



## 1-Line Bidirectional ESD Protection Diode

### General description

The ESD3Z3.3C 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

- Bidirectional ESD protection of one line
- Reverse stand-off voltage: 3.3V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- Low clamping voltage:  $V_C < 9.0\text{ V @ } I_{PP} = 11\text{ A}$
- ESD Protection: 30kV(air)/ 30kV(contact) ( IEC61000-4-2)
- RoHS compliant


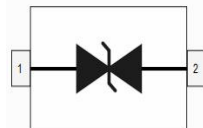
### Application information

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks,Desktops,and Servers

### Ordering information

Par Number	Package	Packaging	Reel Size
ESD3Z3.3C	SOD323	3000/Tape & Reel	7 inch

### Schematic & Pin configuration

Simplified outline	Graphic symbol
	

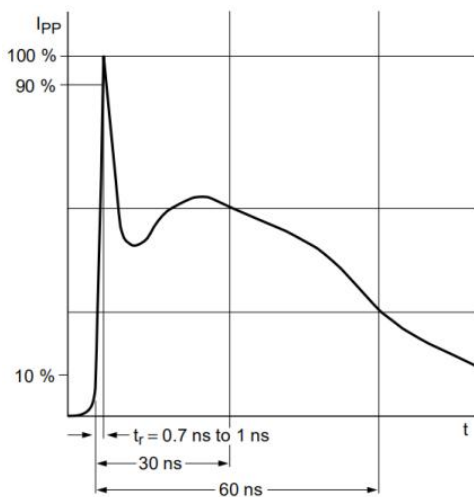
**Maximum Ratings** ( $T_{OP} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20\text{ }\mu\text{s}$ )	$P_{PPM}$	100	W
Peak Pulse Current( $t_p = 8/20\text{ }\mu\text{s}$ )	$I_{PPM}$	11	A
ESD voltage IEC 61000-4-2 (air discharge)	$V_{ESD}$	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	$V_{ESD}$	30	kV
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	$^{\circ}\text{C}$

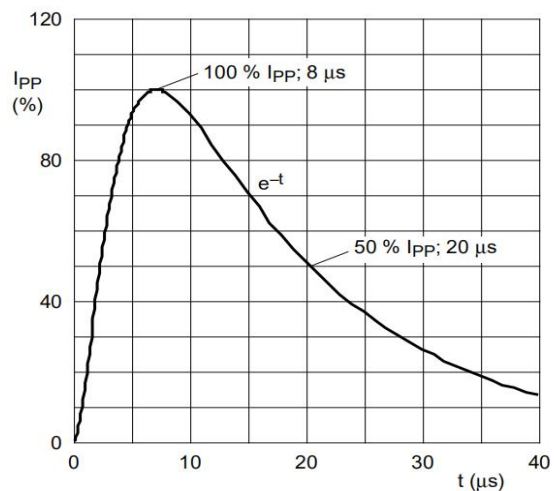
**Electrical Characteristics** ( $T_{OP} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	$V_{RWM}$	--	--	3.3	V	
Breakdown Voltage	$V_{BR}$	3.6	--	5.0	V	$I_T=1\text{mA}$
Leakage Current $I_{Leak}$	$I_R$	--	--	100	nA	$V_{RWM}=3.3\text{V}$
Clamping Voltage	$V_C$	--	4.5	5.0	V	$I_{PP}=2\text{A}, t_p=8/20\mu\text{s}$
		--	7.5	9.0		$I_{PP}=11\text{A}, t_p=8/20\mu\text{s}$
Junction Capacitance	$C_J$	--	18	23	pF	$V_R=0\text{V}, f=1\text{MHz}$

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



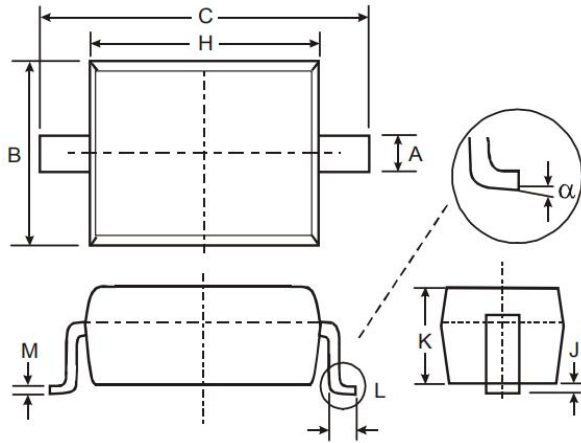
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform( 8/20µs pulse)

## Package Outline Dimensions

SOD323



SYMBOL	MILLIMETERS	
	MIN	MAX
A	0.25	0.35
B	1.20	1.40
C	2.40	2.70
H	1.60	1.80
J	0.01	0.15
K	0.80	1.00
L	0.20	0.40
M	0.08	0.15
$\alpha$	0°	8°

## Soldering Footprint (mm)

