

Features

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

Applications

- General voltage regulation
- Mobile & handheld systems

Ordering Information

- Package: SOD123
- Shipping Qty: 3000/7inch Tape & Reel



SOD123



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

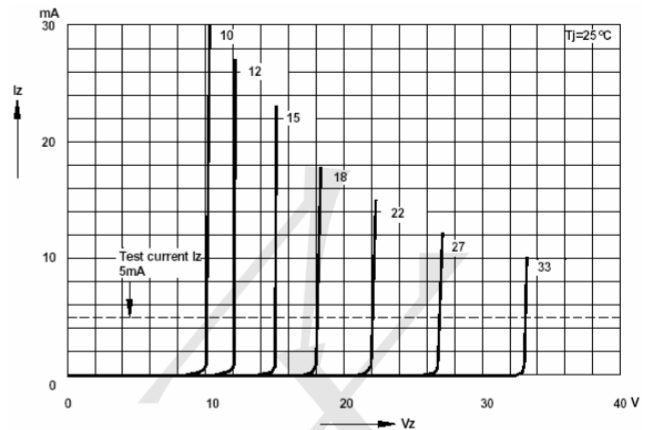
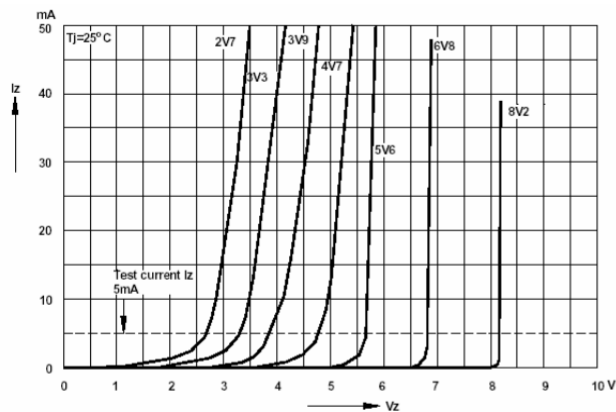
Parameter	Symbol	Value	Unit
Forward Voltage @ $I_F=10\text{mA}$	V_F	0.9	V
Power Dissipation	P_D	500	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	250	$^{\circ}\text{C/W}$
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	140	$^{\circ}\text{C/W}$
Junction Temperature Range	T_J	-55 ~ +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^{\circ}\text{C}$

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

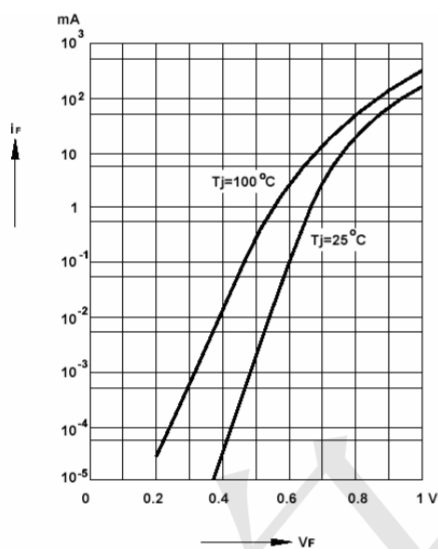
Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V			mA
TPZ2V4C-123	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
TPZ2V7C-123	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
TPZ3V0C-123	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
TPZ3V3C-123	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
TPZ3V6C-123	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
TPZ3V9C-123	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V3C-123	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V7C-123	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
TPZ5V1C-123	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
TPZ5V6C-123	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
TPZ6V2C-123	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
TPZ6V8C-123	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
TPZ7V5C-123	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
TPZ8V1C-123	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
TPZ9V1C-123	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
TPZ10VC-123	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
TPZ11VC-123	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
TPZ12VC-123	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
TPZ13VC-123	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
TPZ15VC-123	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
TPZ16VC-123	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
TPZ18VC-123	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
TPZ20VC-123	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
TPZ22VC-123	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
TPZ24VC-123	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
TPZ27VC-123	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
TPZ30VC-123	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
TPZ33VC-123	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
TPZ36VC-123	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
TPZ39VC-123	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
TPZ43VC-123	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
TPZ47VC-123	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
TPZ51VC-123	WW	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5

Typical Electrical Characteristic Curves

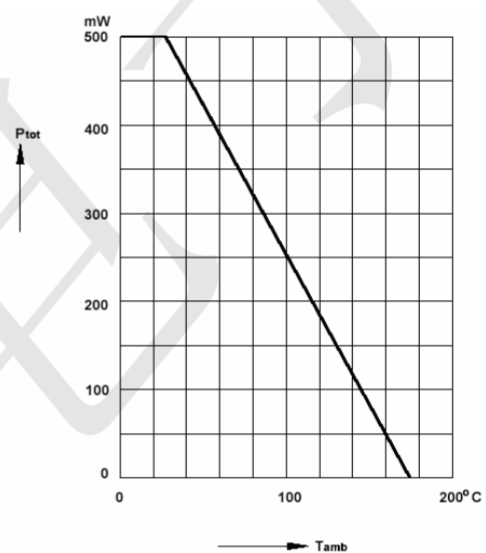
Breakdown characteristics at $T_j = \text{constant}$ (pulsed)



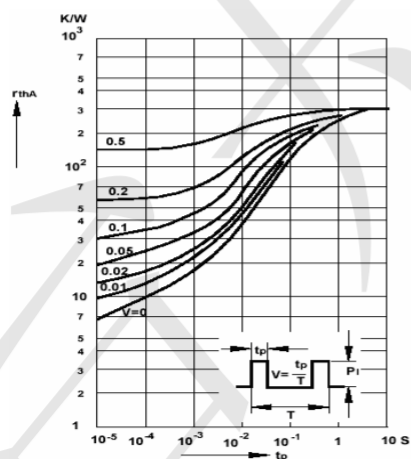
Forward characteristics



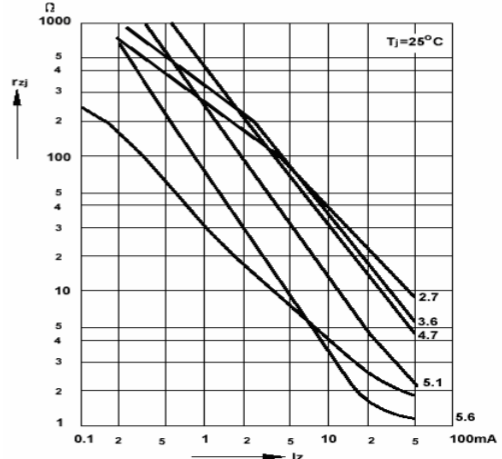
Admissible power dissipation versus ambient temperature



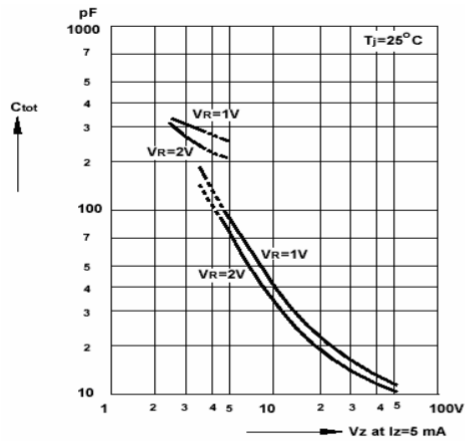
Pulse thermal resistance versus pulse duration



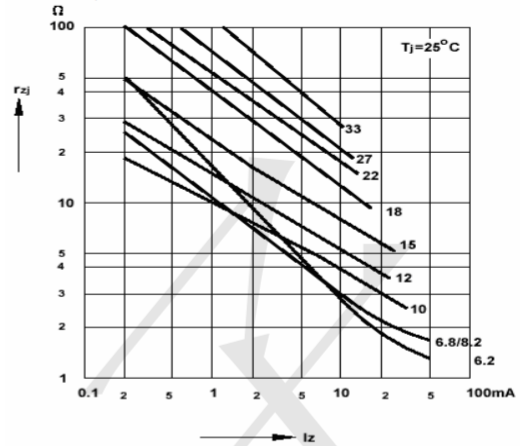
Dynamic resistance versus Zener current



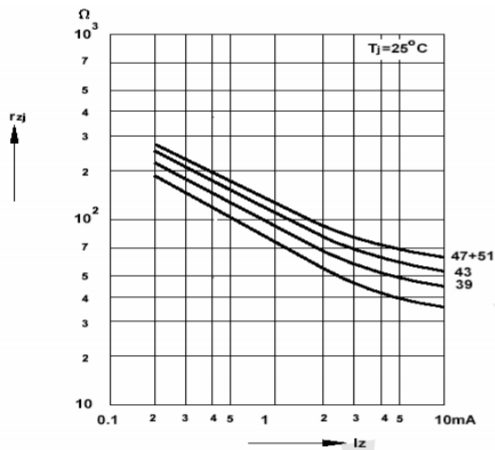
Capacitance versus Zener voltage



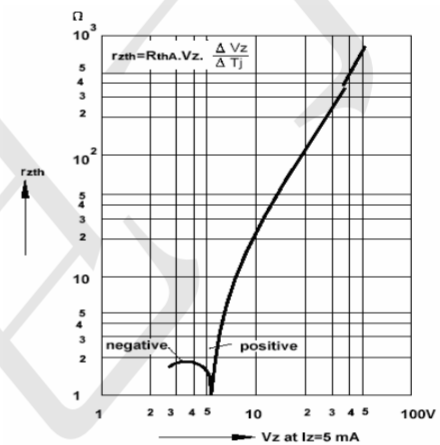
Dynamic resistance versus Zener current



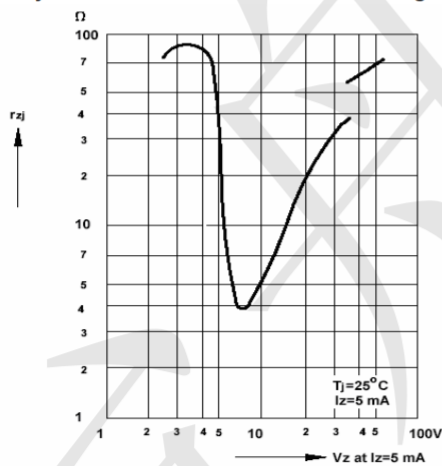
Dynamic resistance versus Zener current



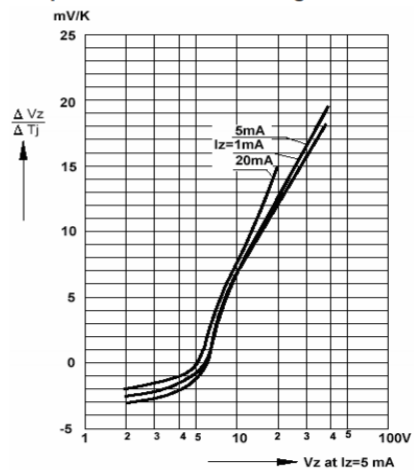
Thermal differential resistance versus Zener voltage



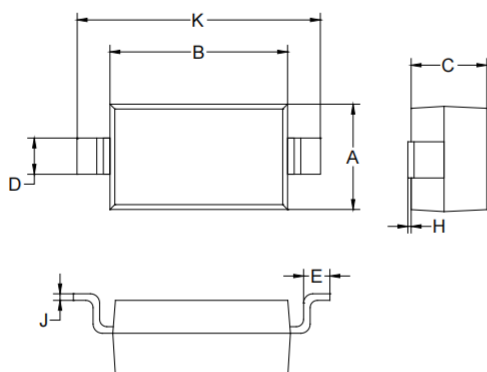
Dynamic resistance versus Zener voltage



Temperature dependence of Zener voltage versus Zener voltage



Outline Drawing - SOD123(unit: mm)



SOD-123		
Dimension	Min.	Max.
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85

Mounting Pad Layout-SOD123(unit: mm)

