TECH PUBLIC
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TPZxxxC-123 Series
500m Watt Zener Voltage Regulators

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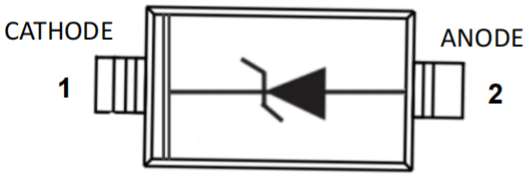
Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability
- Halogen free and RoHS compliant
- SOD123 surface mount package

Applications

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

Pin Configuration



SOD123

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	500	mW
Thermal Resistance (Junction-to-Ambient)	RθJA	340	°C/W
Junction Temperature Range	TJ	-55 ~ +150	°C
Storage Temperature Range	TSTG	-55 ~ +150	°C

TPZxxxC-123 Series
500m Watt Zener Voltage Regulators

Electrical Characteristics (T_A = 25℃ Cunless otherwise noted)

Type	Zener Voltage Range				Maximum Zener Impedance				Reverse Current	
	V_{ZT} (at I_{ZT})			I_{ZT}	Z_{ZT} @I_{ZT}	I_{ZT}	Z_{ZK}@ I_{ZK}	I_{ZK}	I_R	@V_R
	Min (V)	Nom (V)	Max (V)	(mA)	(Ω)	(mA)	(Ω)	(mA)	μA	V
TPZ2V0C-123	1.91	2.0	2.09	5	100	5	600	1	150	1.0
TPZ2V4C-123	2.2	2.4	2.6	5	100	5	600	1	50	1.0
TPZ2V7C-123	2.5	2.7	2.9	5	100	5	600	1	20	1.0
TPZ3V0C-123	2.8	3.0	3.2	5	95	5	600	1	10	1.0
TPZ3V3C-123	3.1	3.3	3.5	5	95	5	600	1	5.0	1.0
TPZ3V6C-123	3.4	3.6	3.8	5	90	5	600	1	5.0	1.0
TPZ3V9C-123	3.7	3.9	4.1	5	90	5	600	1	3.0	1.0
TPZ4V3C-123	4.0	4.3	4.6	5	90	5	600	1	3.0	1.0
TPZ4V7C-123	4.4	4.7	5.0	5	80	5	500	1	3.0	2.0
TPZ5V1C-123	4.8	5.1	5.4	5	60	5	480	1	2.0	2.0
TPZ5V6C-123	5.2	5.6	6.0	5	40	5	400	1	1.0	2.0
TPZ6V2C-123	5.8	6.2	6.6	5	10	5	150	1	3.0	4.0
TPZ6V8C-123	6.4	6.8	7.2	5	15	5	80	1	2.0	4.0
TPZ7V5C-123	7.0	7.5	7.9	5	15	5	80	1	1.0	5.0
TPZ8V2C-123	7.7	8.2	8.7	5	15	5	80	1	0.7	5.0
TPZ9V1C-123	8.5	9.1	9.6	5	15	5	100	1	0.5	6.0
TPZ10VC-123	9.4	10	10.6	5	20	5	150	1	0.2	7.0
TPZ11VC-123	10.4	11	11.6	5	20	5	150	1	0.1	8.0
TPZ12VC-123	11.4	12	12.7	5	25	5	150	1	0.1	8.0
TPZ13VC-123	12.4	13	14.1	5	30	5	170	1	0.1	8.0
TPZ15VC-123	13.8	15	15.6	5	30	5	200	1	0.1	10.5
TPZ16VC-123	15.3	16	17.1	5	40	5	200	1	0.1	11.2
TPZ18VC-123	16.8	18	19.1	5	45	5	225	1	0.1	12.6
TPZ20VC-123	18.8	20	21.2	5	55	5	225	1	0.1	14.0
TPZ22VC-123	20.8	22	23.3	5	55	5	250	1	0.1	15.4
TPZ24VC-123	22.8	24	25.6	5	70	5	250	1	0.1	16.8

Electrical Characteristics (T_A = 25℃ Cunless otherwise noted)

Type	Zener Voltage Range				Maximum Zener Impedance				Reverse Current	
	V_{ZT} (at I_{ZT})			I_{ZT}	Z_{ZT} @I_{ZT}	I_{ZT}	Z_{ZK}@ I_{ZK}	I_{ZK}	I_R	@V_R
	Min (V)	Nom (V)	Max (V)	(mA)	(Ω)	(mA)	(Ω)	(mA)	μA	V
TPZ27VC-123	25.1	27	28.9	2	80	2	300	0.5	0.1	18.9
TPZ30VC-123	28	30	32	2	80	2	300	0.5	0.1	21.0
TPZ33VC-123	31	33	35	2	80	2	325	0.5	0.1	23.1
TPZ36VC-123	34	36	38	2	90	2	350	0.5	0.1	25.2
TPZ39VC-123	37	39	41	2	130	2	350	0.5	0.1	27.3
TPZ43VC-123	40	43	46	2	130	2	500	1	2	33
TPZ47VC-123	44	47	50	2	150	2	500	1	2	36
TPZ51VC-123	48	51	54	2	180	2	500	1	1	37
TPZ56VC-123	52	56	60	2	180	2	500	1	1	43
TPZ62VC-123	58	62	66	2	200	2	500	1	0.2	47
TPZ68VC-123	64	68	72	2	250	2	500	1	0.2	52
TPZ75VC-123	70	75	79	2	300	2	500	1	0.2	57

NOTES:（1）f=1KHz

（2）Short duration test pulse used to minimize self-heating effect.

（3）VZT is tested with pulses 20ms.

Typical Characteristics Curves

Fig.1 Maximum Continuous Power Derating

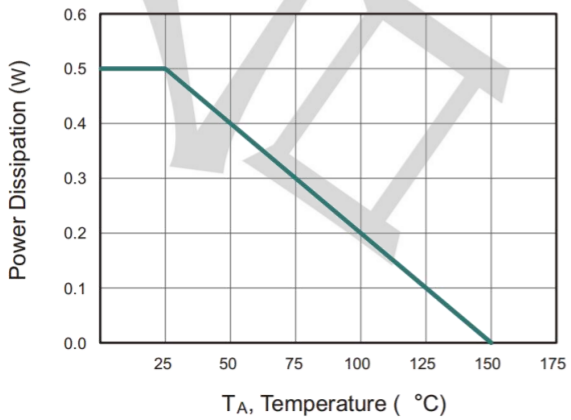
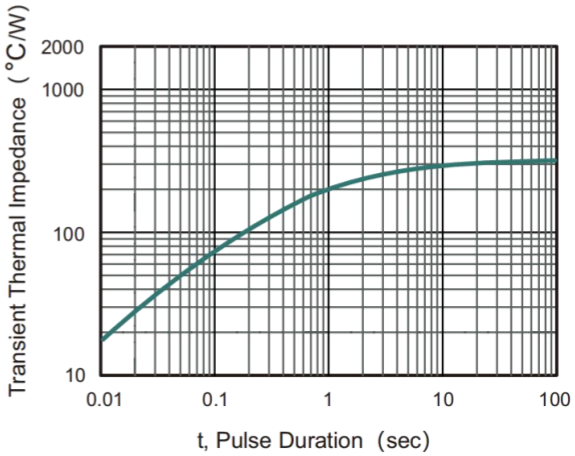
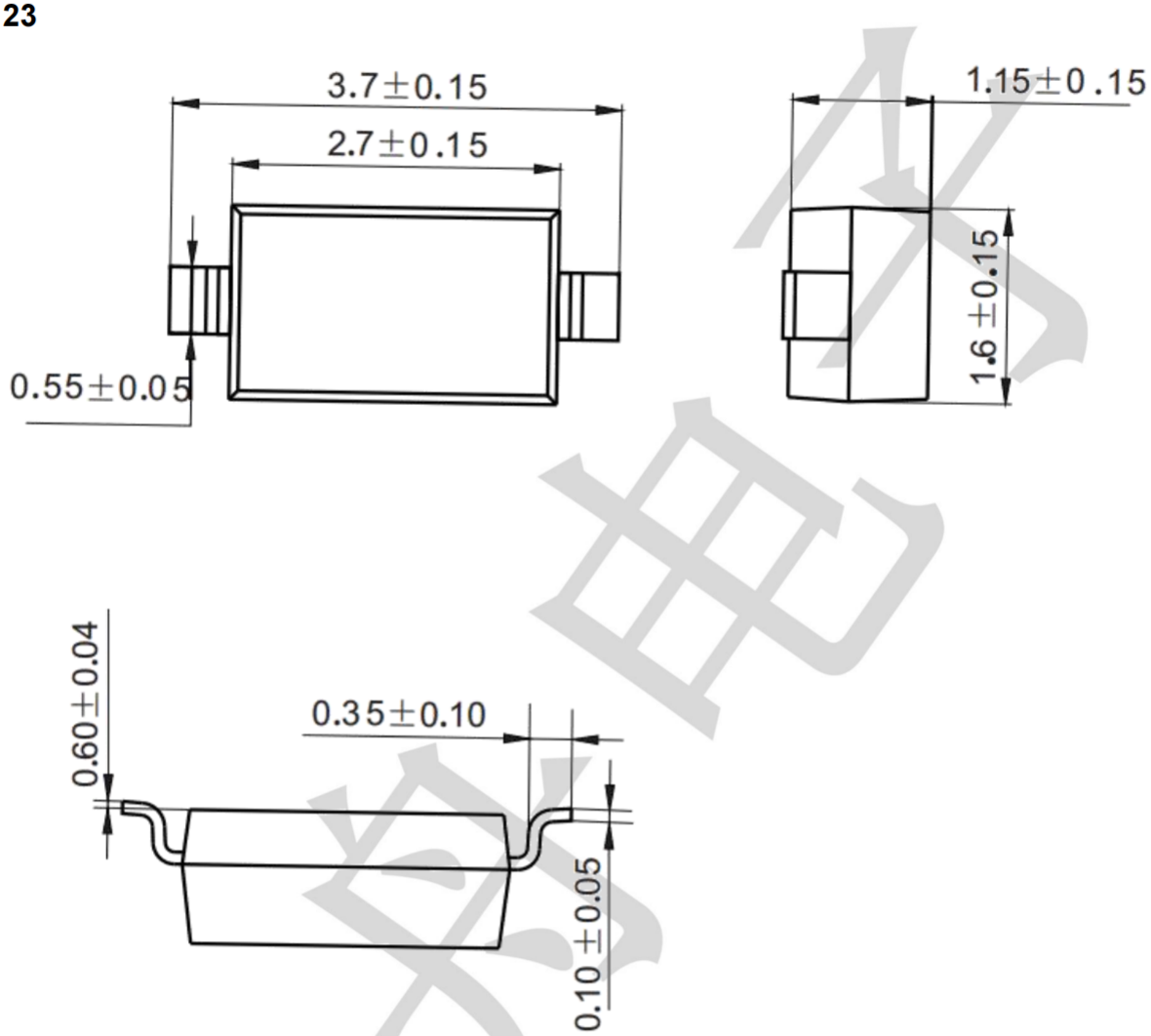
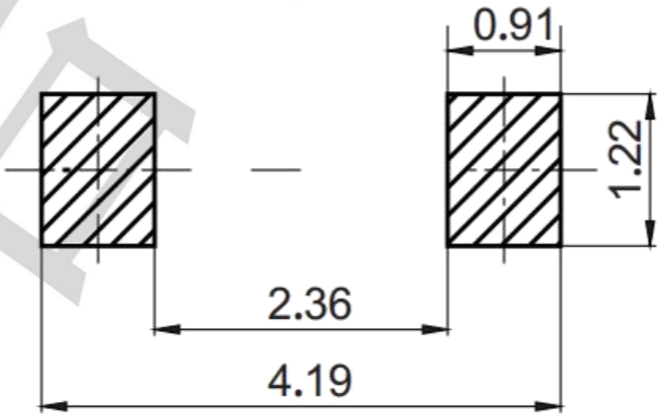


Fig.2 Typical Transient Thermal Impedance



Package Outline Dimensions (unit: mm)

SOD123



Mounting Pad Layout (unit: mm)