BZX584CXX Series

ROHS

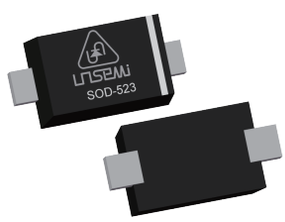
SOD-523 Plastic-Encapsulate Zener Diodes

www.unsemi.com.tw

Features

- ◆ Planar Die Construction
- ◆ 150mW Power Dissipation
- ◆ Zener Voltages from 2.4 to 39V

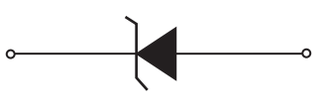
SOD-523



Mechanical Data

- ◆ Case: SOD-523
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Quantity Per Reel : 3,000pcs/8,000pcs
- ◆ Lead Finish : Lead Free

Functional Diagram



Maximum Ratings(Ta=25℃ unless otherwise specified)

Parameter	Symbol	Value	Units
Forward Voltage @ IF=10mA	VF	0.9	V
Power Dissipation	PD	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	℃/W
Operating Junction Temperature Range	TJ	-55 ~ +150	℃
Storage Temperature Range	Tstg	-55 ~ +150	℃

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Parameter	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficent @IZT	
		VZ@IZT			IZT	ZZT@IZT	ZZK@IZK	IZK	IR	VR	Min (mV/°C)	Max (mV/°C)
		Min(V)	Nom(V)	Max(V)	mA	Ω	Ω	mA	μA	V		
BZX584C2V4	Z11	2.2	2.4	2.6	5	100	600	1.0	50	1.0	-3.5	0
BZX584C2V7	Z12	2.5	2.7	2.9	5	100	600	1.0	20	1.0	-3.5	0
BZX584C3V0	Z13	2.8	3.0	3.2	5	95	600	1.0	10	1.0	-3.5	0
BZX584C3V3	Z14	3.1	3.3	3.5	5	95	600	1.0	5	1.0	-3.5	0
BZX584C3V6	Z15	3.4	3.6	3.8	5	90	600	1.0	5	1.0	-3.5	0
BZX584C3V9	Z16	3.7	3.9	4.1	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V3	Z17	4.0	4.3	4.6	5	90	600	1.0	3	1.0	-3.5	0
BZX584C4V7	Z1	4.4	4.7	5.0	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584C5V1	Z2	4.8	5.1	5.4	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584C5V6	Z3	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584C6V2	Z4	5.8	6.2	6.6	5	10	150	1.0	3	4.0	0.4	3.7
BZX584C6V8	Z5	6.4	6.8	7.2	5	15	80	1.0	2	4.0	1.2	4.5
BZX584C7V5	Z6	7.0	7.5	7.9	5	15	80	1.0	1	5.0	2.5	5.3
BZX584C8V2	Z7	7.7	8.2	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584C9V1	Z8	8.5	9.1	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Parameter	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature Coefficent @IZT	
		VZ@IZT			IZT	ZZT@IZT	ZZK@IZK	IZK	IR	VR	Min (mV/°C)	Max (mV/°C)
		Min(V)	Nom(V)	Max(V)	mA	Ω	Ω	mA	μA	V		
BZX584C10	Z9	9.4	10	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584C11	Y1	10.4	11	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584C12	Y2	11.4	12	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584C13	Y3	12.4	13	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584C15	Y4	13.8	15	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584C16	Y5	15.3	16	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584C18	Y6	16.8	18	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584C20	Y7	18.8	20	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584C22	Y8	20.8	22	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584C24	Y9	22.8	24	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584C27	Y10	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584C30	Y11	28.0	30	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584C33	Y12	31.0	33	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584C36	Y13	34.0	36	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584C39	Y14	37.0	39	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2

Electrical Characteristics Curves

Fig. 1 Zener Characteristics(Vz Up to 10V)

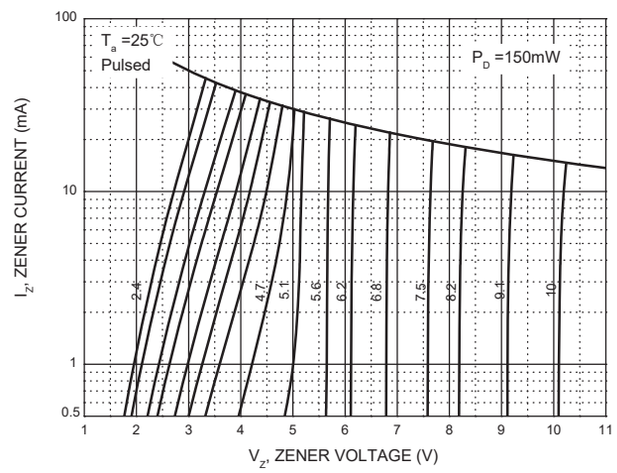


Fig. 2 Zener Characteristics(11V to 39V)

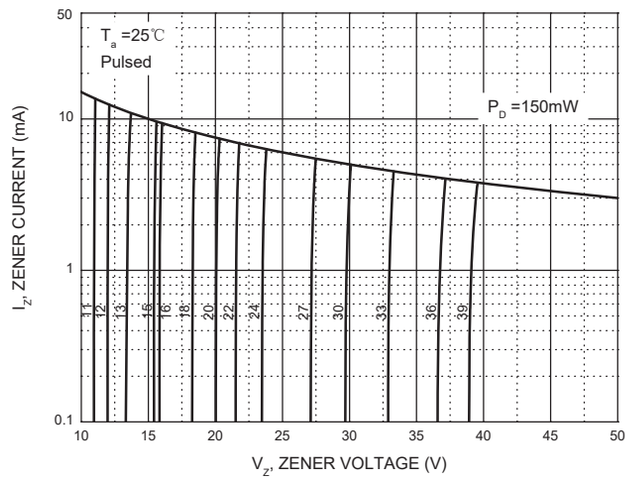


Fig. 3 Temperature Coefficients

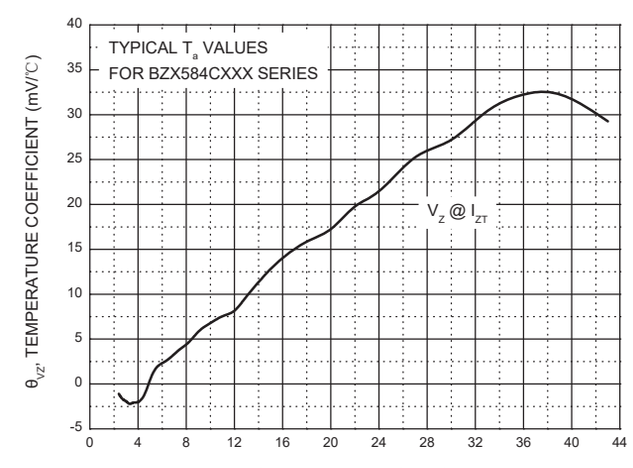
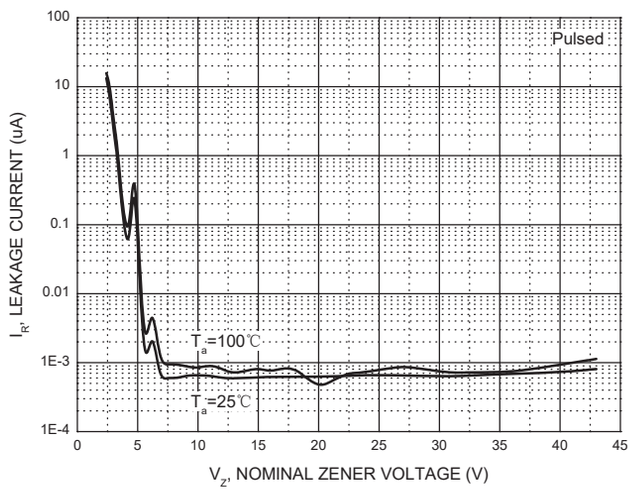


Fig. 4 Typical Leakage Current



Electrical Characteristics Curves

Fig. 5 Typical Capacitance

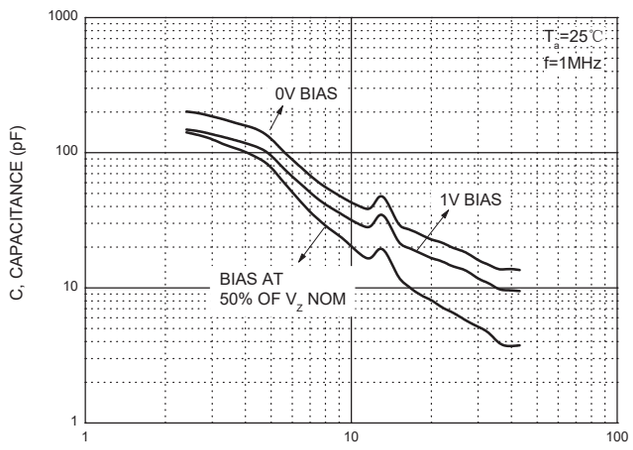


Fig. 6 Effect of Zener Voltage on Zener Impedance

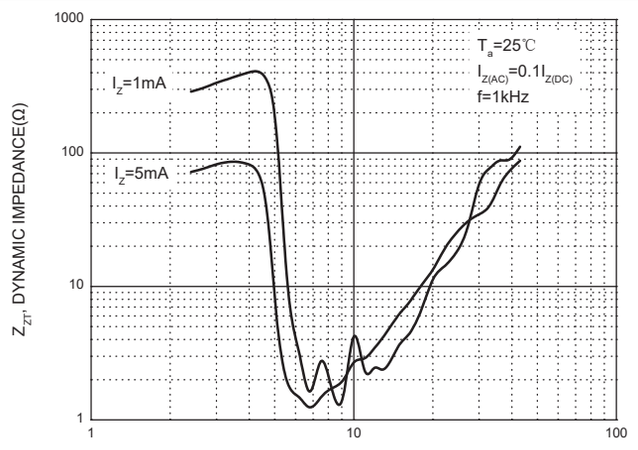
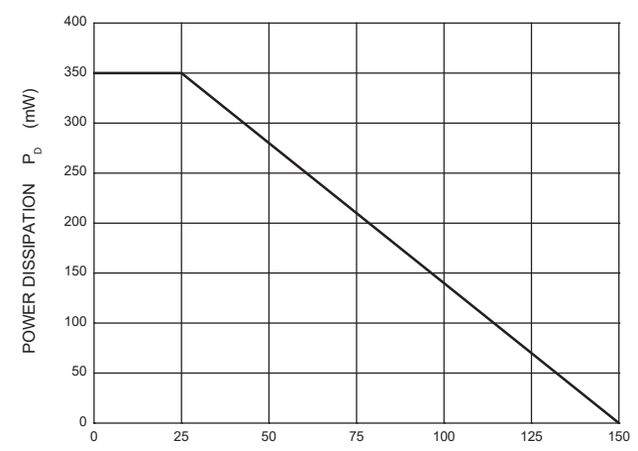
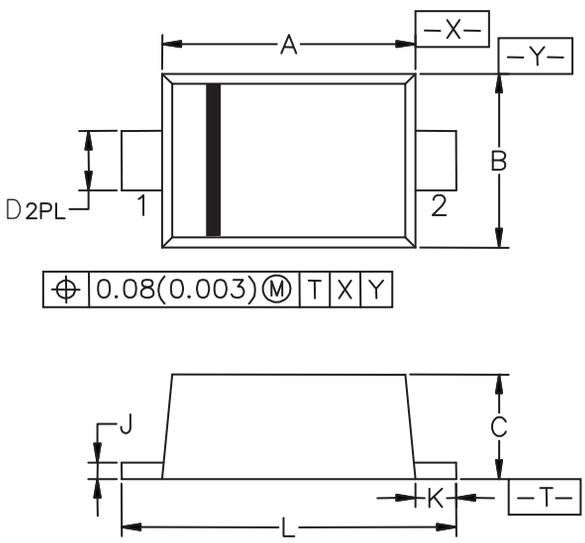


Fig. 7 Power Derating Curve

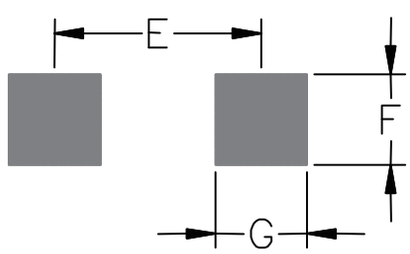


SOD-523 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
L	1.50	1.60	1.70	0.059	0.063	0.067

Soldering Footprint



Symbol	Millimeters	Inches
E	1.40	0.0547
F	0.40	0.0157
G	0.40	0.0157

優恩半導體 UNSEMI

ROHS

Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “UNSEMI”)does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.