ESD5Z24

Transient Voltage Suppressors

SOD-523 Plastic-Encapsulate ESD Protection Diodes

DESCRIPTION

The ESD5Z24 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.

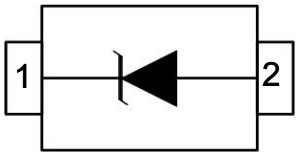
Features

- IEC61000-4-2 Level 4 ESD Protection
- Protects one directional I/O line
- Low clamping voltage
- Working voltages : 24V
- Low leakage current

Pin Configuration

RoHS COMPLIANT

Circuit Diagram



Marking: 5S

Applications

- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- Pagers

Mechanical Characteristics

- Package: SOD-523
- Flammability Rating: UL 94V-0
- High temperature soldering guaranted: 260℃/10s
- Packaging: Tape and Reel

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	± 15 ± 8	KV
Total Power Dissipation on FR-5 Board (Note 1) @ Ta=25°C	P_D	150	mW
Operating Temperature	T_{OPT}	−55 to +125	°C
Storage Temperature	T_{STG}	−55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260(10S)	°C

hese ratings are limiting values above which the serviceability of the diode may be impaired

Note:1.FR-5=1.0x0.75x0.62 in

2.The above data above is for reference only.

DN:T20317A0

Electrical Characteristics (T_A=25°C unless otherwise specified)

Symbol	Param	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	26			V
I_R	Reverse Leakage Current	V_{RWM} = 24V			5	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			35	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz			50	pF

The above data are for reference only.

ELECTRICAL CHARACTERISTICS CURVE

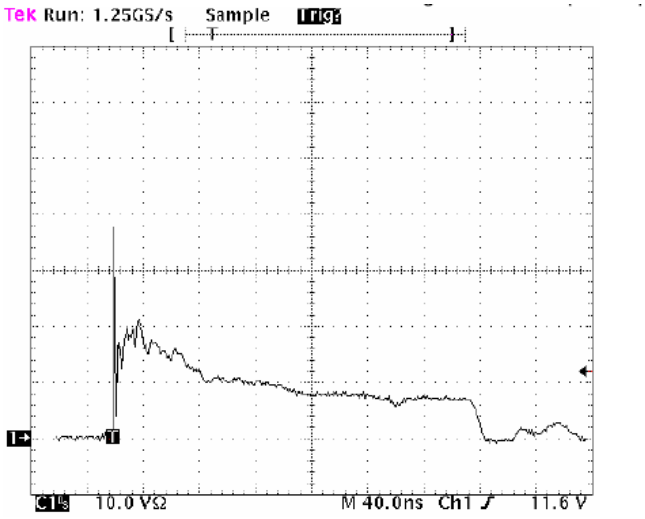


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

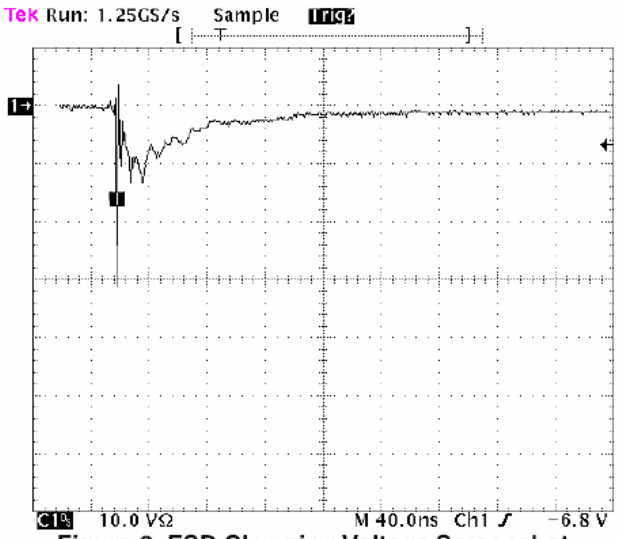
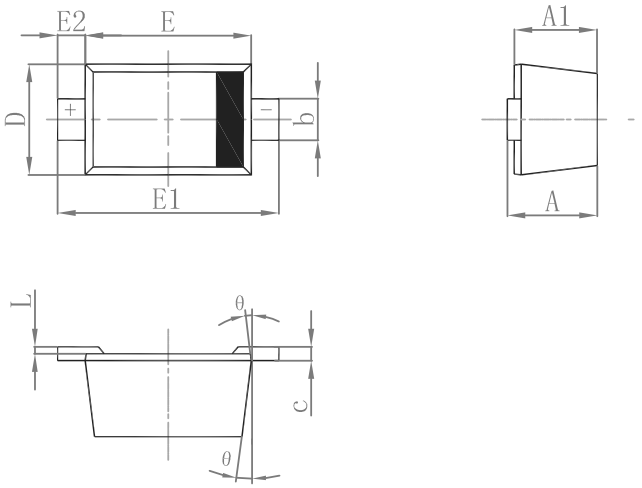


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2

The above data are for reference only.

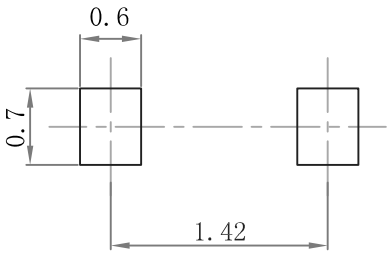
Outlitne Drawing

SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
K	7° REF		7° REF	

Suggested Pad Layout



Note:
1.Controlling dimension:in/millimeters.
2.General tolerance: ±0.05mm.
3.The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-523	7'	178	3000	183×188×80	18,000	386×265×215	108,000

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