TECH PUBLIC
台舟电子

TPZxxVC-523 Series
150m Watt Zener Voltage Regulators

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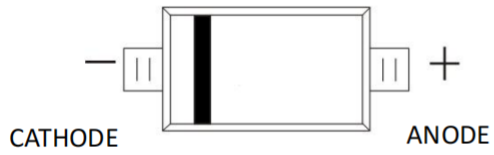
Features

- Low Zener Impedance
- Power Dissipation of 150mW
- High Stability and High Reliability
- Halogen free and RoHS compliant
- SOD523 surface mount package

Applications

- General voltage regulation
- Mobile & handheld systems
- Household Electric Appliances
- Industrial automation
- communication field



SOD523

Pin Configuration

Maximum Ratings& Thermal Characteristics

(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Forward Voltage @ IF=10mA	VF	0.9	V
Power Dissipation	PD	150	mW
Thermal Resistance (Junction-to-Ambient)	RθJA	883	°C/W
Thermal Resistance (Junction-to-Case)	RθJC	623	°C/W
Junction Temperature Range	TJ	150	°C
Storage Temperature Range	TSTG	-55 ~ +150	°C

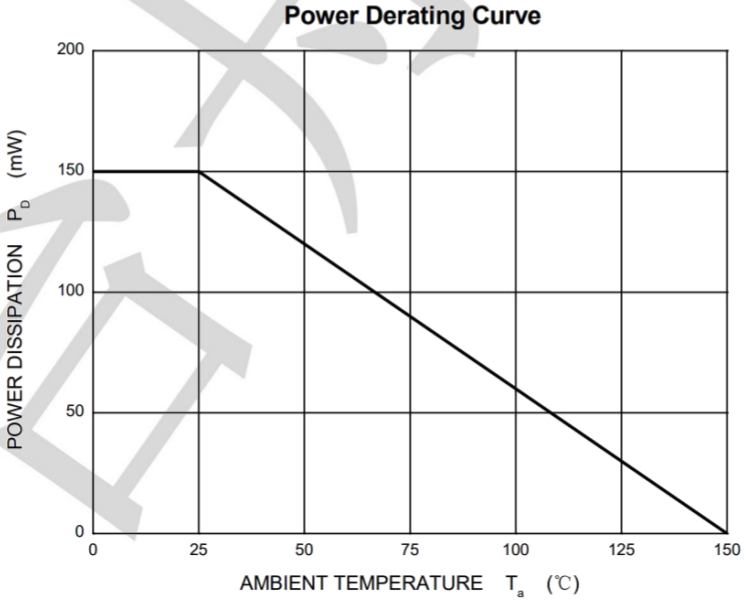
Electrical Characteristics (TA=25°C unless otherwise specified)

DEVICE	VZ(V) @ IZ=5mA			ZZ @ IZ = 1mA	ZZ @ IZ = 5mA	ZZ @ IZ = 20mA	IR@VR	VR	Typical Temperature Coefficient(mV/℃)@ IZ=5mA	
	MIN	NOM	MAX	Ω			uA	V	Min	Max
TPZ2V0C-523	1.9	2.0	2.1	600	100	50	150	1	-3.5	0
TPZ2V2C-523	2.09	2.2	2.31	600	100	50	150	1	-3.5	0
TPZ2V4C-523	2.28	2.4	2.60	600	100	50	50	1	-3.5	0
TPZ2V7C-523	2.57	2.7	2.90	600	100	50	20	1	-3.5	0
TPZ3V0C-523	2.85	3.0	3.15	600	95	50	10	1	-3.5	0
TPZ3V3C-523	3.14	3.3	3.47	600	95	40	5	1	-3.5	0
TPZ3V6C-523	3.42	3.6	3.78	600	90	40	5	1	-3.5	0
TPZ3V9C-523	3.71	3.9	4.09	600	90	30	0.5	1	-3.5	0
TPZ4V3C-523	4.09	4.3	4.52	600	90	30	0.5	1	-3.5	0
TPZ4V7C-523	4.47	4.7	4.94	500	80	15	3.0	2	-3.5	0.2
TPZ5V1C-523	4.85	5.1	5.36	480	60	15	2.0	2	-2.7	1.2
TPZ5V6C-523	5.32	5.6	5.88	400	40	10	1.0	2	-2	2.5
TPZ6V2C-523	5.89	6.2	6.51	150	9.5	5.7	2.4	4	0.4	3.7
TPZ6V8C-523	6.46	6.8	7.14	76	14.2	5.7	1.6	4	1.2	4.5
TPZ7V5C-523	7.13	7.5	7.88	76	14.2	5.7	0.8	5	2.5	5.3
TPZ8V2C-523	7.79	8.2	8.61	76	14.2	5.7	0.56	5	3.2	6.2
TPZ9V1C-523	8.65	9.1	9.56	95	14.2	7.6	0.4	7	3.8	7.0
TPZ10VC-523	9.50	10	10.50	142.5	19	9.5	0.1	8	4.5	8.0
TPZ11VC-523	10.45	11	11.55	142.5	19	9.5	0.1	8	5.4	9.0
TPZ12VC-523	11.4	12	12.60	150	23.7	9.5	0.1	8	6.0	10.0
TPZ13VC-523	12.35	13	13.65	190	28.5	14.2	0.1	8	7.0	11.0
TPZ15VC-523	14.25	15	15.75	190	28.5	19	0.1	11	9.2	13.0
TPZ16VC-523	15.2	16	16.80	190	38	19	0.1	11	10.4	14.0
TPZ18VC-523	17.10	18	18.90	213	42.7	19	0.1	13	12.4	16.0
TPZ20VC-523	19.0	20	21.0	213	52.2	19	0.1	14	14.4	18.0
TPZ22VC-523	20.9	22	23.10	237	52.2	23.7	0.1	15	16.4	20.0

Electrical Characteristics (TA=25°C unless otherwise specified)

DEVICE	VZ(V) @ IZ=5mA			ZZ @ IZ = 1mA	ZZ @ IZ = 5mA	ZZ @ IZ = 20mA	IR@VR	VR	Typical Temperature Coefficient(mV/℃)@ IZ=5mA	
	MIN	NOM	MAX	Ω			uA	V	Min	Max
TPZ24VC-523	22.8	24	25.2	250	66.5	23.7	0.1	17	18.4	22.0
TPZ27VC-523	25.65	27	28.35	295	75	43	0.04	19	21.4	25.3
TPZ30VC-523	28.50	30	31.50	295	75	48	0.04	21	24.4	29.4
TPZ33VC-523	31.35	33	34.65	320	75	53	0.04	23	27.4	33.4
TPZ36VC-523	34.20	36	37.80	345	85	58	0.04	25	30.4	37.4
TPZ39VC-523	37.05	39	40.95	345	125	68	0.04	27	33.4	41.2
TPZ43VC-523	40.85	43	45.15	370	145	78	0.04	30	37.6	46.6
TPZ47VC-523	44.65	47	49.35	370	165	88	0.04	33	42.0	51.8
TPZ51VC-523	48.45	51	53.55	395	175	98	0.04	36	46.6	57.2
TPZ56VC-523	52.2	56	58.8	420	195	108	0.04	39	52.2	63.8
TPZ62VC-523	58.9	62	65.1	445	210	118	0.04	43	58.8	71.6
TPZ68VC-523	64.6	68	71.4	470	235	128	0.04	48	65.6	79.8
TPZ75VC-523	71.25	75	78.75	495	250	138	0.04	53	73.4	88.6

Typical Characteristics Curves



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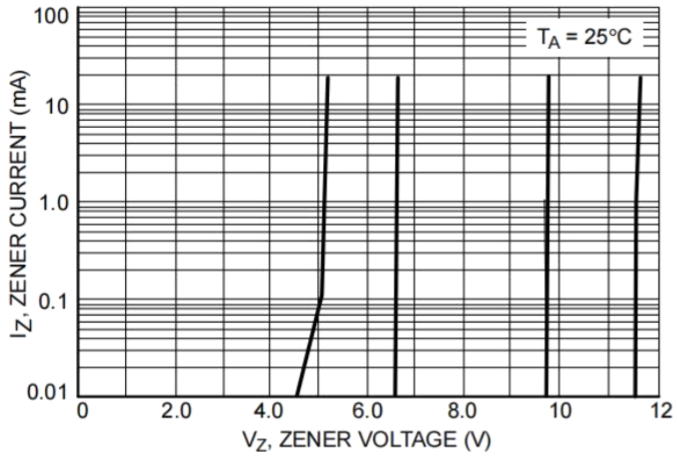
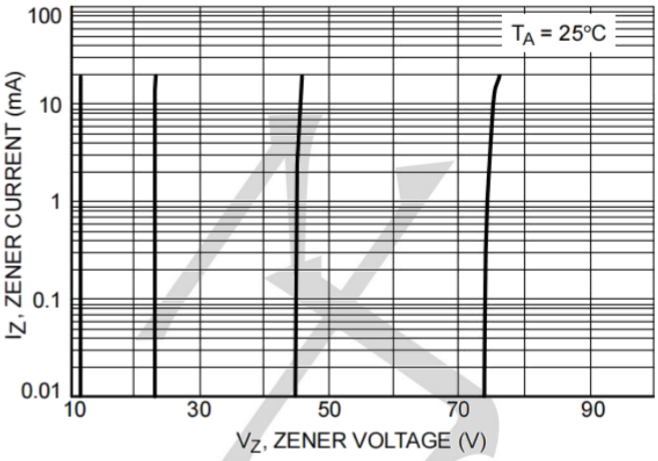
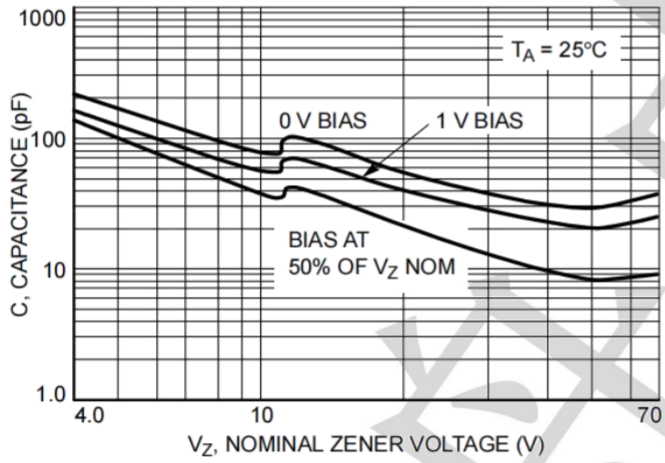


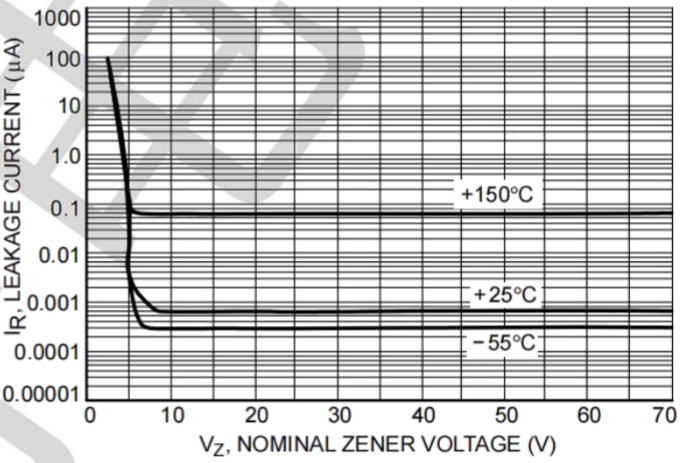
Zener Voltage versus Zener Current (V_Z Up to 12 V)



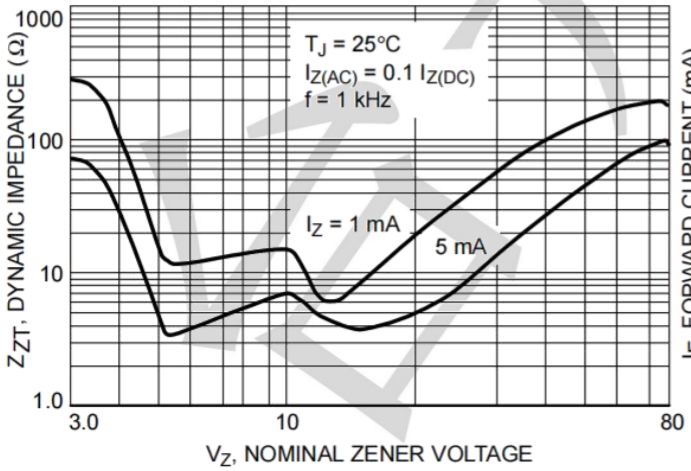
Zener Voltage versus Zener Current (12 V to 75 V)



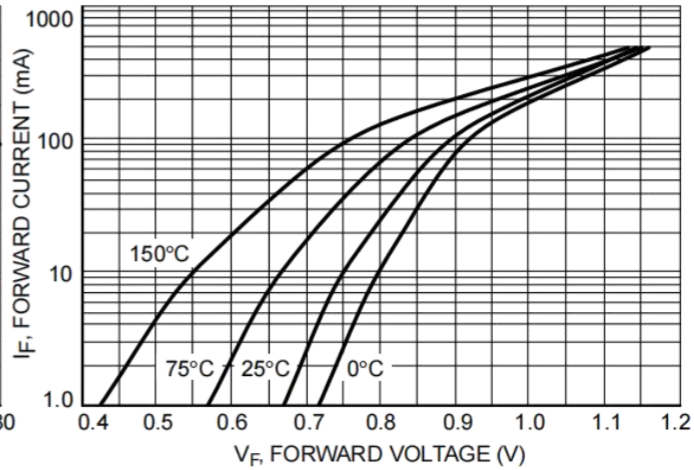
Typical Capacitance



Typical Leakage Current



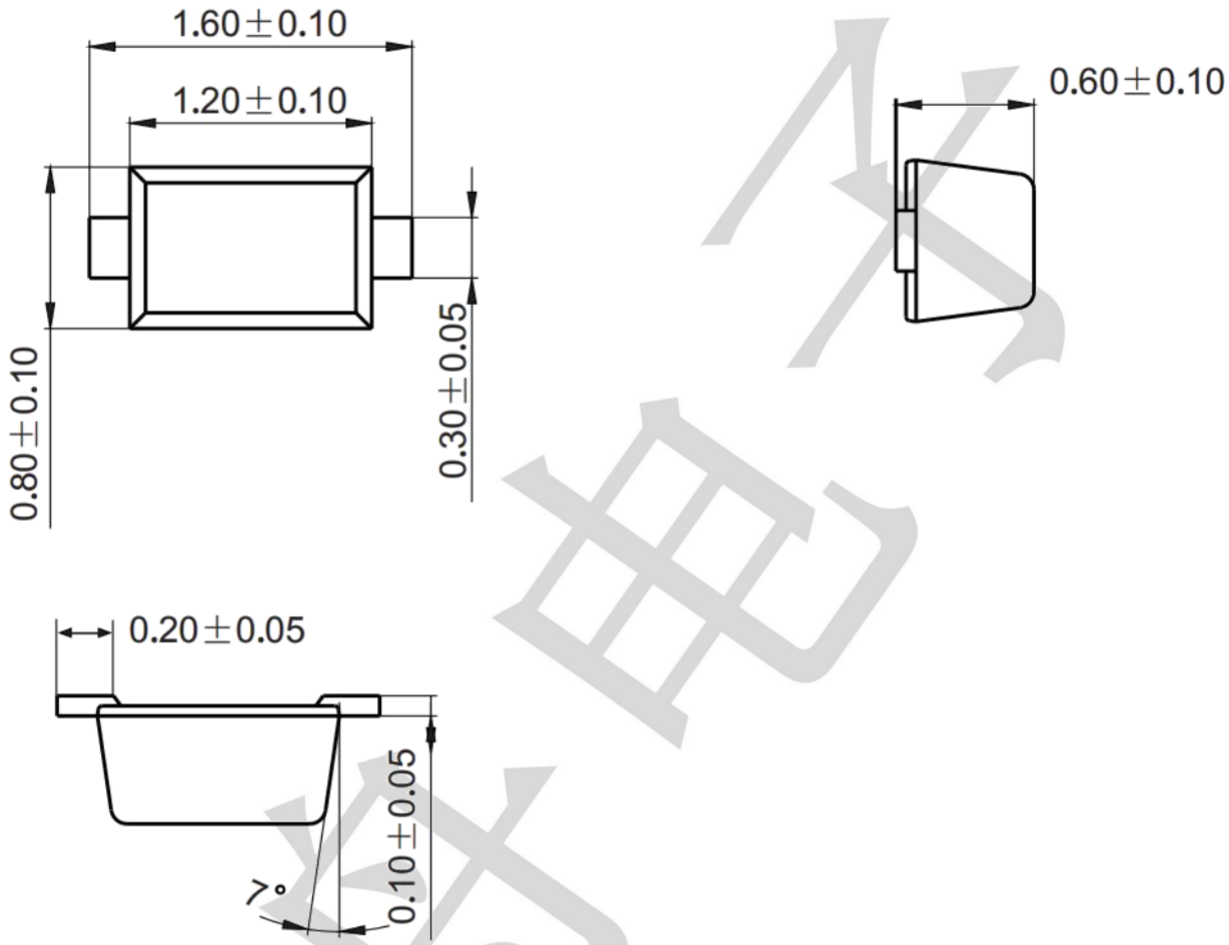
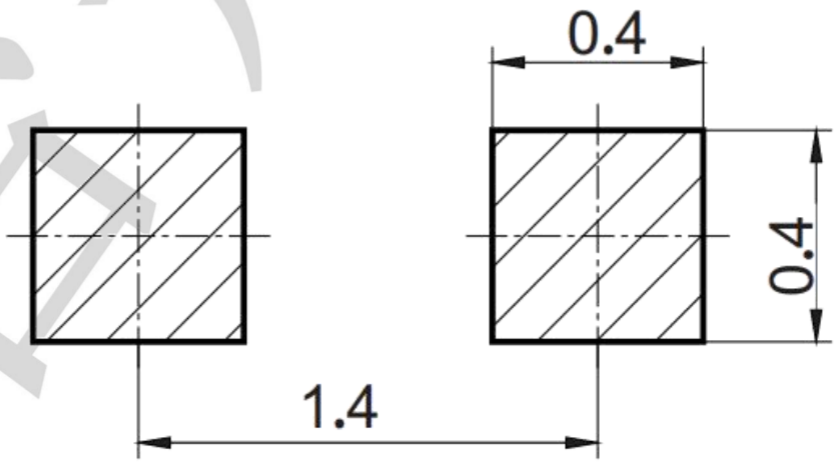
Effect of Zener Voltage on Zener Impedance



Typical Forward Voltage

Package Outline Dimensions (unit: mm)

SOD523



Mounting Pad Layout (unit: mm)