

## Small Signal Zener Diode

### General Description

These diodes small signal Zener diodes, fabricated in planar technology. Miniature surface mount package is excellent for hand-held and portable applications where is space is limited.

### Features and Benefits

- Silicon epitaxial planar diode
- Low Zener impedance and low leakage current
- Standard Zener voltage tolerance is 4.3%.
- Full lead (Pb)-free device and RoHS compliant device
- Available in "Green" device



SOD-523



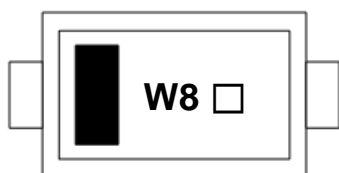
### Applications

- Voltage regulator

### Ordering Information

Part Number	Marking Code	Package	Packaging
SDZ3V0Q	W8 □	SOD-523	Tape & Reel

### Marking Information



W 8 = Specific Device Code

□ = Year & Week Code Marking

■ = Color band denote cathode

### Pinning Information

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode		
2	Anode		

**Absolute Maximum Ratings** ( $T_{amb}=25^{\circ}\text{C}$ , Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Power dissipation <sup>1)</sup>	$P_D$	120	mW
Operating junction temperature	$T_J$	150	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	$-55^{\circ}\text{C}$ to $+150^{\circ}\text{C}$	$^{\circ}\text{C}$

<sup>1)</sup> Device mounted on FR-4 board with recommended pad layout.

**Thermal Characteristics** ( $T_{amb}=25^{\circ}\text{C}$ , Unless otherwise specified)

Characteristic	Symbol	Ratings	Unit
Thermal resistance, junction to ambient <sup>1)</sup>	$R_{th(j-a)}$	1042	$^{\circ}\text{C/W}$

<sup>1)</sup> Device mounted on FR-4 board with recommended pad layout.

**Electrical Characteristics** ( $T_{amb}=25^{\circ}\text{C}$ , Unless otherwise specified)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Zener voltage	$V_Z$	$I_Z=5\text{mA}$	2.85	-	3.15	V
Dynamic impedance	$Z_{ZT}$	$I_Z=5\text{mA}$	-	-	95	$\Omega$
KNEE dynamic impedance	$Z_{ZK}$	$I_Z=0.25\text{mA}$	-	-	2000	$\Omega$
Reverse leakage current	$I_R$	$V_R=1\text{V}$	-	-	50	$\mu\text{A}$

## Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

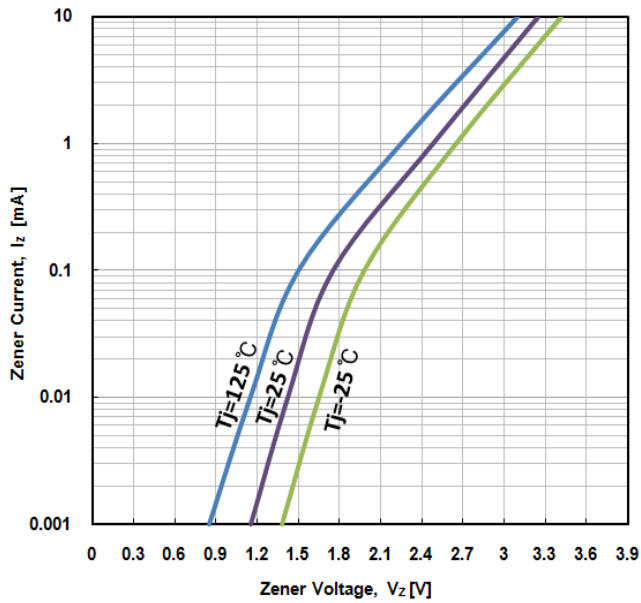


Fig. 2) Typical Forward Characteristics

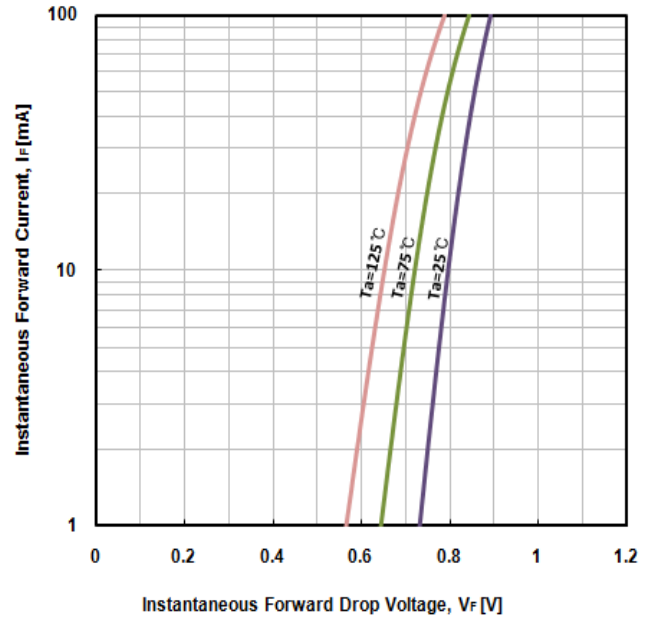


Fig. 3) Typical Capacitance Characteristics

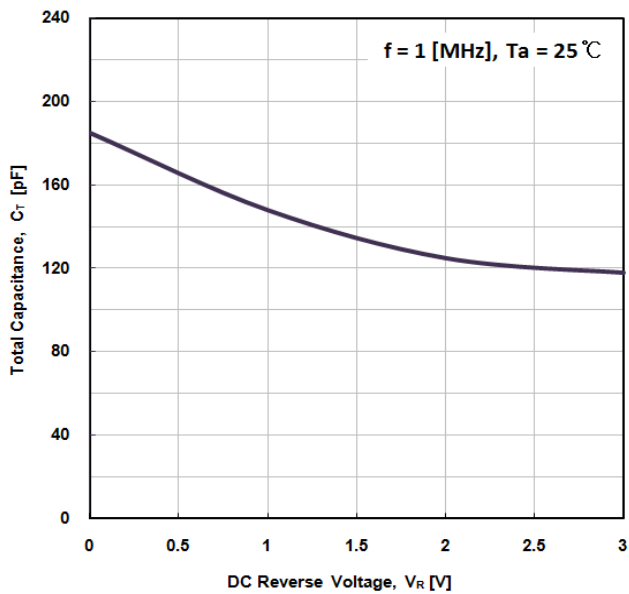
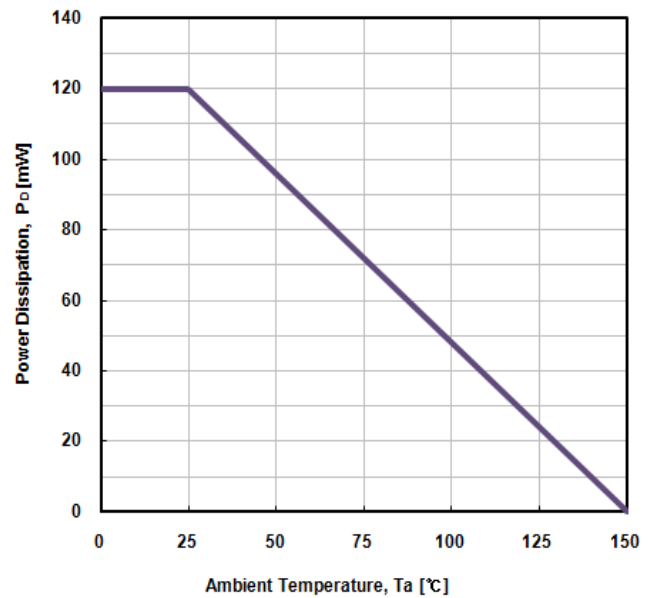
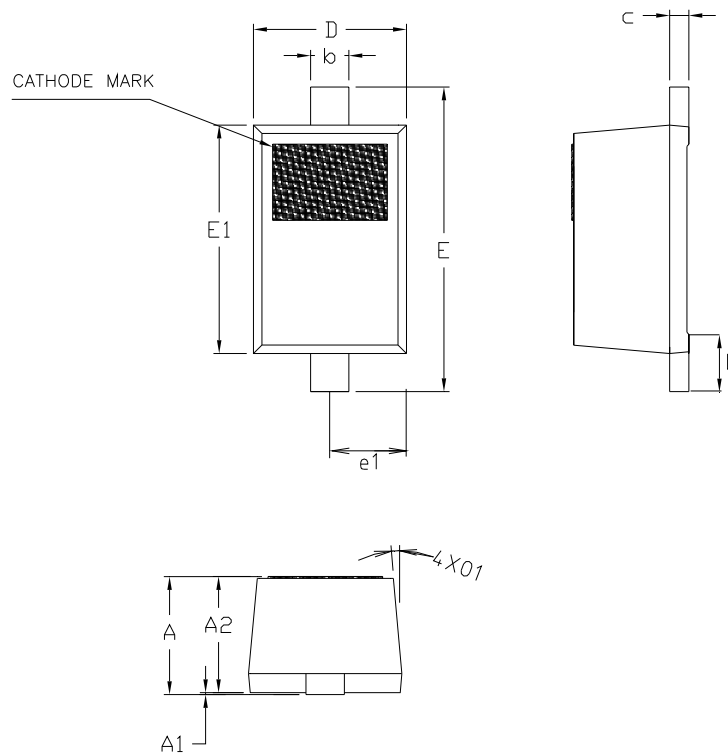


Fig. 4) Power Dissipation vs. Ambient Temperature

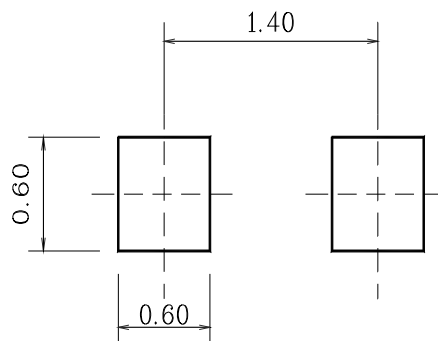


## Package Outline Dimensions



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.60	0.70	0.80	
A1	0.00	—	0.10	
A2	0.50	0.60	0.70	
b	0.18	0.25	0.32	
c	0.08	0.12	0.16	
D	0.70	0.80	0.90	
E	1.50	1.60	1.70	
E1	1.10	1.20	1.30	
e1	0.40 BSC			
L	0.20	0.30	0.40	
Ø1	4°	—	10°	

※ Recommend PCB solder land (Unit : mm)



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