9	4.1	5	1	3	1	85 (≤ 90)	400 (≤ 600)	- 7	- 3
BZX384C4V3	W7	4	4.3	4.6	5	1	3	1	80 (≤ 90)	410 (≤ 600)	- 6	- 1
BZX384C4V7	W8	4.4	4.7	5	5	1	3	2	50 (≤ 80)	425 (≤ 500)	- 5	2
BZX384C5V1	W9	4.8	5.1	5.4	5	1	2	2	40 (≤ 60)	400 (≤ 480)	- 3	4
BZX384C5V6	WA	5.2	5.6	6	5	1	1	2	15 (≤ 40)	80 (≤ 400)	- 2	6
BZX384C6V2	WB	5.8	6.2	6.6	5	1	3	4	6 (≤ 10)	40 (≤ 150)	- 1	7
BZX384C6V8	WC	6.4	6.8	7.2	5	1	2	4	6 (≤ 15)	30 (≤ 80)	2	7
BZX384C7V5	WD	7	7.5	7.9	5	1	1	5	6 (≤ 15)	30 (≤ 80)	3	7
BZX384C8V2	WE	7.7	8.2	8.7	5	1	0.7	5	6 (≤ 15)	40 (≤ 80)	4	7
BZX384C9V1	WF	8.5	9.1	9.6	5	1	0.5	6	6 (≤ 15)	40 (≤ 100)	5	8
BZX384C10	WG	9.4	10	10.6	5	1	0.2	7	8 (≤ 20)	50 (≤ 150)	5	8
BZX384C11	WH	10.4	11	11.6	5	1	0.1	8	10 (≤ 20)	50 (≤ 150)	5	9
BZX384C12	WI	11.4	12	12.7	5	1	0.1	8	10 (≤ 25)	50 (≤ 150)	6	9
BZX384C13	WK	12.4	13	14.1	5	1	0.1	8	10 (≤ 30)	50 (≤ 170)	7	9
BZX384C15	WL	13.8	15	15.6	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	10 (≤ 30)	50 (≤ 200)	7	9
BZX384C16	WM	15.3	16	17.1	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	10 (≤ 40)	50 (≤ 200)	8	9.5
BZX384C18	WN	16.8	18	19.1	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	10 (≤ 45)	50 (≤ 225)	8	9.5
BZX384C20	WO	18.8	20	21.2	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	15 (≤ 55)	60 (≤ 225)	8	10
BZX384C22	WP	20.8	22	23.3	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	20 (≤ 55)	60 (≤ 250)	8	10
BZX384C24	WR	22.8	24	25.6	5	1	0.05	$0.7 \text{ V}_{Z_{nom}}$	25 (≤ 70)	60 (≤ 250)	8	10
BZX384C27	WS	25.1	27	28.9	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	25 (≤ 80)	65 (≤ 300)	8	10
BZX384C30	WT	28	30	32	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	30 (≤ 80)	70 (≤ 300)	8	10
BZX384C33	WU	31	33	35	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	35 (≤ 80)	75 (≤ 325)	8	10
BZX384C36	WW	34	36	38	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	35 (≤ 90)	80 (≤ 350)	8	10
BZX384C39	WX	37	39	41	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	40 (≤ 130)	80 (≤ 350)	10	12
BZX384C43	WY	40	43	46	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	45 (≤ 150)	85 (≤ 375)	10	12
BZX384C47	WZ	44	47	50	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	50 (≤ 170)	85 (≤ 375)	10	12
BZX384C51	X1	48	51	54	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	60 (≤ 180)	85 (≤ 400)	8	10
BZX384C56	X2	52	56	60	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	70 (≤ 200)	100 (≤ 425)	10	12
BZX384C62	X3	58	62	66	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	80 (≤ 215)	100 (≤ 450)	10	12
BZX384C68	X4	64	68	72	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	90 (≤ 240)	150 (≤ 475)	10	12
BZX384C75	X5	70	75	79	2	0.5	0.05	$0.7 \text{ V}_{Z_{nom}}$	95 (≤ 255)	170 (≤ 500)	10	12

Typical Characteristics

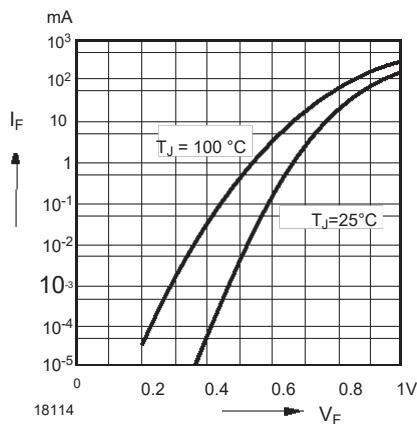


Fig. 1 - Forward characteristics

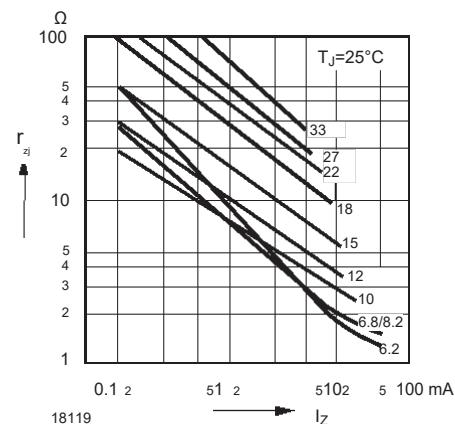


Fig. 4 - Dynamic Resistance vs. Zener Current

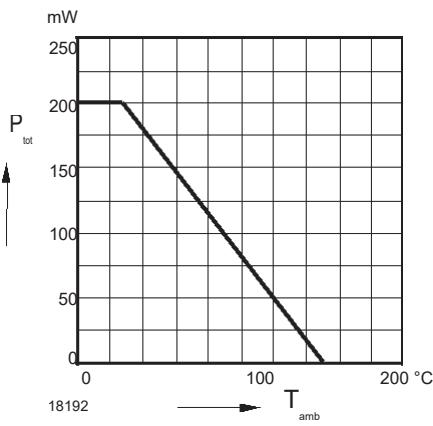


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

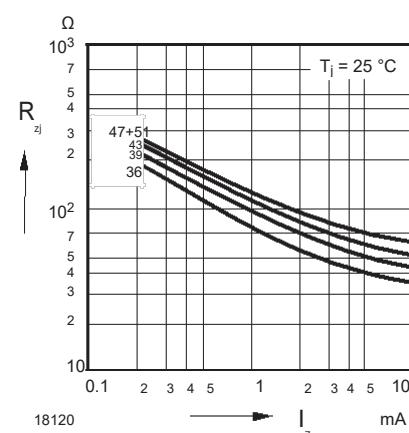


Fig. 5 - Dynamic Resistance vs. Zener Current

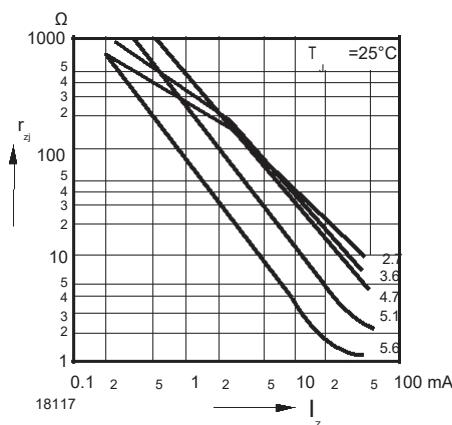


Fig. 3 - Dynamic Resistance vs. Zener Current

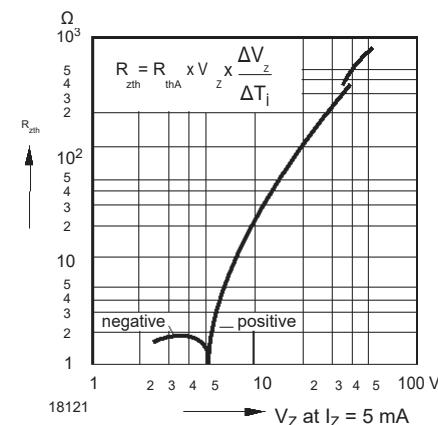


Fig. 6 - Thermal Differential Resistance vs. Zener Voltage

Typical Characteristics

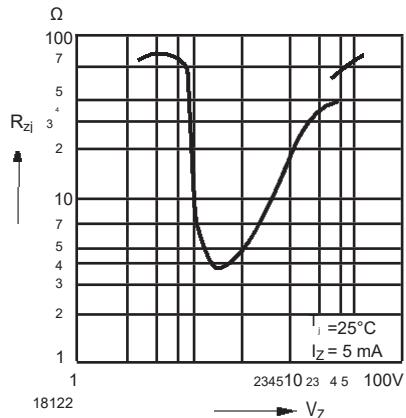


Fig. 7 - Dynamic Resistance vs. Zener Voltage

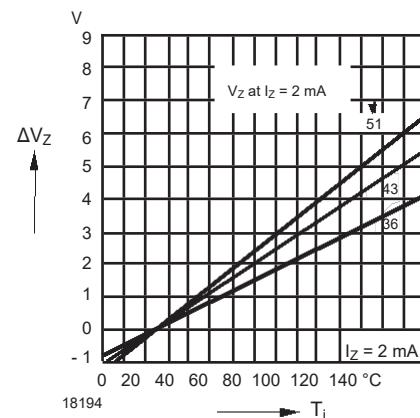


Fig. 10 - Change of Zener Voltage vs. Junction Temperature

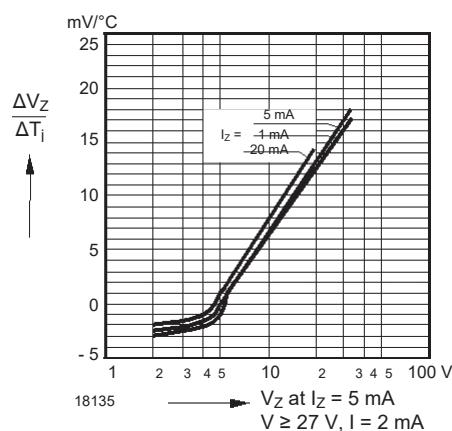


Fig. 8 - Temperature Dependence of Zener Voltage vs. Zener Voltage

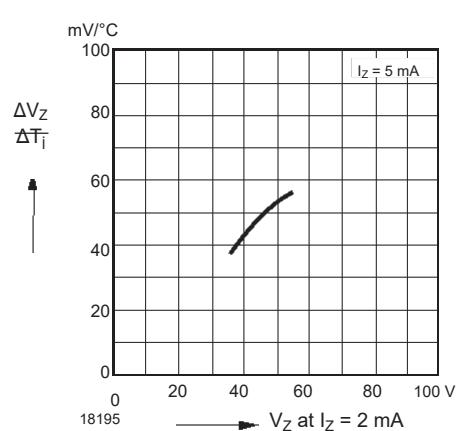


Fig. 11 - Temperature Dependence of Zener Voltage vs. Zener Voltage

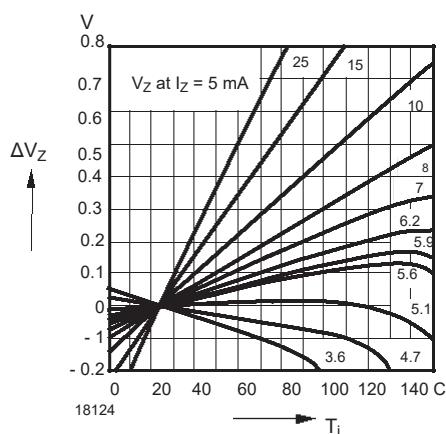


Fig. 9 - Change of Zener Voltage vs. Junction Temperature

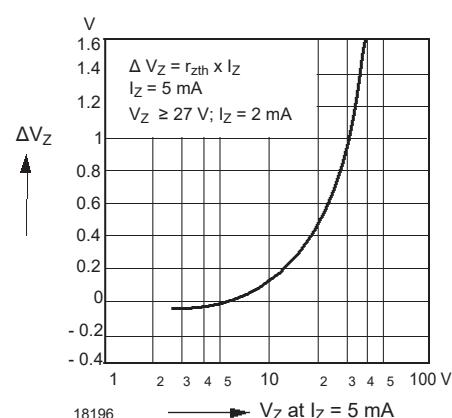


Fig. 12 - Change of Zener Voltage from Turn-on up to the Point of Thermal Equilibrium vs. Zener Voltage

Typical Characteristics

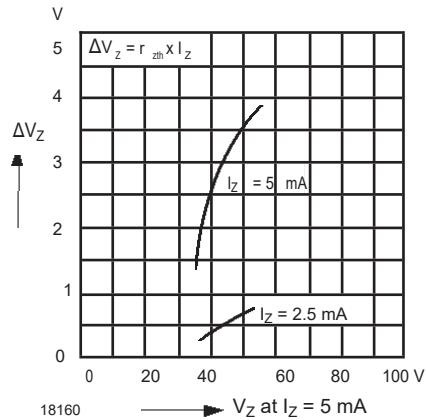


Fig. 13 - Change of Zener Voltage from Turn-on up to the Point of Thermal Equilibrium vs. Zener Voltage

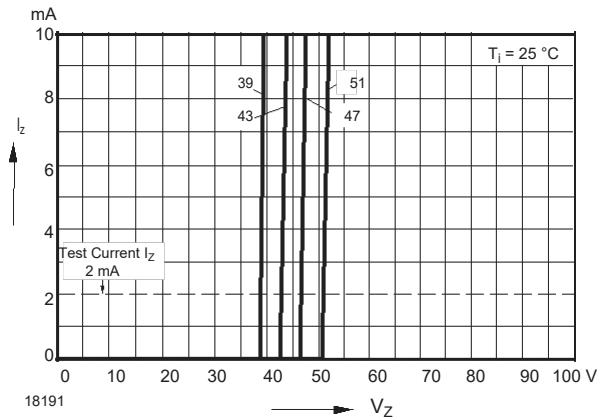


Fig. 16 - Breakdown Characteristics

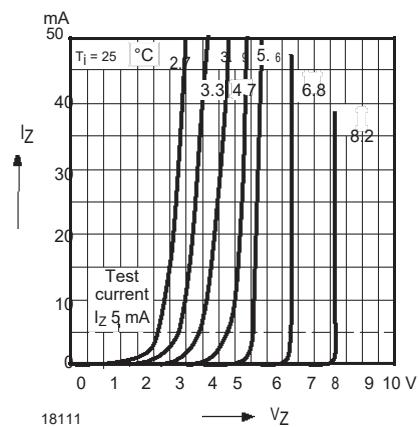


Fig. 14 - Breakdown Characteristics

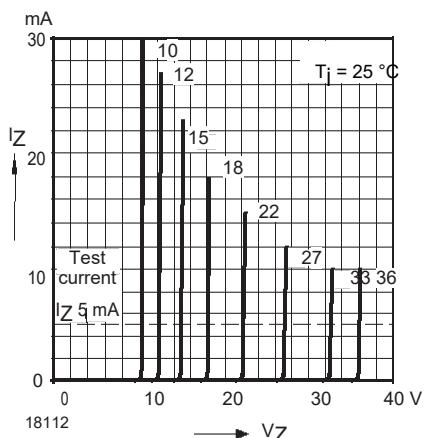


Fig. 15 - Breakdown Characteristics

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323

