

ESD Protection Zener Diode

General Description

SDZ6V8AQ in very small SOD-523 SMD plastic package designed to protect one data line from the damage caused by Electro Static Discharge (ESD) and other transients.

Features and Benefits

- ESD protection of one data line
- Transient protection for data lines to **IEC 61000-4-2 (ESD)**
Air discharge mode: $\pm 15\text{kV}$, Contact discharge mode: $\pm 8\text{kV}$
- Small package for use in portable equipment
- Full lead(Pb)-free device and RoHS compliant
- Available in "Green" device



SOD-523



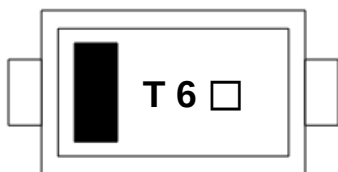
Applications

- ESD protection

Ordering Information

Part Number	Marking Code	Package	Packaging
SDZ6V8AQ	T6 □	SOD-523	Tape & Reel

Marking Information

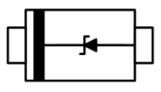


T 6 = Specific Device Code

□ = 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 ¹⁾	P_D	120	mW
Operating junction temperature	T_J	150	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55°C to $+150^{\circ}\text{C}$	$^{\circ}\text{C}$

¹⁾ 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 ¹⁾	$R_{th(j-a)}$	1042	$^{\circ}\text{C/W}$

¹⁾ 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	$I_Z=5\text{mA}$	6.2	-	7.1	V
Reverse current	I_R	$V_R=3.5\text{V}$	-	-	2	μA
Dynamic impedance	Z_{ZT}	$I_Z=5\text{mA}$	-	-	30	Ω
Total capacitance	C_T	$V_R=0\text{V}$, $f=1\text{MHz}$	-	12	-	pF

Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

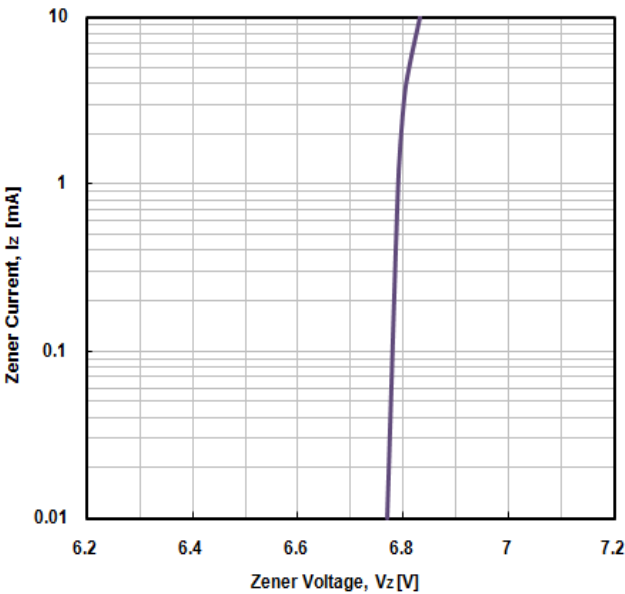
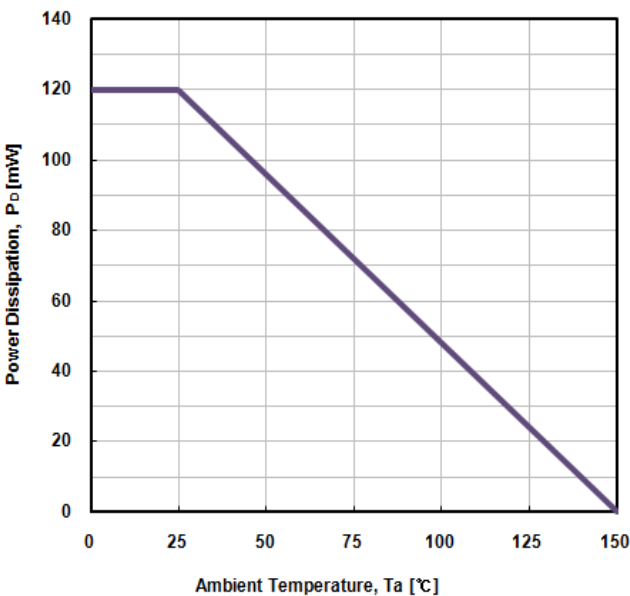
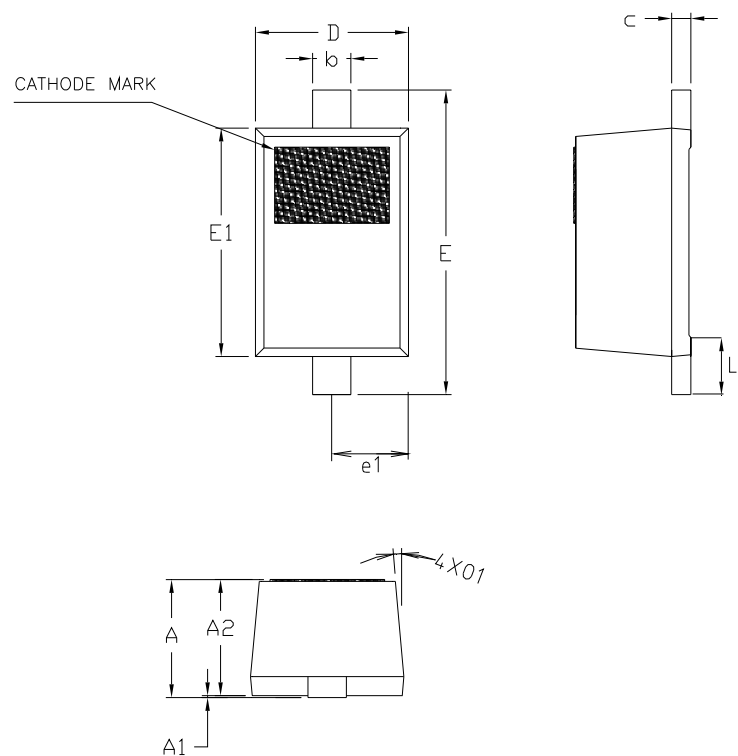


Fig. 2) Power Dissipation vs. Ambient Temperature

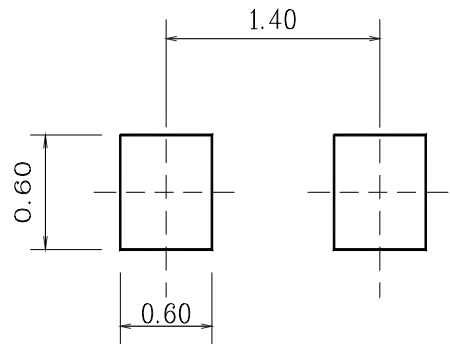


Package Outline Dimensions



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	
θ1	4°	—	10°	

※ Recommend PCB solder land (Unit : mm)



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