

1-Line Bidirectional ESD Protection Diode

**General description**

The ESD5Z3.3C 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(Max)
- . Reverse stand-off voltage: 3.3V Max
- . Low leakage current: nA Level
- . Low Clamping Voltage
- . Response time is typically < 1 ns
- . IEC61000-4-2 Level 4 ESD Protection


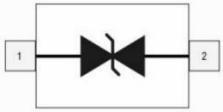
**Application information**

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

**Ordering information**

Device	Package	Marking	Packaging
ESD5Z3.3C	SOD523	eB	3000/Tape & Reel

**Schematic & Pin configuration**

Simplified outline	Graphic symbol
	

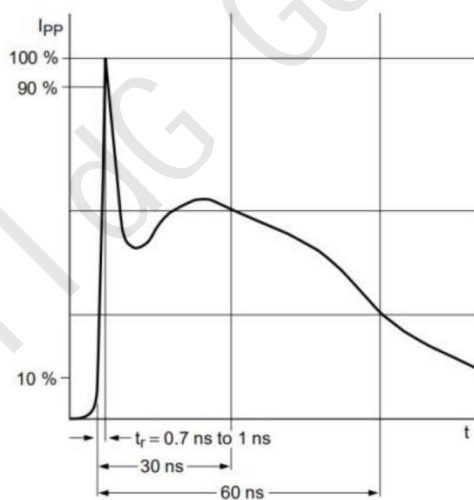
**Maximum Ratings** ( $T_{OP} = 25 \text{ } ^\circ\text{C}$ , unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \text{ } \mu\text{s}$ )	$P_{PPM}$	90	W
Peak Pulse Current ( $t_p = 8/20 \text{ } \mu\text{s}$ )	$I_{PPM}$	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

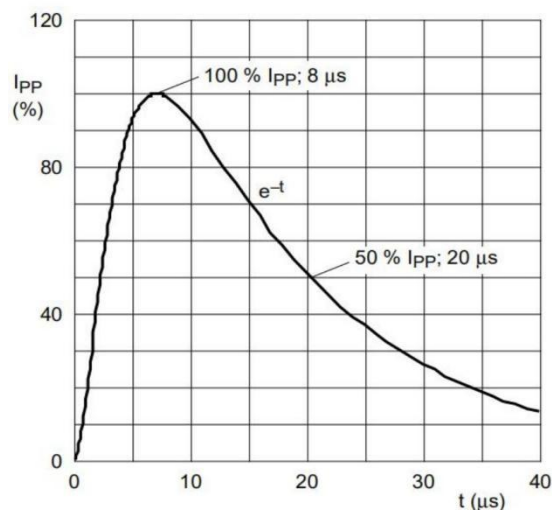
**Electrical Characteristics** ( $T_{OP} = 25 \text{ } ^\circ\text{C}$ , unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	$V_{RWM}$	--	--	3.3	V	
Breakdown Voltage	$V_{BR}$	4.5	--	--	V	$I_f=1\text{mA}$
Leakage Current $I_{Leak}$	$I_R$	--	--	100	nA	$V_{RWM}=3.3\text{V}$
Clamping Voltage	$V_C$	--	--	10.0	V	$I_{PP}=9\text{A}, T_p=8/20\mu\text{s}$
Junction Capacitance	$C_j$	--	--	15	pF	$V_R=0\text{V}, f=1\text{MHz}$

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



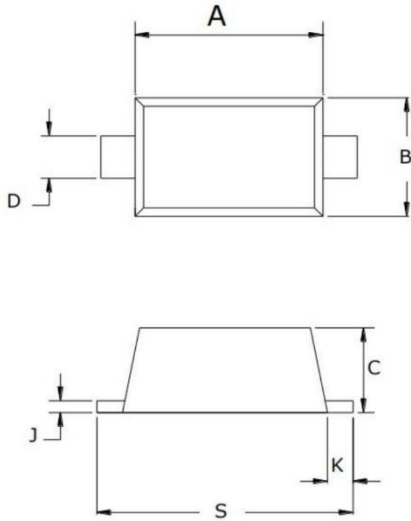
IEC61000-4-2 Waveform



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

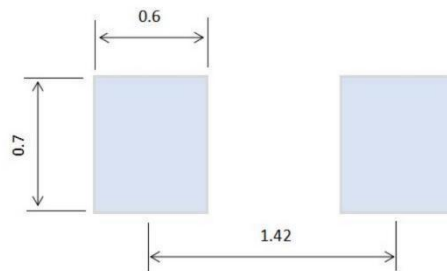
### Package Outline Dimensions

#### 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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