



## SSCZXXXBD3 Series

### Zener Voltage Regulator

#### ● Description

The SSCZXXXBD3 is packaged in a SOD-523 surface mount package that has a power dissipation of 150mW. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. It is applicable to mobile phones, hand-held portable devices, high-density PC boards.

#### ● Feature

- ✧ Low profile package
- ✧ Ideal for automated placement
- ✧ Low Zener Impedance
- ✧ Steady state power rating of 150mW
- ✧ RoHS compliant transient

#### ● Applications

- ✧ Hand held portables
- ✧ Cellular phones
- ✧ High density PC boards

#### ● PIN configuration



**SOD-523**



**Circuit Diagram**

#### ● Mechanical data

- ✧ Package: SOD-523
- ✧ Lead finish:100% matte Sn (Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:260°C
- ✧ Device meets MSL 3 requirements
- ✧ Pure tin plating: 7 ~ 17 um
- ✧ Pin flatness: ≤3mil

#### ● Absolute maximum rating (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Total Device Dissipation FR-5 Board	P <sub>D</sub>	150	mW
Forward Voltage @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	833	°C/W
Storage Temperature	T <sub>STG</sub>	-55/+150	°C
Operating Temperature	T <sub>J</sub>	-55/+150	°C



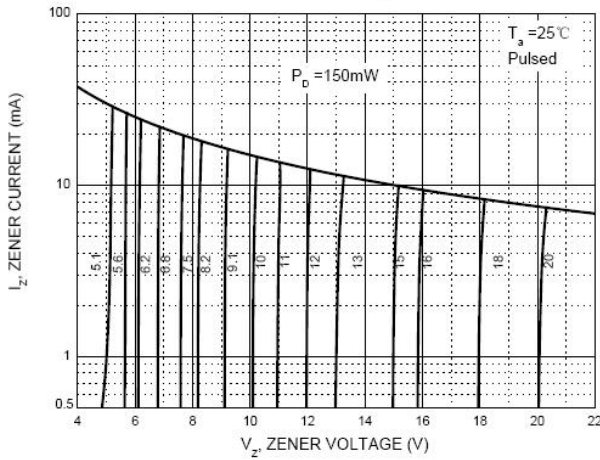
● **Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ I <sub>ZTC</sub> =mV/°C		Test Current I <sub>ZTC</sub>
		V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω	mA	μA	V	mA			
SSCZ2V4BD3	2V1	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0	5
SSCZ2V7BD3	2V2	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0	5
SSCZ3V0BD3	2V3	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
SSCZ3V3BD3	2V4	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
SSCZ3V6BD3	2V5	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
SSCZ3V9BD3	2V6	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
SSCZ4V3BD3	2V7	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
SSCZ4V7BD3	2Z1	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
SSCZ5V1BD3	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
SSCZ5V6BD3	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
SSCZ6V2BD3	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
SSCZ6V8BD3	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
SSCZ7V5BD3	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
SSCZ8V2BD3	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
SSCZ9V1BD3	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
SSCZ10VBD3	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
SSCZ11VBD3	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
SSCZ12VBD3	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
SSCZ13VBD3	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
SSCZ15VBD3	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
SSCZ16VBD3	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
SSCZ18VBD3	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
SSCZ20VBD3	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
SSCZ22VBD3	2Y8	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
SSCZ24VBD3	2Y9	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
SSCZ27VBD3	2X1	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	5
SSCZ30VBD3	2X2	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	5
SSCZ33VBD3	2X3	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	5
SSCZ36VBD3	2X4	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	5
SSCZ39VBD3	2X5	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	5
SSCZ43VBD3	2X6	43	41.16	43.84	2	150	375	0.5	0.1	32.0	10.0	12.0	5
SSCZ47VBD3	2X7	47	46.06	47.94	2	170	375	0.5	0.1	35.0	10.0	12.0	5

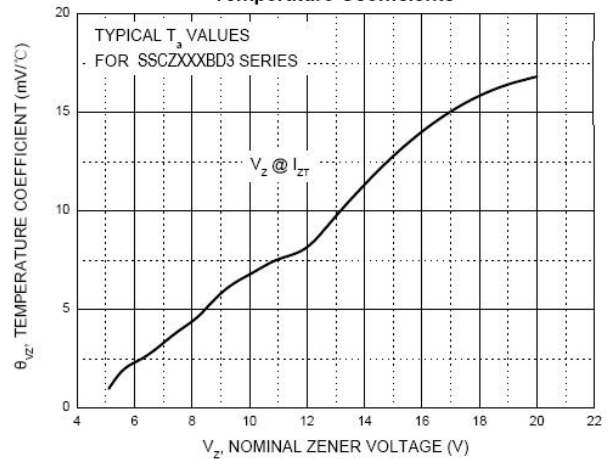


● Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

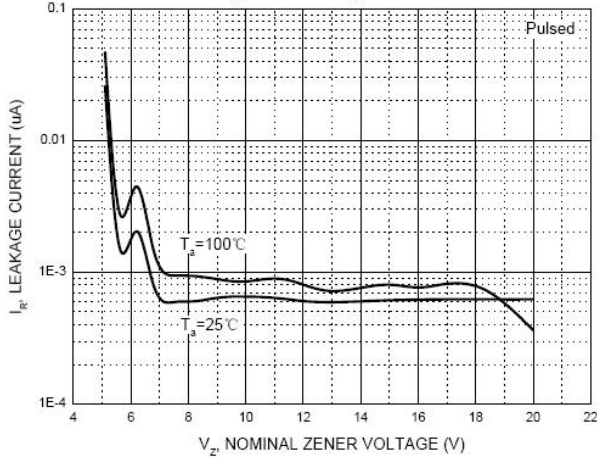
Zener Characteristics ( $V_Z$  5.1V to 20 V)



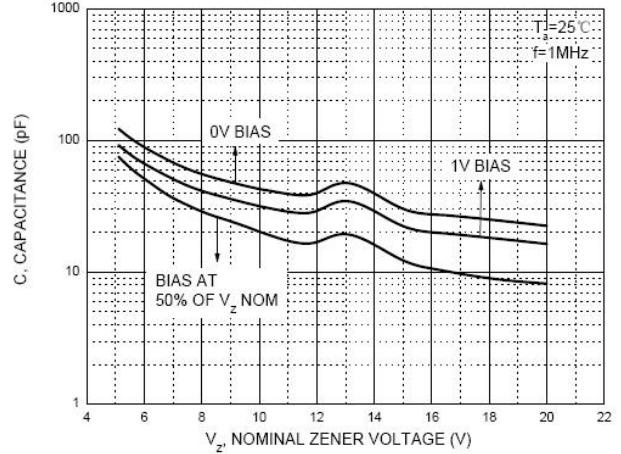
Temperature Coefficients



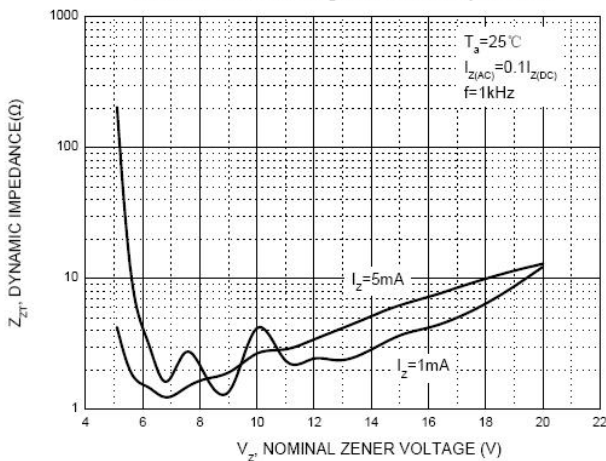
Typical Leakage Current



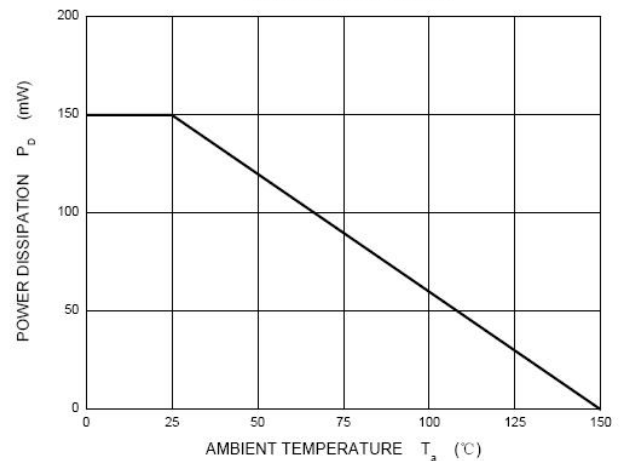
Typical Capacitance



Effect of Zener Voltage on Zener Impedance



Power Derating Curve





## ● Package Information

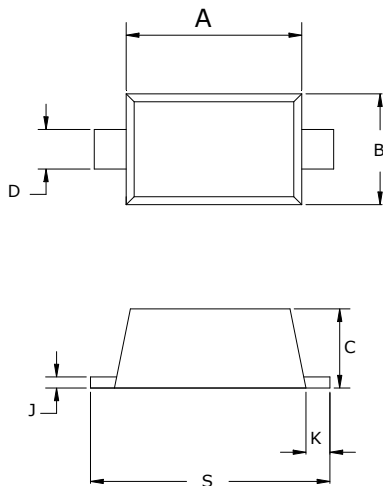
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCZXXXDB2	SOD-523	3000	7 Inch

### Mechanical Data

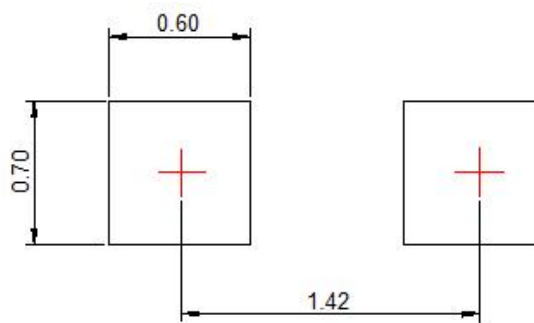
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70

### Recommended Pad outline (Unit: mm)





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