



1-Line Bidirectional ESD Protection Diode

SOD523

## Schematic & Pin configuration

Simplified outline

Graphic symbol



## General description

The ESD5Z5.0C 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.

## Features and benefits

- Low Capacitance 15 pF(Typ)
- Reverse stand-off voltage: 5V Max
- Low leakage current: nA Level
- Low Clamping Voltage
- Response time is typically <1 ns
- IEC61000-4-2 Level 4 ESD Protection

## Application information

- Cell phones
- Audio equipment
  - Portable devices
- Digital cameras
- Power supplies

## Ordering information

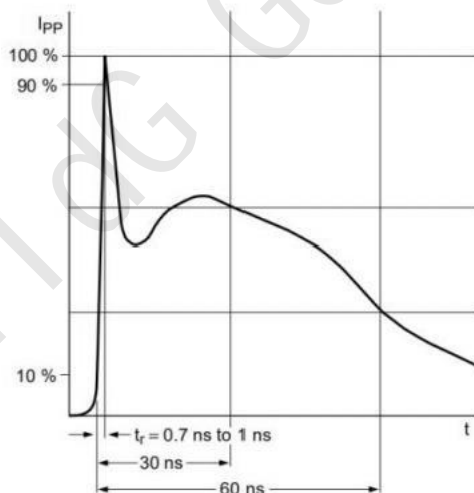
Device	Package	Marking	Packaging
ESD5Z5.0C	SOD523	5C	3000/Tape & Reel

### Maximum Ratings (Top=25°C, unless otherwise specified)

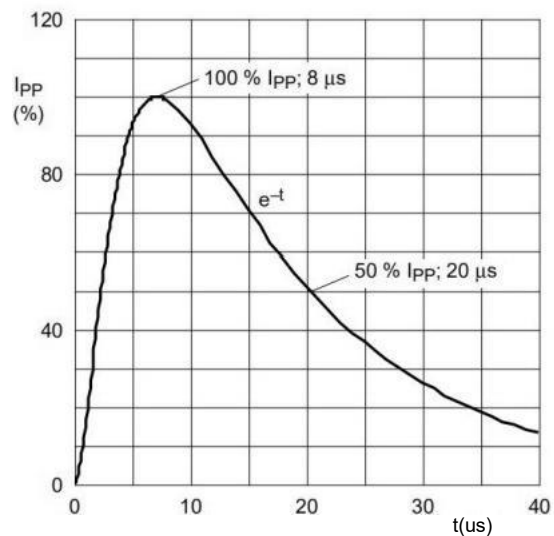
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20 μs)	PpPM	90	W
Peak Pulse Current (tp=8/20 μs)	IppPM	9	A
Maximum lead temperature for soldering during 10s	Tt	260	°C
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C
Maximum junction temperature	Tj	150	°C
ESD voltage IEC 61000-4-2 (air discharge)	VEsD	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	VEsD	30	kV

### Electrical Characteristics (Top=25 °C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			5.0	V	
Breakdown Voltage	VBR	5.6			V	I <sub>r</sub> =1mA
Leakage Current I <sub>Leak</sub>	I <sub>r</sub>			100	nA	VRWM=5V
Clamping Voltage	V <sub>c</sub>			10.0	V	I <sub>pp</sub> =9A, T <sub>p</sub> =8/20 μs
Junction Capacitance	C		15	18	pF	V <sub>r</sub> =0V, f=1MHz



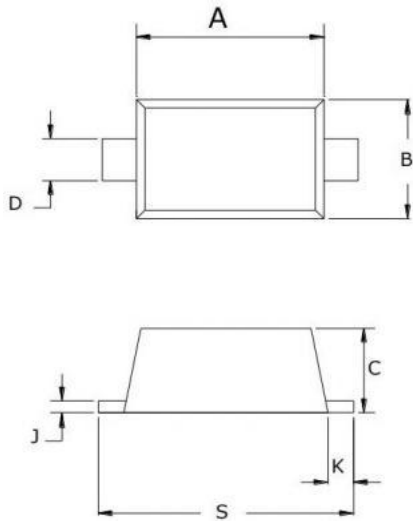
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

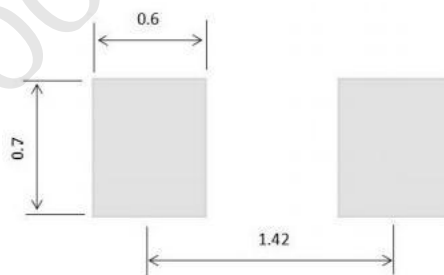
Package Outline Dimensions

SOD523



SYMBOL	MILLIMETERS		
	MIN	NOR	MAX
A	1.10	1.20	1.30
B	0.70	0.80	0.90
C	0.60	0.65	0.70
D	0.25	0.30	0.35
J	0.08	0.11	0.15
K	0.15	0.20	<b>0.25</b>
S	1.50	1.60	1.70

Soldering Footprint (mm)



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