

## Features

- Low Zener Impedance
- Power Dissipation of 500mW
- High Stability and High Reliability
- Halogen free and RoHS compliant
- Tight voltage tolerance:  $\pm 5\%$  for C-series



SOD323



## Applications

- General voltage regulation
- Mobile & handheld systems

## Ordering Information

- Package: SOD323
- Shipping Qty: 3000/7inch Tape & Reel

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

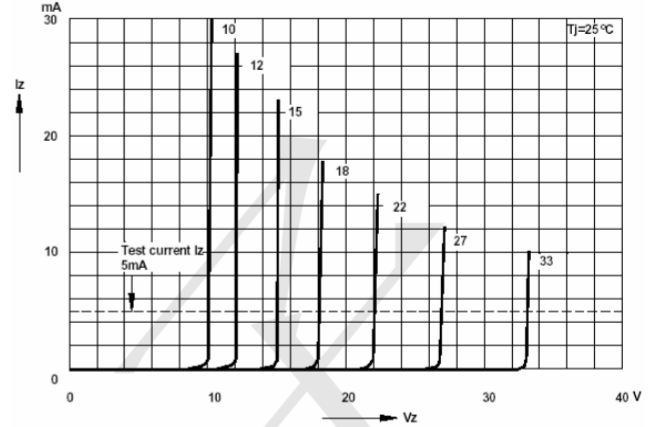
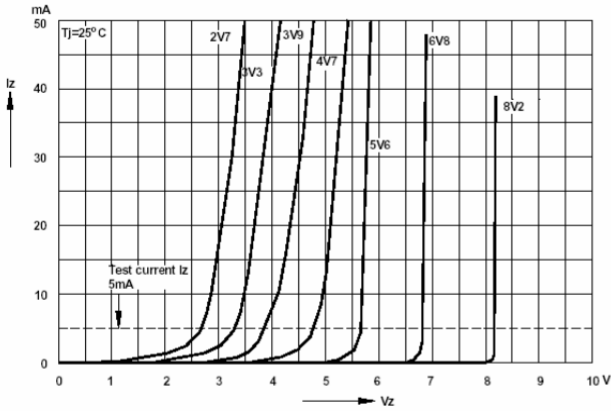
Parameter	Symbol	Value	Unit
Forward Voltage @ $I_F=10\text{mA}$	$V_F$	0.9	V
Power Dissipation	$P_D$	200	mW
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case)	$R_{\theta JC}$	337	$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	-55 ~ +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)

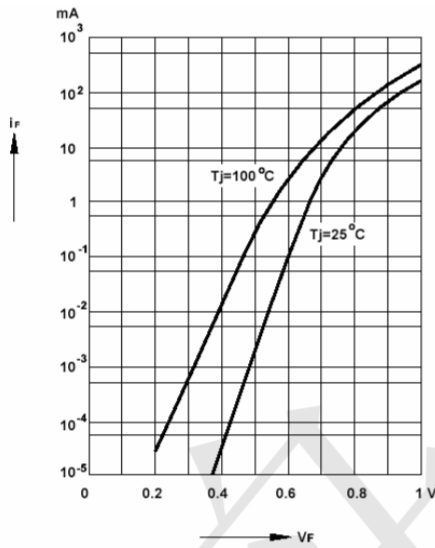
Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)									
TPZ2V4C-323	WX	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
TPZ2V7C-323	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
TPZ3V0C-323	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
TPZ3V3C-323	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
TPZ3V6C-323	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
TPZ3V9C-323	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V3C-323	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
TPZ4V7C-323	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
TPZ5V1C-323	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
TPZ5V6C-323	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
TPZ6V2C-323	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
TPZ6V8C-323	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
TPZ7V5C-323	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
TPZ8V1C-323	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
TPZ9V1C-323	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
TPZ10VC-323	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
TPZ11VC-323	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
TPZ12VC-323	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
TPZ13VC-323	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
TPZ15VC-323	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
TPZ16VC-323	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
TPZ18VC-323	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
TPZ20VC-323	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
TPZ22VC-323	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
TPZ24VC-323	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
TPZ27VC-323	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
TPZ30VC-323	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
TPZ33VC-323	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
TPZ36VC-323	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
TPZ39VC-323	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
TPZ43VC-323	WU	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5
TPZ47VC-323	WV	47	44.0	50.0	2	100	750	1.0	0.1	35.0	10.0	12.0	5
TPZ51VC-323	WV	51	48.0	54.0	2	100	750	1.0	0.1	38.0	10.0	12.0	5

## Typical Electrical Characteristic Curves

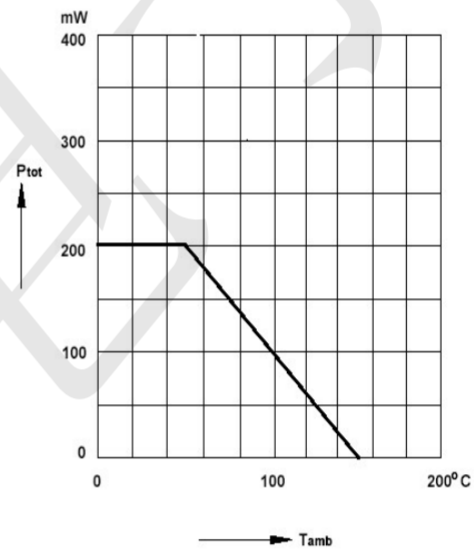
**Breakdown characteristics**  
at  $T_J = \text{constant}$  (pulsed)



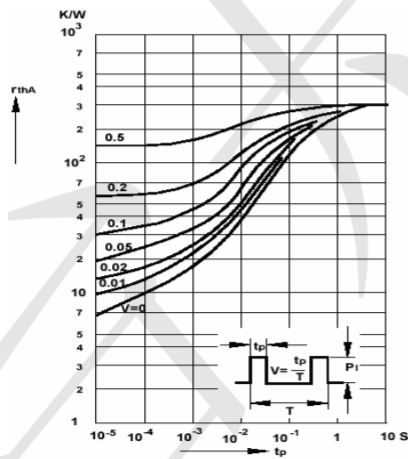
**Forward characteristics**



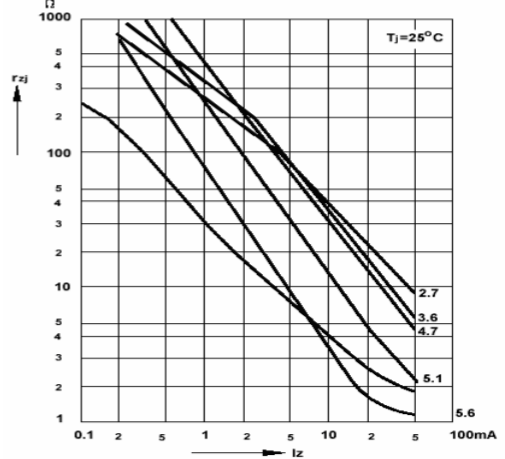
**Admissible power dissipation versus ambient temperature**



**Pulse thermal resistance versus pulse duration**

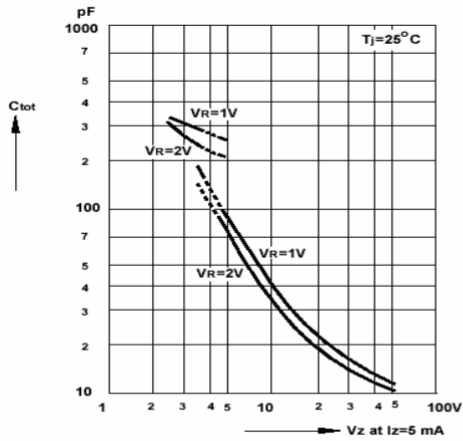


**Dynamic resistance versus Zener current**

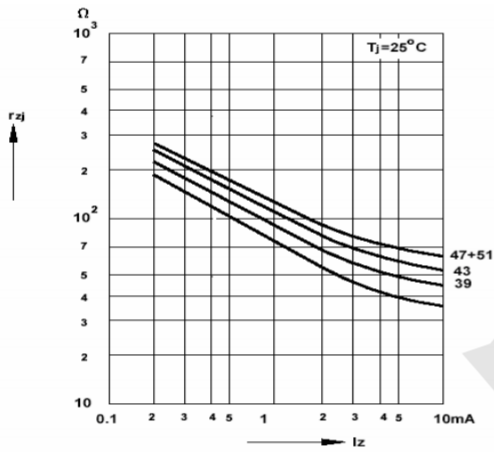


**Capacitance versus Zener voltage**

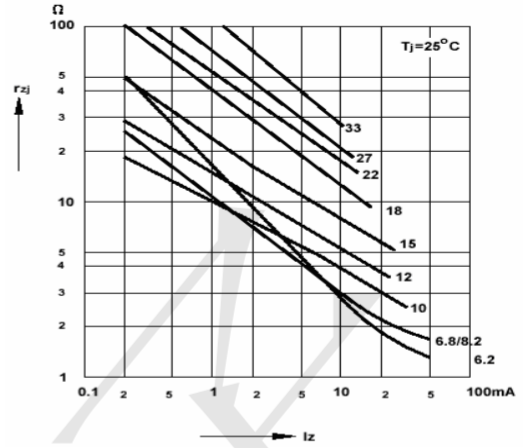
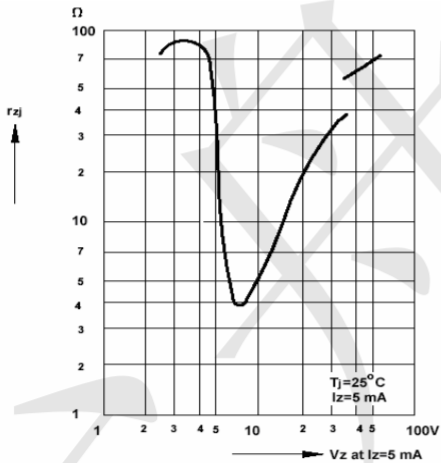
**Dynamic resistance versus Zener current**



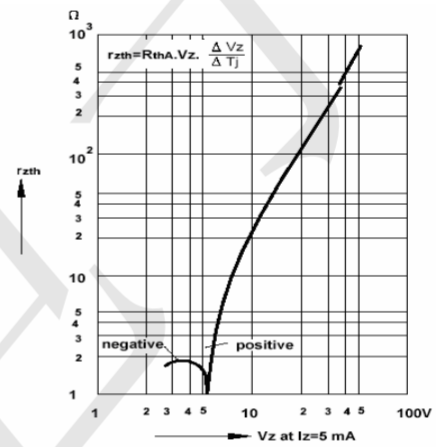
Dynamic resistance versus Zener current



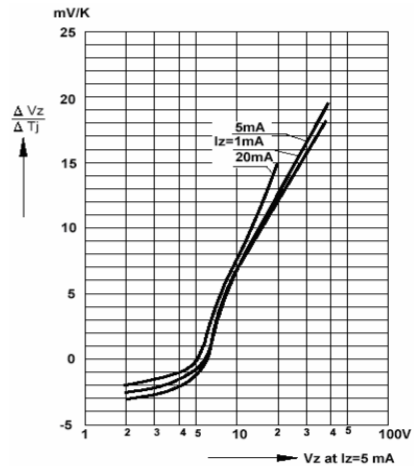
Dynamic resistance versus Zener voltage



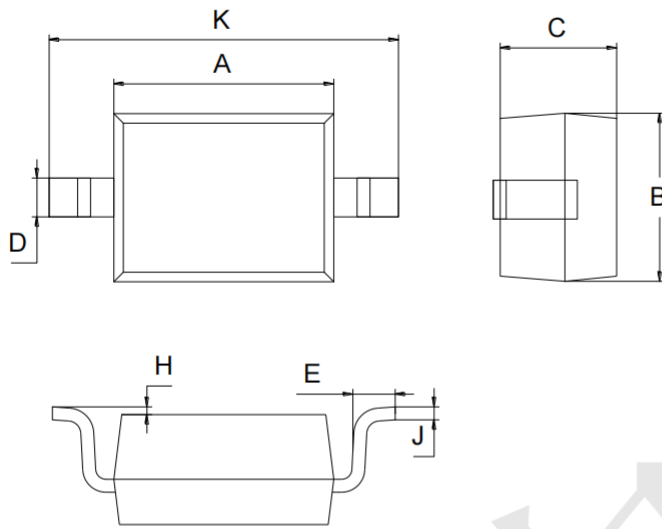
Thermal differential resistance versus Zener voltage



Temperature dependence of Zener voltage versus Zener voltage



**Outline Drawing - SOD323**



SOD-323		
Dim	Min	Max
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

**Mounting Pad Layout-SOD323 (unit: mm)**

