

## 1. 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.

## 2. Features

- EC61000-4-2 (ESD)  $\pm 30\text{kV}$  (Contact)  
 $\pm 30\text{kV}$  (Air)
- IEC61000-4-4 (EFT) 40A (5/50 $\mu\text{s}$ )
- Peak power dissipation: 75W (8/20 $\mu\text{s}$ )
- Protects one I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current

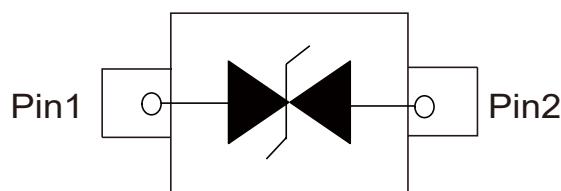
## 3. Applications

- High Speed Line :USB1.0/2.0, VGA, DVI, SDI
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

## 4. Mechanical Data

- SOD-523 package
- Terminals: Tin plated, solderable per  
MIL-STD-750, method 2026
- Reel size: 7 inch
- MSL3

## 5. Pinning information



**SOD-523**



## 6. Absolute Maximum Ratings

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$	kV
ESD per IEC 61000-4-2 (Air)		$\pm 30$	kV
Peak Pulse Power (8/20 $\mu$ s)	$P_{PP}$	75	W
Junction Temperature	$T_{OPT}$	-40 to 150	°C
Storage Temperature	$T_{STG}$	-40 to 150	°C

## 7. Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	5.6		9	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			9.5	V
Clamping Voltage	$V_C$	$I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$			15	V
Junction capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$			15	pF



## 8.Typical characteristic

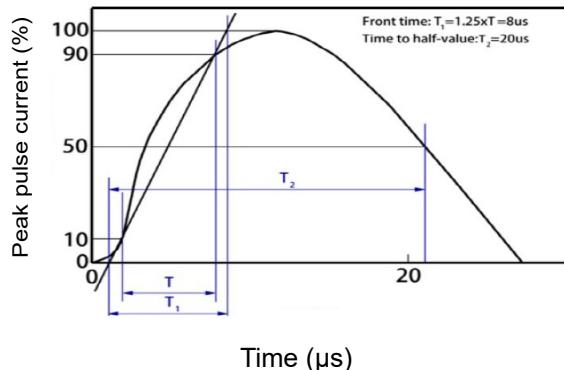


Figure 1: 8/20μs Waveform per IEC61000-4-5

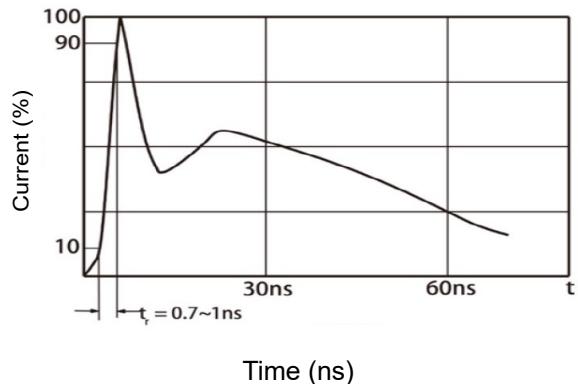


Figure 2: Contact Discharge Current Waveform per IEC 61000-4-2

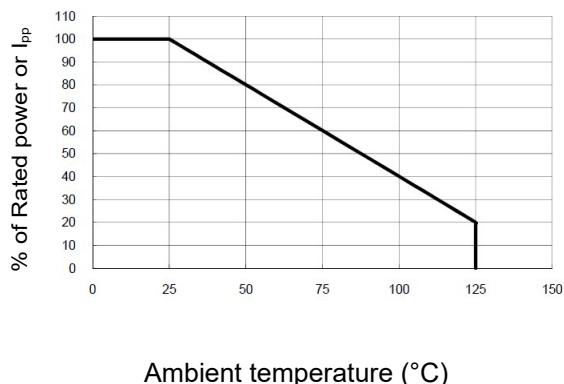


Figure 3: Power Derating Curve

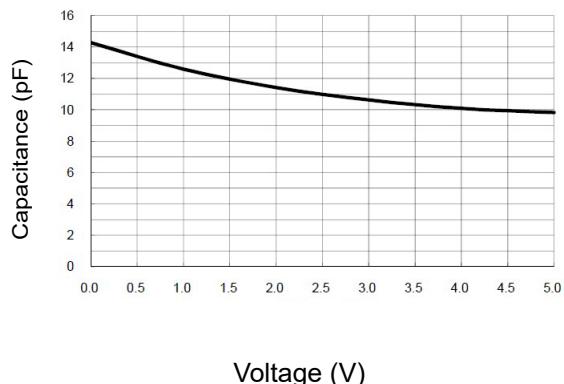


Figure 4: Voltage vs Capacitance

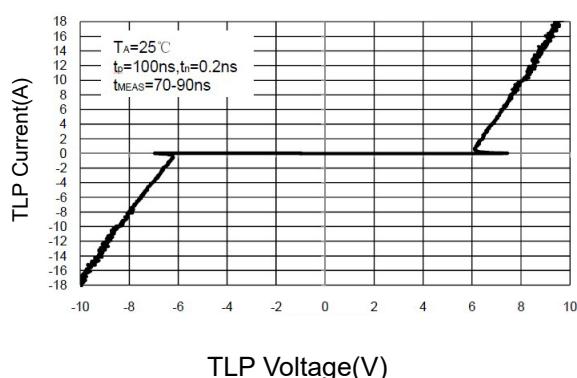


Figure 5: Transmission Line Pulsing (TLP) Measurement

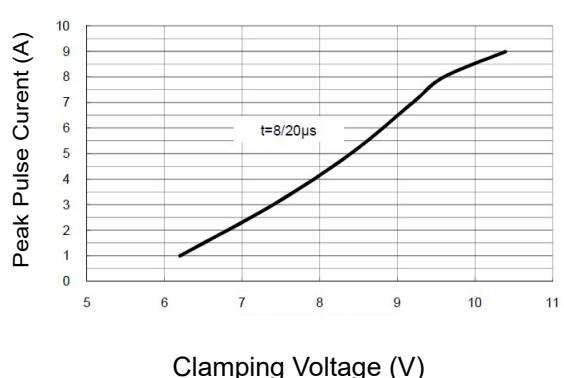
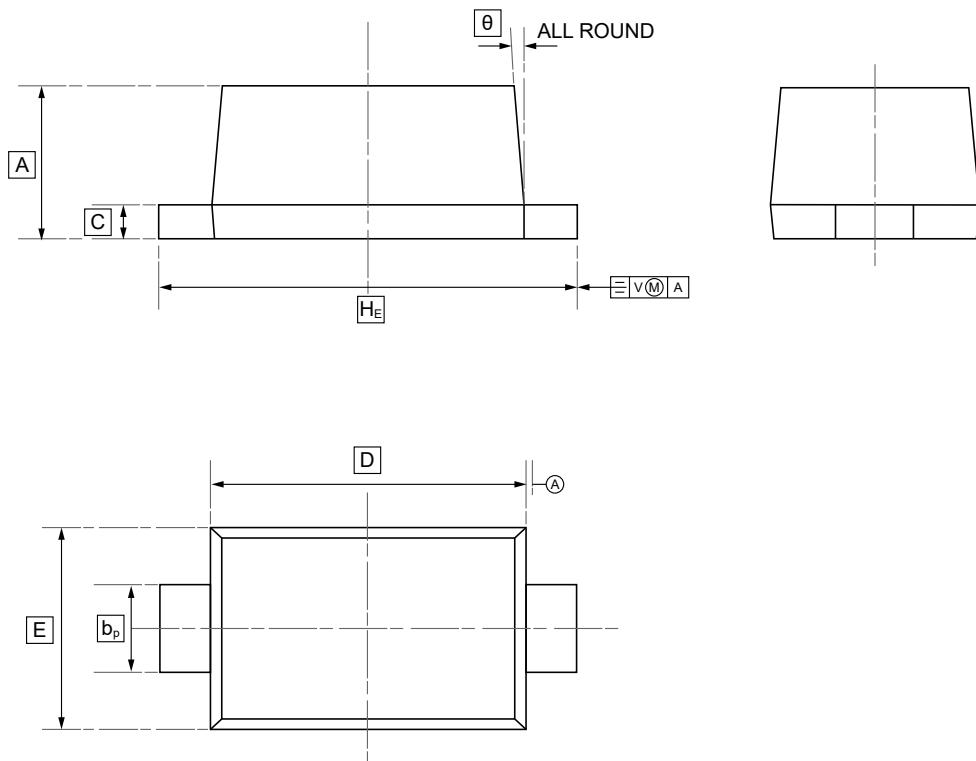


Figure 6: Clamping Voltage vs Peak Pulse Current



## 9.SOD-523 Package Outline Dimensions

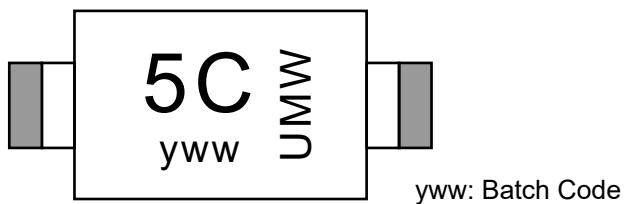


### DIMENSIONS (mm are the original dimensions)

Symbol	<b>A</b>	<b>b<sub>p</sub></b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>H<sub>E</sub></b>	<b>θ</b>
<b>Min</b>	0.58	0.3	0.100	1.15	0.75	1.5	5°
<b>Max</b>	0.68	0.4	0.135	1.25	0.85	1.7	



## **10.Ordering information**



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW ESD5Z5.0C	SOD-523	3000	Tape and reel



## **11.Disclaimer**

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