

## 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**

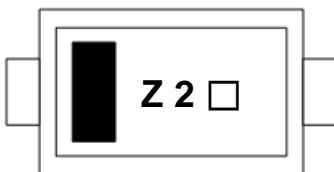

### Applications

- Voltage regulator

### Ordering Information

Part Number	Marking Code	Package	Packaging
SDZ5V1Q	Z 2 □	SOD-523	Tape & Reel

### Marking Information



Z 2 = 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>	$P_D$	200	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>	$R_{th(j-a)}$	625	$^{\circ}\text{C}/\text{W}$

<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	$V_Z$	$I_Z=5\text{mA}$	4.88	-	5.32	V
Dynamic impedance	$Z_{ZT}$	$I_Z=5\text{mA}$	-	-	70	$\Omega$
KNEE dynamic impedance	$Z_{ZK}$	$I_Z=0.25\text{mA}$	-	-	2050	$\Omega$
Reverse leakage current	$I_R$	$V_R=2\text{V}$	-	-	2	$\mu\text{A}$

Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

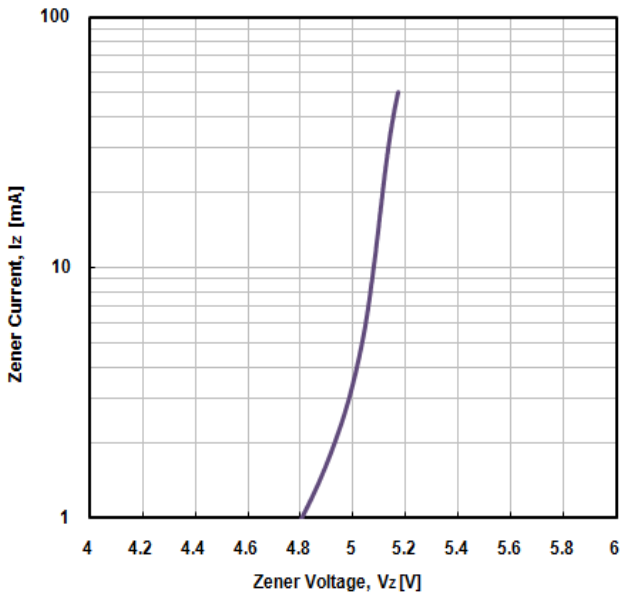


Fig. 2) Typical Forward Characteristics

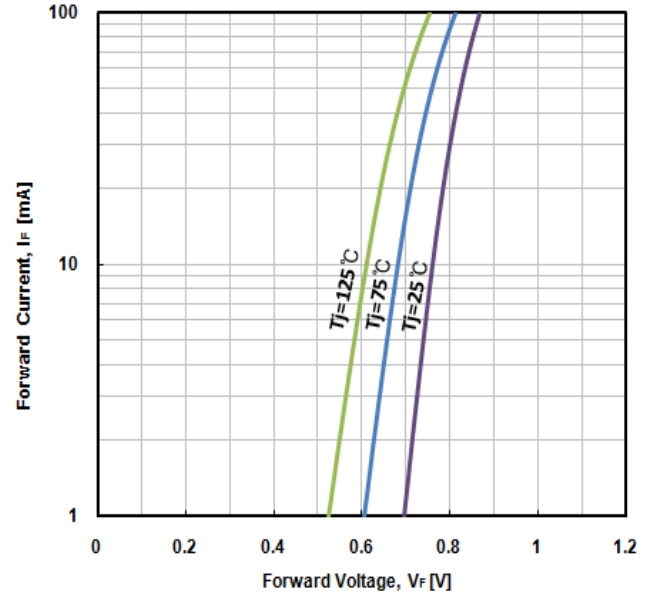


Fig. 3) Typical Capacitance Characteristics

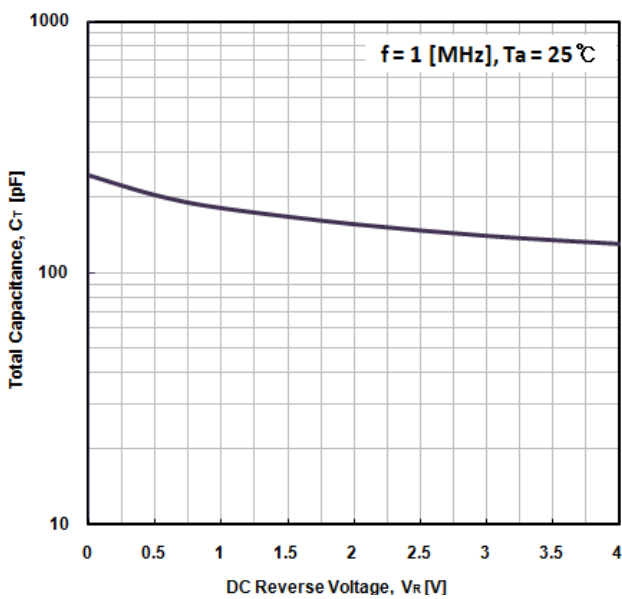
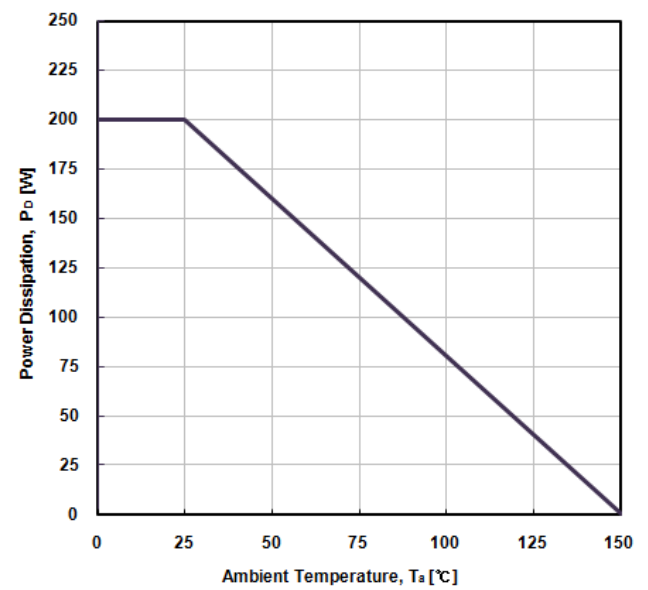
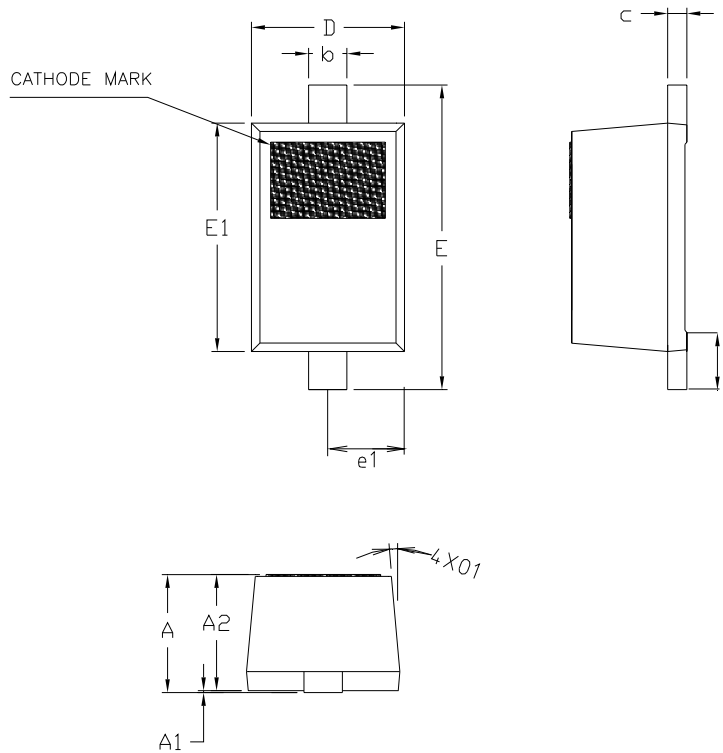


Fig. 4) Power Dissipation vs. Ambient Temperature

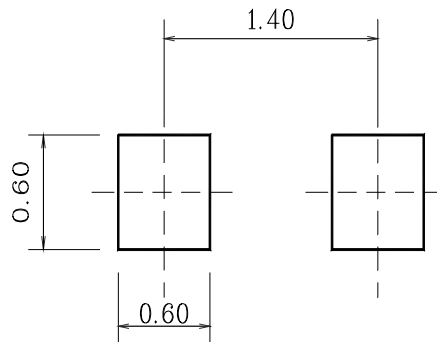


Package Outline Dimensions



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	
theta1	4°	—	10°	

※ Recommend PCB solder land (Unit : mm)



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