



## 1-Line Bidirectional ESD Protection Diode

### General description

The ESD5Z24C 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

- Reverse stand-off voltage: 24V Max
- Low leakage current: nA Level
- Low Clamping Voltage
- Response time is typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection


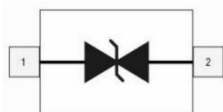
### Application information

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

### Ordering information

Device	Package	Marking	Packaging
ESD5Z24C	SOD523	W5B	3000/Tape & Reel

### Schematic & Pin configuration

Simplified outline	Graphic symbol
	

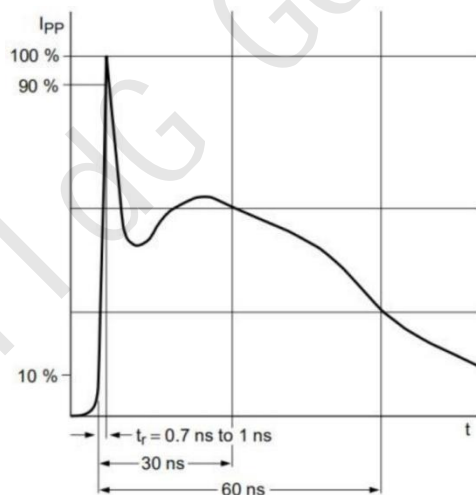
**Maximum Ratings** ( $T_{OP} = 25 \text{ } ^\circ\text{C}$ , unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )	$P_{PPM}$	400	W
Peak Pulse Current ( $t_p = 8/20 \mu\text{s}$ )	$I_{PPM}$	9	A
Maximum lead temperature for soldering during 10s	$T_L$	260	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Operating Temperature Range	$T_{OP}$	-40 to +125	$^\circ\text{C}$
Maximum junction temperature	$T_j$	150	$^\circ\text{C}$
ESD voltage IEC 61000-4-2 (air discharge)	$V_{ESD}$	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	$V_{ESD}$	30	kV

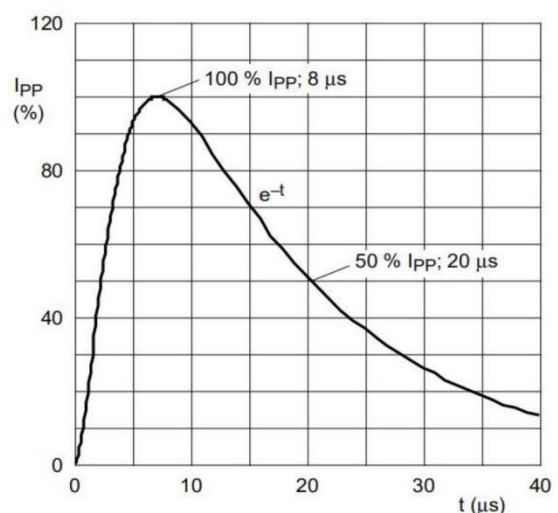
**Electrical Characteristics** ( $T_{OP} = 25 \text{ } ^\circ\text{C}$ , unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	$V_{RWM}$	--	--	24.0	V	
Breakdown Voltage	$V_{BR}$	25.0	--	30.0	V	$I_f=1\text{mA}$
Leakage Current $I_{Leak}$	$I_R$	--	--	100	nA	$V_{RWM}=24\text{V}$
Clamping Voltage	$V_C$	--	40	44	V	$I_{PP}=9\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance	$C_j$	--	26	30	pF	$V_R=0\text{V}, f=1\text{MHz}$

**Typical Electrical and Thermal Characteristics (Curves)**



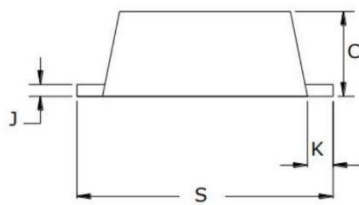
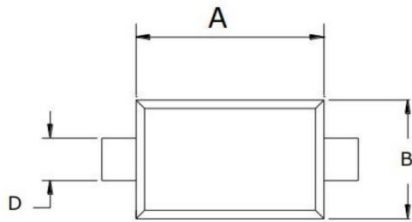
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform( 8/20 $\mu\text{s}$  pulse)

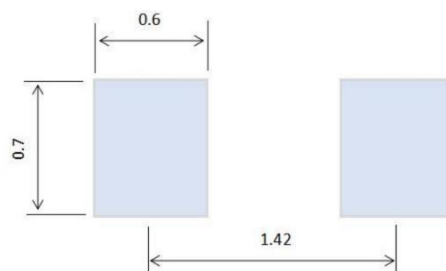
## Package Outline Dimensions

### SOD523



SYMBOL	Dimensions In Millimet	
	MIN	MAX
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
J	0.07	0.20
K	0.15	0.25
S	1.50	1.70

## Soldering Footprint (mm)



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