

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)

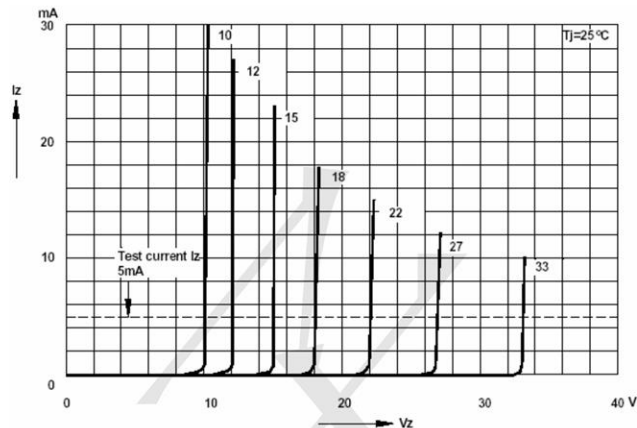
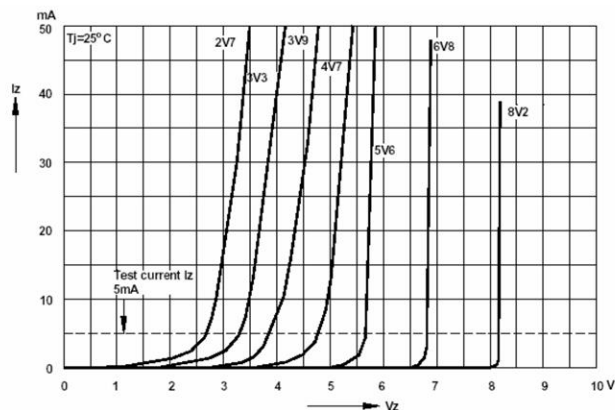
Parameter	Symbol	Value	Unit
Forward Voltage @ $I_F=10\text{mA}$	V_F	0.9	V
Power Dissipation	P_D	500	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	140	$^\circ\text{C/W}$
Junction Temperature Range	T_J	$-55 \sim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

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

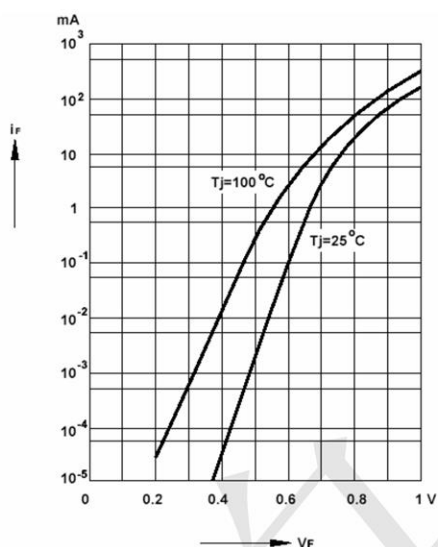
Device	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ $I_{ZTC}=mV/^{\circ}\text{C}$		Test Current I_{ZTC}
	$V_z@I_{zt}$			I_{zt}	$Z_{zt}@I_{zt}$	$Z_{zk}@I_{zk}$	I_{zk}	I_R	V_R	Min	Max	mA
	Nom(V)	Min(V)	Max(V)	mA	Ω	Ω	mA	μA	V			
TPZ2V4C-123	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
TPZ2V7C-123	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
TPZ3V0C-123	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
TPZ3V3C-123	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
TPZ3V6C-123	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
TPZ3V9C-123	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V3C-123	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V7C-123	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
TPZ5V1C-123	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
TPZ5V6C-123	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
TPZ6V2C-123	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
TPZ6V8C-123	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
TPZ7V5C-123	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
TPZ8V1C-123	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
TPZ9V1C-123	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
TPZ10VC-123	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
TPZ11VC-123	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
TPZ12VC-123	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
TPZ13VC-123	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
TPZ15VC-123	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
TPZ16VC-123	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
TPZ18VC-123	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
TPZ20VC-123	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
TPZ22VC-123	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
TPZ24VC-123	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
TPZ27VC-123	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
TPZ30VC-123	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
TPZ33VC-123	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
TPZ36VC-123	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
TPZ39VC-123	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
TPZ43VC-123	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
TPZ47VC-123	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
TPZ51VC-123	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5

Typical Electrical Characteristic Curves

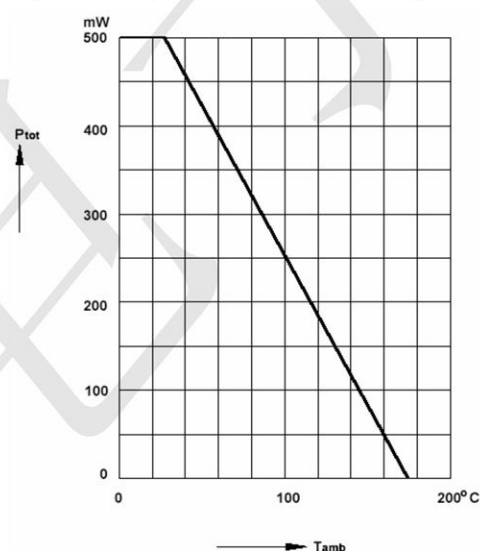
Breakdown characteristics
at $T_j = \text{constant}$ (pulsed)



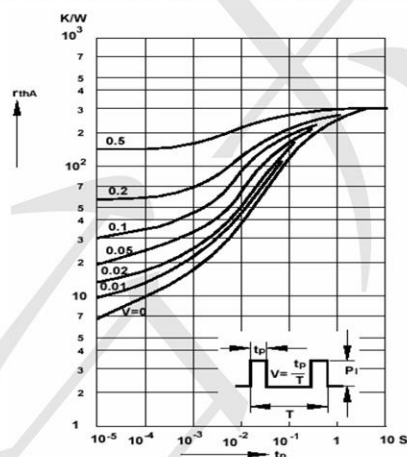
Forward characteristics



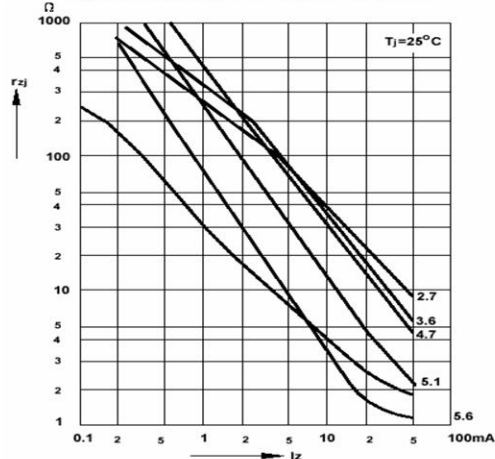
Admissible power dissipation versus ambient temperature



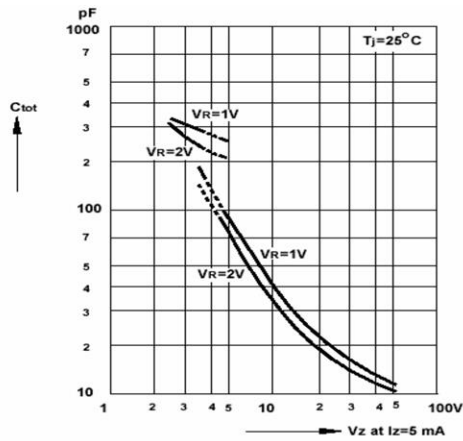
Pulse thermal resistance versus pulse duration



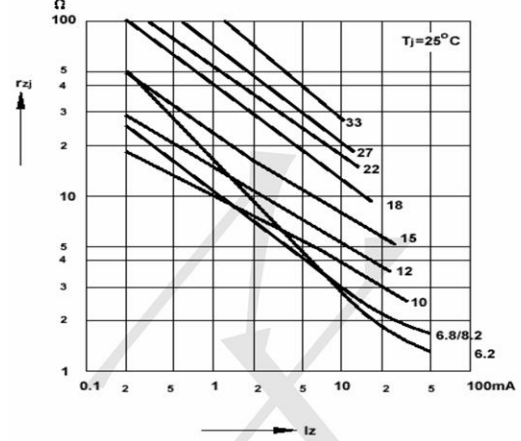
Dynamic resistance versus Zener current



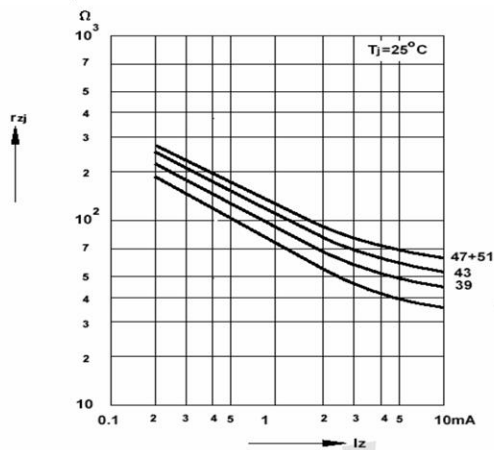
Capacitance versus Zener voltage



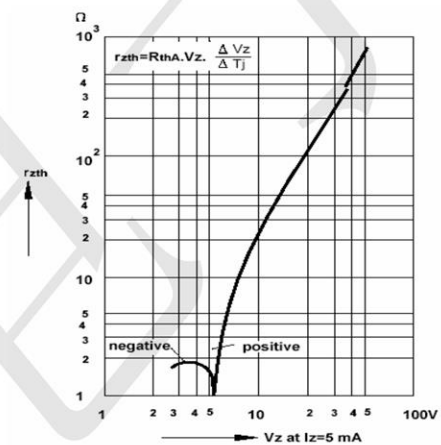
Dynamic resistance versus Zener current



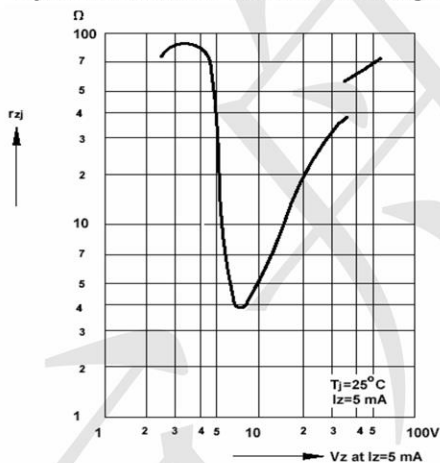
Dynamic resistance versus Zener current



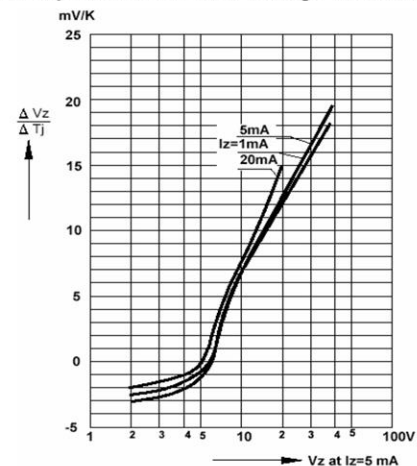
Thermal differential resistance versus Zener voltage



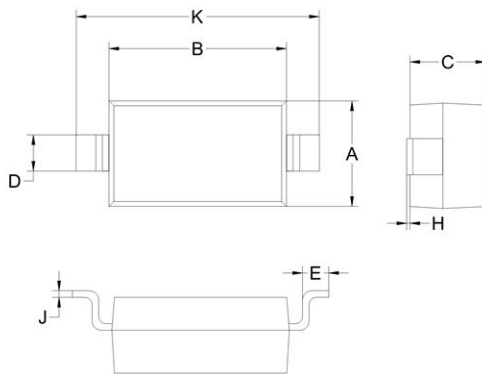
Dynamic resistance versus Zener voltage



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)

