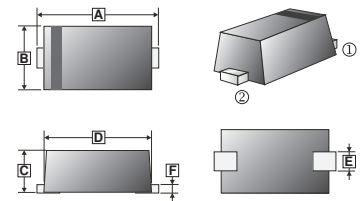


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

SOD-523

FEATURES

- Standard zener breakdown voltage range -2.0V to 75V
- Steady state power rating of 100mW
- Small body outline dimensions: 1.2mm x 0.80mm
- Low body height: 0.7mm
- Package weight: 4.507 mg/unit
- ESD rating of class 3(>16KV) per human body model



PACKAGING INFORMATION

- Case: SOD-523, void-free, transfer-molded plastic
- Finish: All external surfaces are corrosion resistant
- Maximum case temperature for soldering purposes: 260°C for 10 seconds
- Polarity: Cathode indicated by polarity band
- Flammability rating: UL 94 V-0
- Mounting position: Any

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.50	1.70	D	1.10	1.30
B	0.70	0.90	E	0.25	0.35
C	0.50	0.77	F	0.07	0.20

MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation ¹	P _D	100	mW
Power Dissipation, Derate above 25°C		1.5	mW/°C
Forward Voltage @ I _F =10mA ²	V _F	0.9	V
Thermal Resistance Junction to Ambient Air ¹	R _{θJA}	625	°C / W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 ~ 150	°C

Note:

1. Valid provided that device terminals are kept at ambient temperature.
2. Short duration test pulse used in minimizing self-heating effect.
3. F=1 KHz

ELECTRICAL RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

TYPE NUMBER	MARKING	ZENER VOLTAGE RANGE ²				MAXIMUM ZENER IMPEDANCE ³		MAXIMUM REVERSE LEAKAGE CURRENT ²		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE @ $I_{ZT} = 10\text{mA}$ $\text{mV}/^\circ\text{C}$	
		V_Z			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK} $=1.0\text{mA}$	I_R @ V_R		Min.	Max.
		Min(V)	Nom(V)	Max(V)	mA	Ω		μA	V		
MM5Z2V4	Z11/00	2.2	2.4	2.6	5.0	100	600	50	1.0	-3.5	0
MM5Z2V7	Z12/01	2.5	2.7	2.9	5.0	100	600	20	1.0	-3.5	0
MM5Z3V0	Z13/02	2.8	3.0	3.2	5.0	95	600	10	1.0	-3.5	0
MM5Z3V3	Z14/05	3.1	3.3	3.5	5.0	95	600	5.0	1.0	-3.5	0
MM5Z3V6	Z15/06	3.4	3.6	3.8	5.0	90	600	5.0	1.0	-3.5	0
MM5Z3V9	Z16/07	3.7	3.9	4.1	5.0	90	600	3.0	1.0	-3.5	0
MM5Z4V3	Z17/08	4.0	4.3	4.6	5.0	90	600	3.0	1.0	-3.5	0
MM5Z4V7	Z1/09	4.4	4.7	5.0	5.0	80	500	3.0	2.0	-3.5	0.2
MM5Z5V1	Z2/0A	4.8	5.1	5.4	5.0	60	480	2.0	2.0	-2.7	1.2
MM5Z5V6	Z3/0C	5.2	5.6	6.0	5.0	40	400	1.0	2.0	-2.0	2.5
MM5Z6V2	Z4/0E	5.8	6.2	6.6	5.0	10	150	3.0	4.0	0.4	3.7
MM5Z6V8	Z5/0F	6.4	6.8	7.2	5.0	15	80	2.0	4.0	1.2	4.5
MM5Z7V5	Z6/0G	7.0	7.5	7.9	5.0	15	80	1.0	5.0	2.5	5.3
MM5Z8V2	Z7/0H	7.7	8.2	8.7	5.0	15	80	0.7	5.0	3.2	6.2
MM5Z9V1	Z8/0K	8.5	9.1	9.6	5.0	15	100	0.5	6.0	3.8	7.0
MM5Z10V	Z9/0L	9.4	10	10.6	5.0	20	150	0.2	7.0	4.5	8.0
MM5Z11V	Y1/0M	10.4	11	11.6	5.0	20	150	0.1	8.0	5.4	9.0
MM5Z12V	Y2/0N	11.4	12	12.7	5.0	25	150	0.1	8.0	6.0	10.0
MM5Z13V	Y3/0P	12.4	13	14.1	5.0	30	170	0.1	8.0	7.0	11.0
MM5Z15V	Y4/0T	13.8	15	15.6	5.0	30	200	0.1	10.5	9.2	13.0
MM5Z16V	Y5/0U	15.3	16	17.1	5.0	40	200	0.1	11.2	10.4	14.0
MM5Z18V	Y6/0W	16.8	18	19.1	5.0	45	225	0.1	12.6	12.4	16.0
MM5Z20V	Y7/0Z	18.8	20	21.2	5.0	55	225	0.1	14.0	14.4	18.0
MM5Z22V	Y8/10	20.8	22	23.3	5.0	55	250	0.1	15.4	16.4	20.0
MM5Z24V	Y9/11	22.8	24	25.6	5.0	70	250	0.1	16.8	18.4	22.0
MM5Z27V	Y10/12	25.1	27	28.9	2.0	80	300	0.1	18.9	21.4	25.3
MM5Z30V	Y11/14	28.0	30	32.0	2.0	80	300	0.1	21.0	24.4	29.4
MM5Z33V	Y12/18	31.0	33	35.0	2.0	80	325	0.1	23.1	27.4	33.4
MM5Z36V	Y13/19	34.0	36	38.0	2.0	90	350	0.1	25.2	30.4	37.4
MM5Z39V	Y14/20	37.0	39	41.0	2.0	130	350	0.1	27.3	33.4	41.2

Notes: 1. Valid provided that device terminals are kept at ambient temperature.

2. Test with pulses. Period=5ms, pulse width=300 μs

3. $f = 1\text{KHz}$

CHARACTERISTIC CURVES

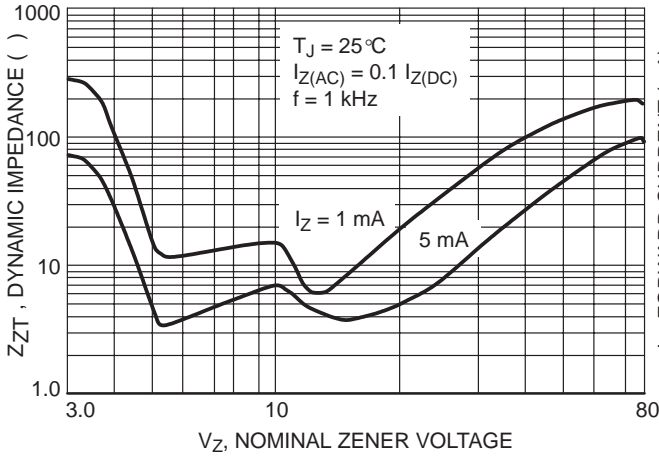


Figure 1. Effect of Zener Voltage on Zener Impedance

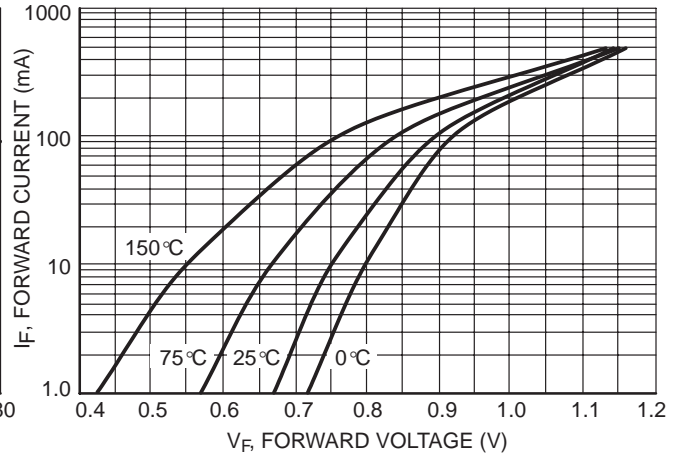


Figure 2. Typical Forward Voltage

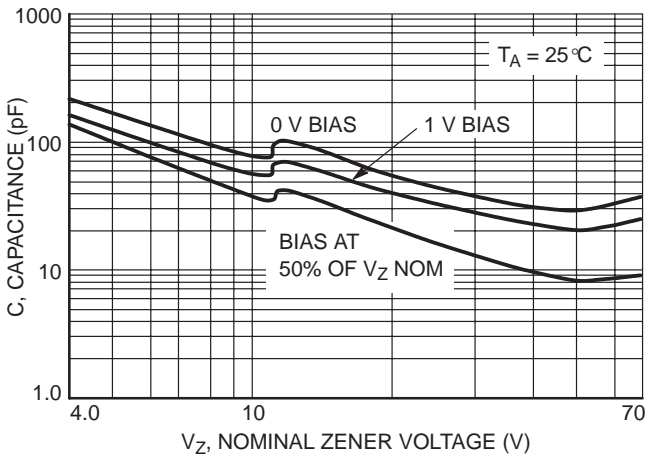


Figure 3. Typical Capacitance

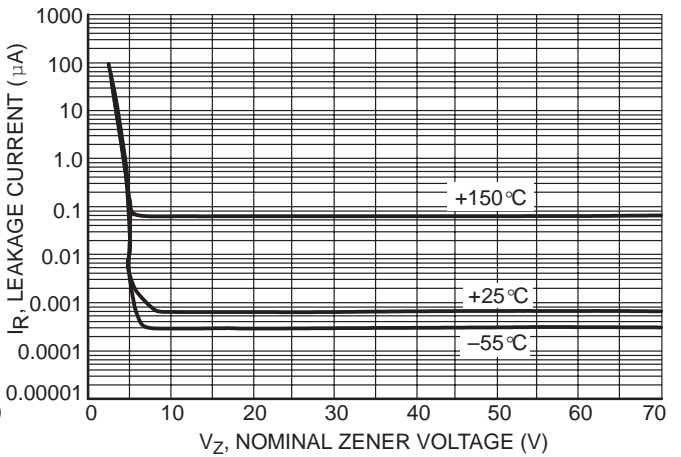


Figure 4. Typical Leakage Current

CHARACTERISTIC CURVES

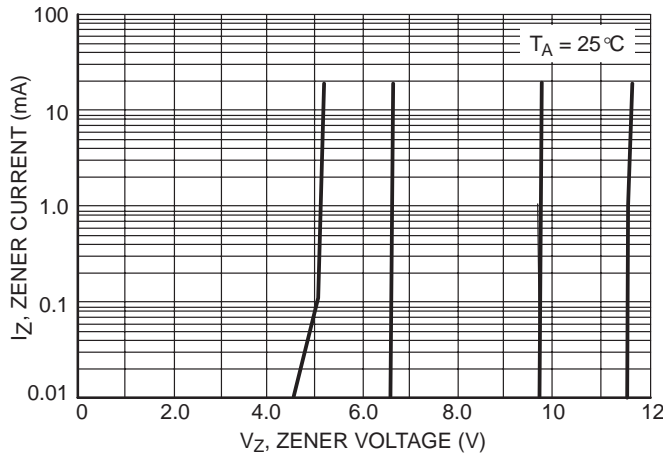


Figure 5. Zener Voltage versus Zener Current (V_Z Up to 12 V)

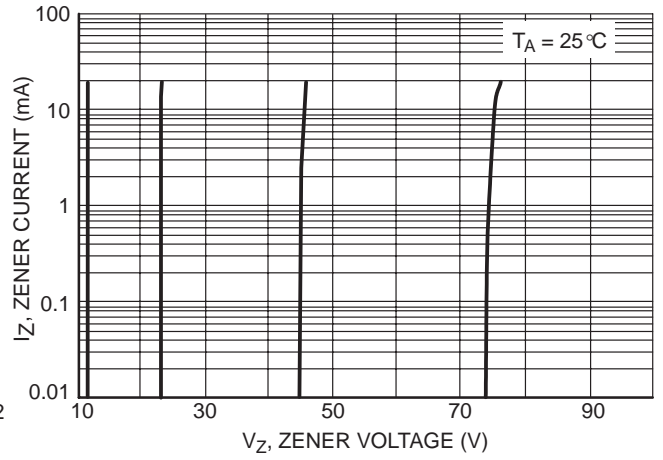


Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

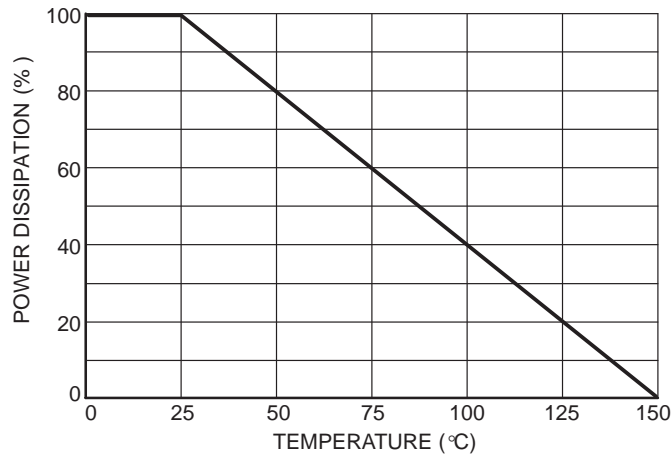


Figure 7. Steady State Power Derating