

- We declare that the material of product compliance with RoHS requirements.

This series of Zener diodes is packaged in a SOD-523 surface mount package. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.

Specification Features:

- Standard Zener Breakdown Voltage Range – 2.0 V to 75 V
- Steady State Power Rating of 200 mW
- Small Body Outline Dimensions: 0.047" x 0.032" (1.20 mm x 0.80 mm)
- Low Body Height: 0.028" (0.7 mm)
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Mechanical Characteristics:

LEAD FINISH: 100% Matte Sn (Tin)

QUALIFIED MAX REFLOW TEMPERATURE: 260°C

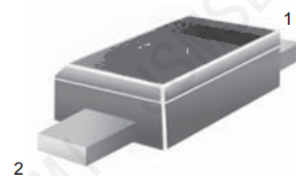
Device Meets MSL 1 Requirements

MOUNTING POSITION: Any

MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, @ $T_A = 25^\circ\text{C}$	P_D	200	mW
Junction and Storage Temperature Range	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



SOD- 523

MARKING DIAGRAM



xx = Specific Device Code
d = Date Code

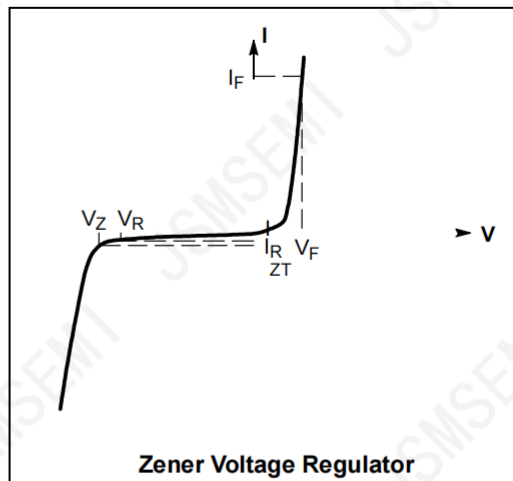


ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted,

$V_F = 0.9\text{ V Max. @ } I_F = 10\text{ mA}$ for all types)

Symbol	Parameter
V_Z	Reverse Zener Voltage @ I_{ZT}
I_{ZT}	Reverse Current
Z_{ZT}	Maximum Zener Impedance @ I_{ZT}
I_{ZK}	Reverse Current
Z_{ZK}	Maximum Zener Impedance @ I_{ZK}
I_R	Reverse Leakage Current @ V_R
V_R	Reverse Voltage
I_F	Forward Current
V_F	Forward Voltage @ I_F
θV_Z	Maximum Temperature Coefficient of V_Z
C	Max. Capacitance @ $V_R = 0$ and $f = 1\text{ MHz}$


ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.9\text{ V Max. @ } I_F = 10\text{ mA}$ for all types)

Device	Device Marking	Zener Voltage (Note 1)				Zener Impedance			Leakage Current		θ_{VZ} (mV/k) @ I_{ZT}		C @ $V_R = 0$ $f = 1\text{MHz}$
		V_Z (Volts)			@ I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R				
		Min	Nom	Max	mA	Ω	Ω	mA	μA	Volts	Min	Max	
BZX585-B5V6,115-JSM	0C	5.2	5.6	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	200

1. Zener voltage is measured with a pulse test current I_Z at an ambient temperature of 25°C .

Typical Characteristics

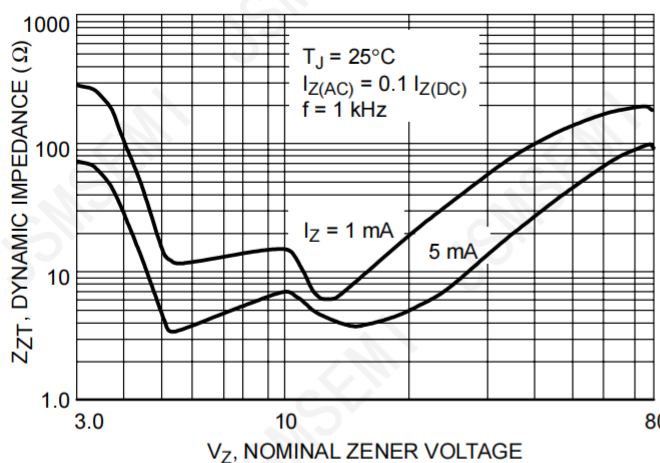


Figure 1. Effect of Zener Voltage on Zener Impedance

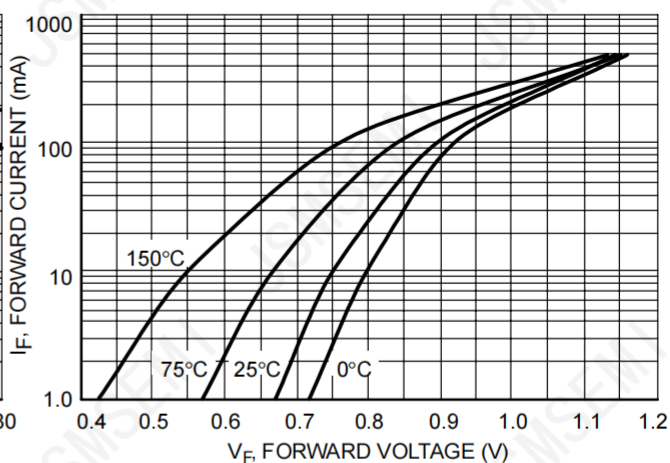


Figure 2. Typical Forward Voltage

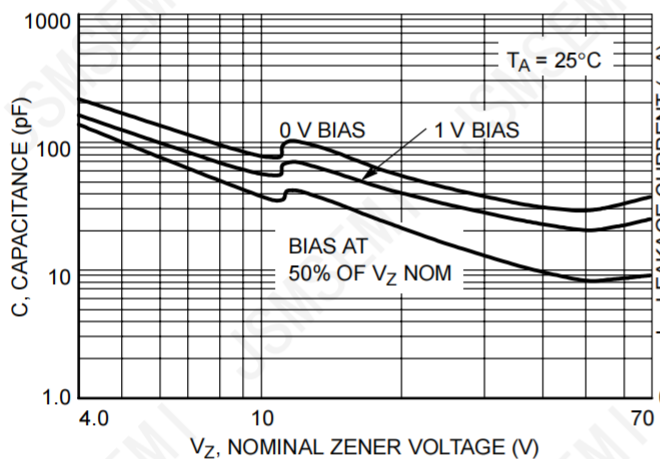


Figure 3. Typical Capacitance

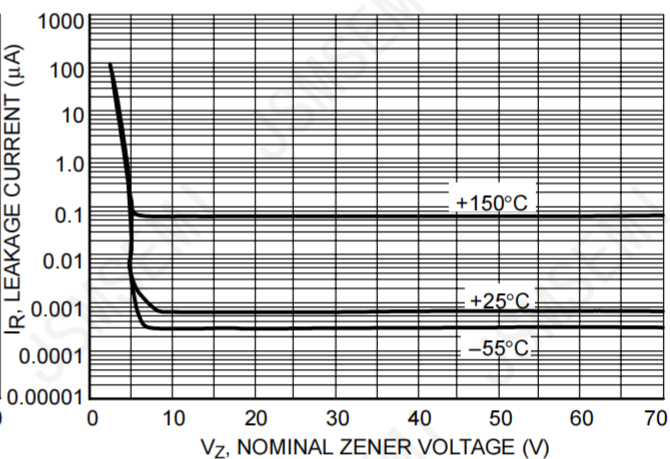


Figure 4. Typical Leakage Current

Typical Characteristics

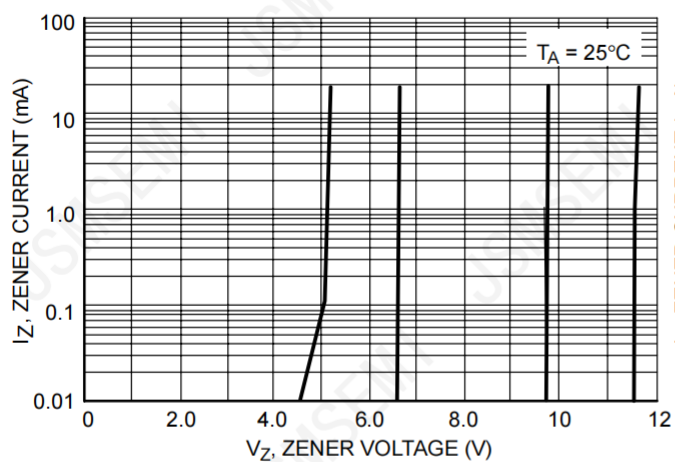


Figure 5. Zener Voltage versus Zener Current
(V_Z Up to 12 V)

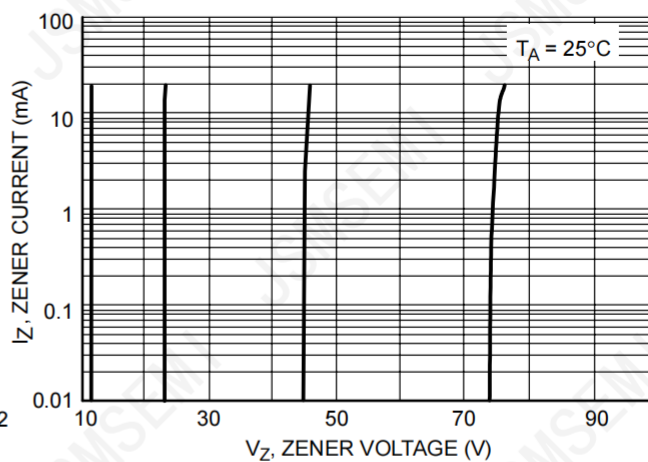


Figure 6. Zener Voltage versus Zener Current
(12 V to 75 V)

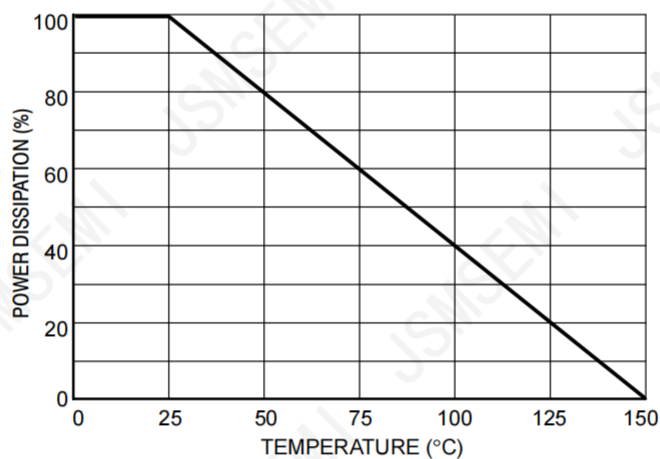
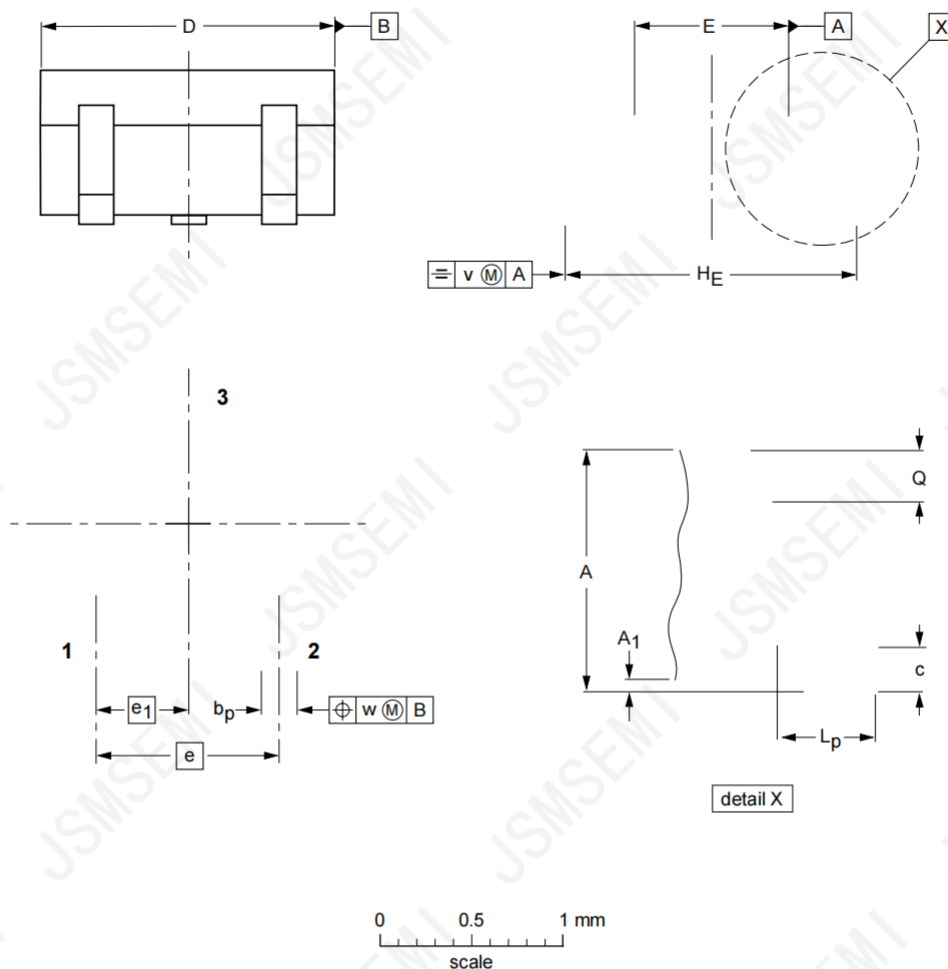


Figure 7. Steady State Power Derating

Package Information

SOD-523



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	bp	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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