



## 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

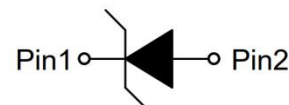
#### ● Applications

- ✧ 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 ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Total Device Dissipation FR-5 Board	$P_D$	150	mW
Forward Voltage @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Storage Temperature	$T_{STG}$	-55/+150	$^{\circ}\text{C}$
Operating Temperature	$T_J$	-55/+150	$^{\circ}\text{C}$



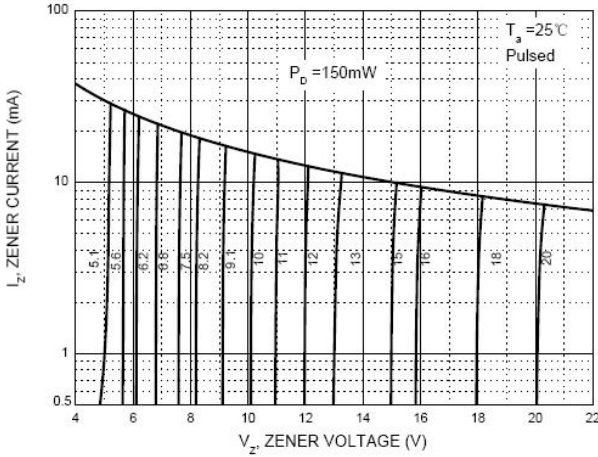
● **Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

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	Min	Max	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

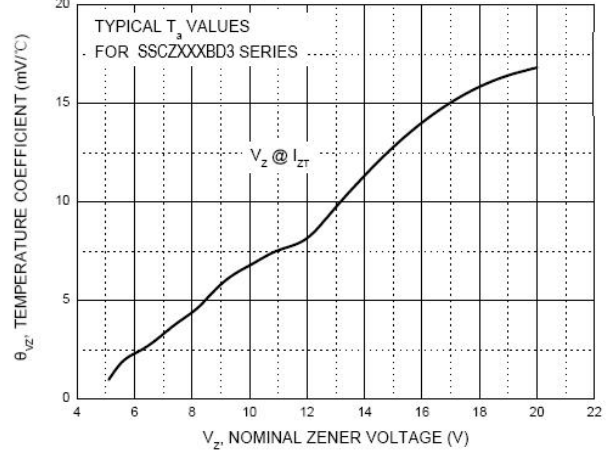


● Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

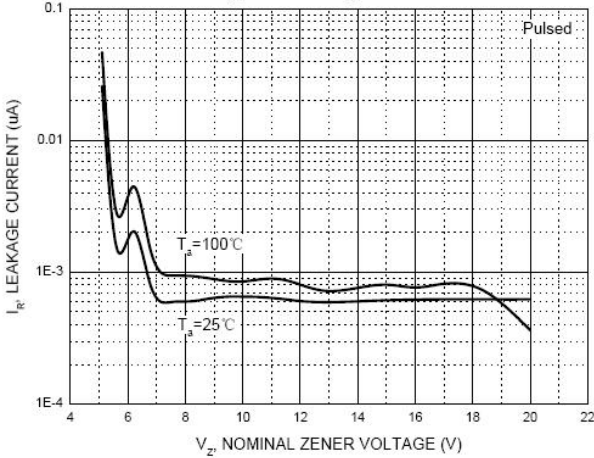
Zener Characteristics ( $V_Z$  5.1V to 20 V)



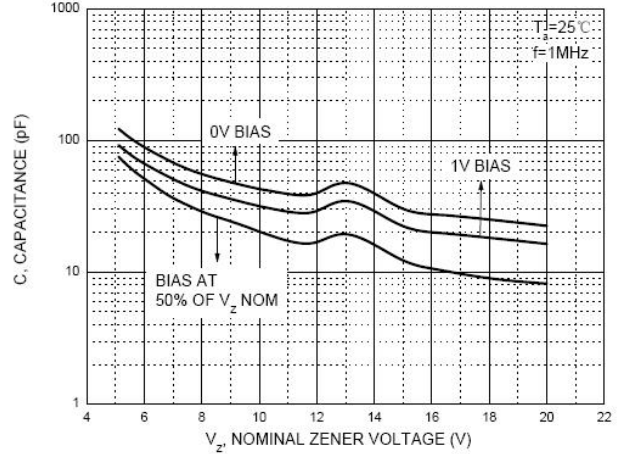
Temperature Coefficients



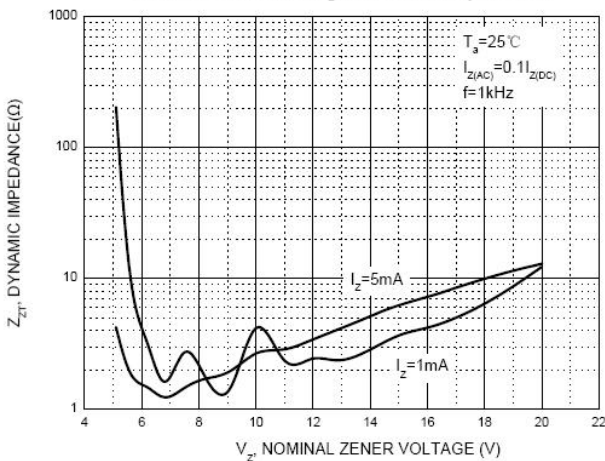
Typical Leakage Current



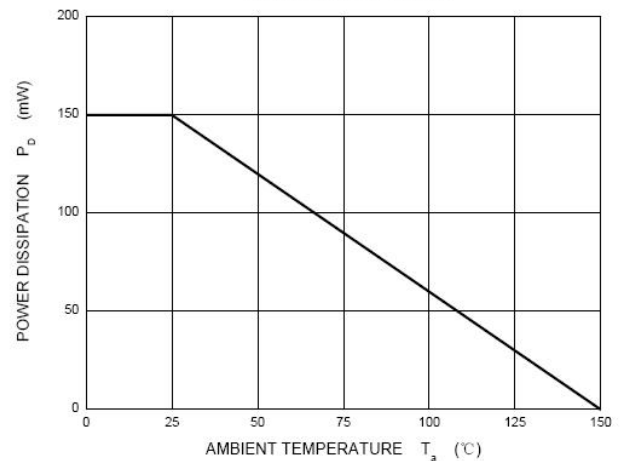
Typical Capacitance



Effect of Zener Voltage on Zener Impedance



Power Derating Curve





## ● Package Information

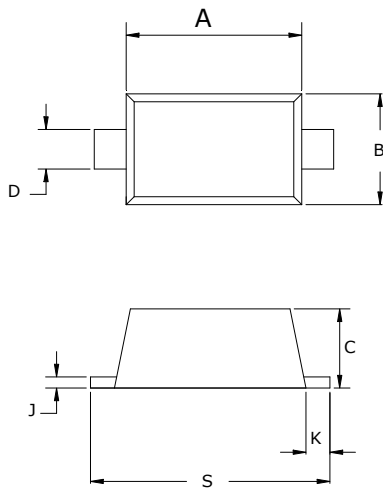
### Ordering Information

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

### Mechanical Data

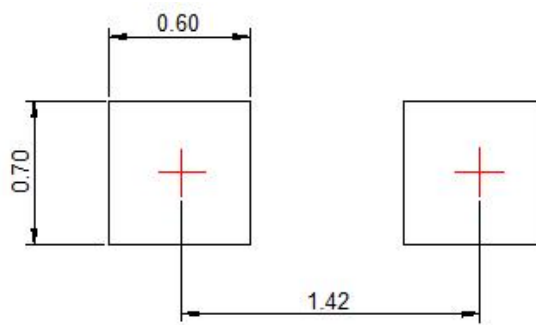
Case: SOD-523

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)





## DISCLAIMER

SSCSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. SSCSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.

OUR PRODUCT SPECIFICATIONS ARE ONLY VALID IF OBTAINED THROUGH THE COMPANY'S OFFICIAL WEBSITE, CRM SYSTEM, OR OUR SALES PERSONNEL CHANNELS. IF CHANGES OR SPECIAL VERSIONS ARE INVOLVED, THEY MUST BE STAMPED WITH A QUALITY SEAL AND MARKED WITH A SPECIAL VERSION NUMBER TO BE VALID.