

1.Description

The ESD5Z3V3 is a transient voltage suppressors (TVS) which provide a very high level protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD). It is designed to replace multilayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

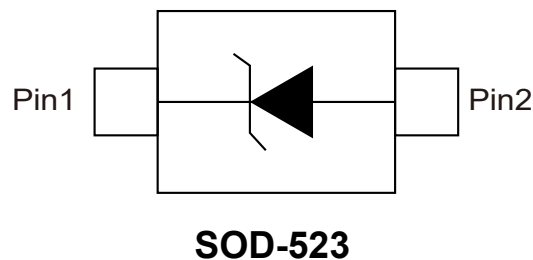
3.Features

- Working voltage: 3.3V
- Peak power (tp=8/20us): 108W
- ESD protection
- IEC61000-4-2 (Contact): $\pm 30\text{kV}$

2.Applications

- Mobile phone
- PAD
- Notebook
- STB
- LCD TV
- Digital camera
- Other electronics equipments

4.Pinning information





5. Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Peak pulse power ($t_p = 8/20\mu s$)	P_{PK}	108	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	9	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	kV
Junction temperature	T_J	125	$^{\circ}C$
Operating temperature	T_{OP}	-40 to 85	$^{\circ}C$
Lead temperature	T_L	260	$^{\circ}C$
Storage temperature	T_{STG}	-55 to 150	$^{\circ}C$

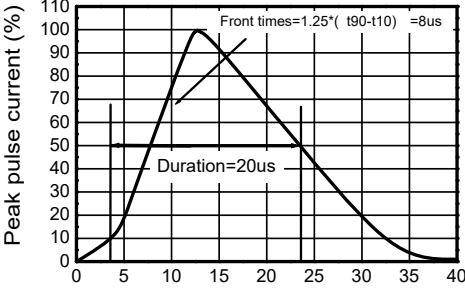
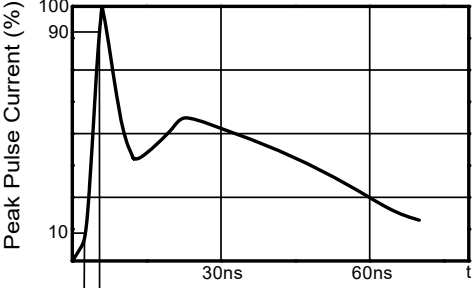
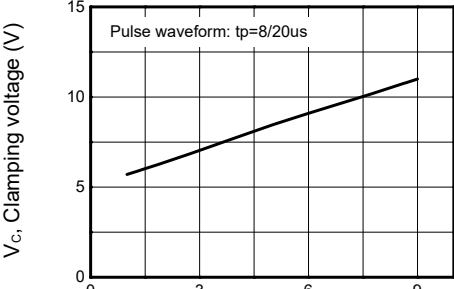
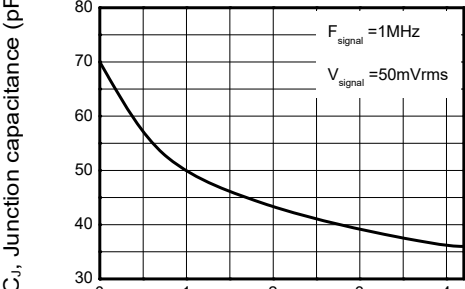
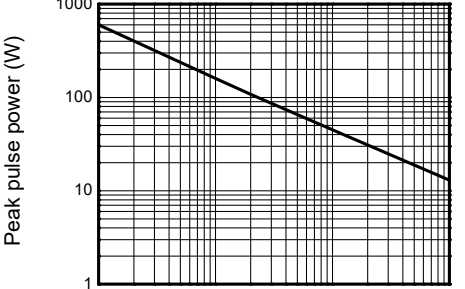
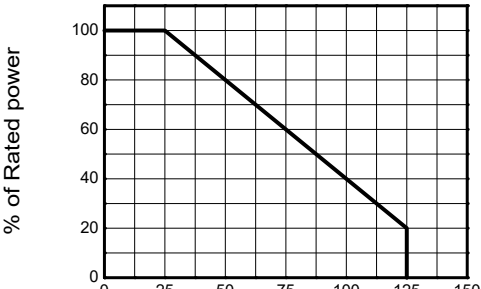


6. Electrical Characteristic ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse maximum working voltage	V_{RWM}				3.3	V
Reverse leakage current	I_R	$V_{RWM}=1\text{V}$			0.1	μA
		$V_{RWM}=4.2\text{V}$			10	μA
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	4.8	5.2	5.4	V
Forward voltage	V_F	$I_F=-10\text{mA}$	0.55	0.8	1.25	V
Clamping voltage	V_C	$I_{pp}=1\text{A}$, $t_p=8/20\mu\text{s}$			6.5	V
		$I_{pp}=9\text{A}$, $t_p=8/20\mu\text{s}$			12	V
Junction capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$		70	90	pF

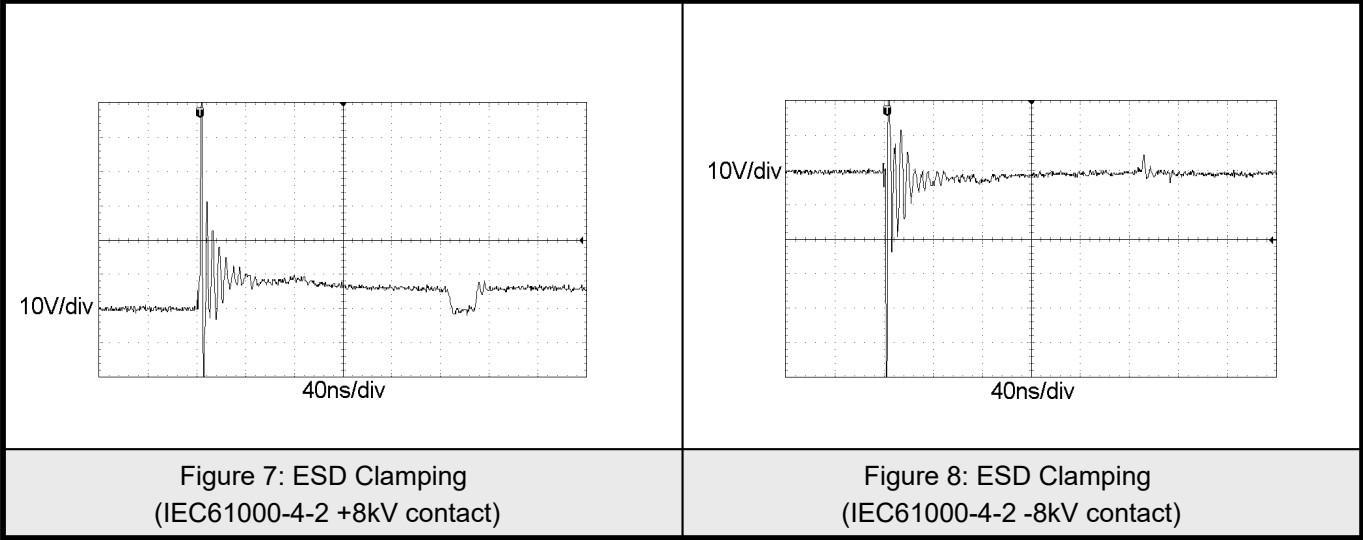


7.1Typical characteristic

 <p>Peak Pulse time (μs)</p>	 <p>Time (ns)</p>
Figure 1: 8/20us waveform	Figure 2: IEC61000-4-2 waveform
 <p>IPP, Peak pulse current (A)</p>	 <p>VR, Reverse voltage (V)</p>
Figure 3: Clamping voltage vs. Peak pulse current	Figure 4: Capacitance vs. Reverse voltage
 <p>Pulse time (μs)</p>	 <p>TA, Ambient temperature ($^{\circ}\text{C}$)</p>
Figure 5: Non-repetitive peak pulse power vs. Pulse time	Figure 6: Power derating vs. Ambient temperature

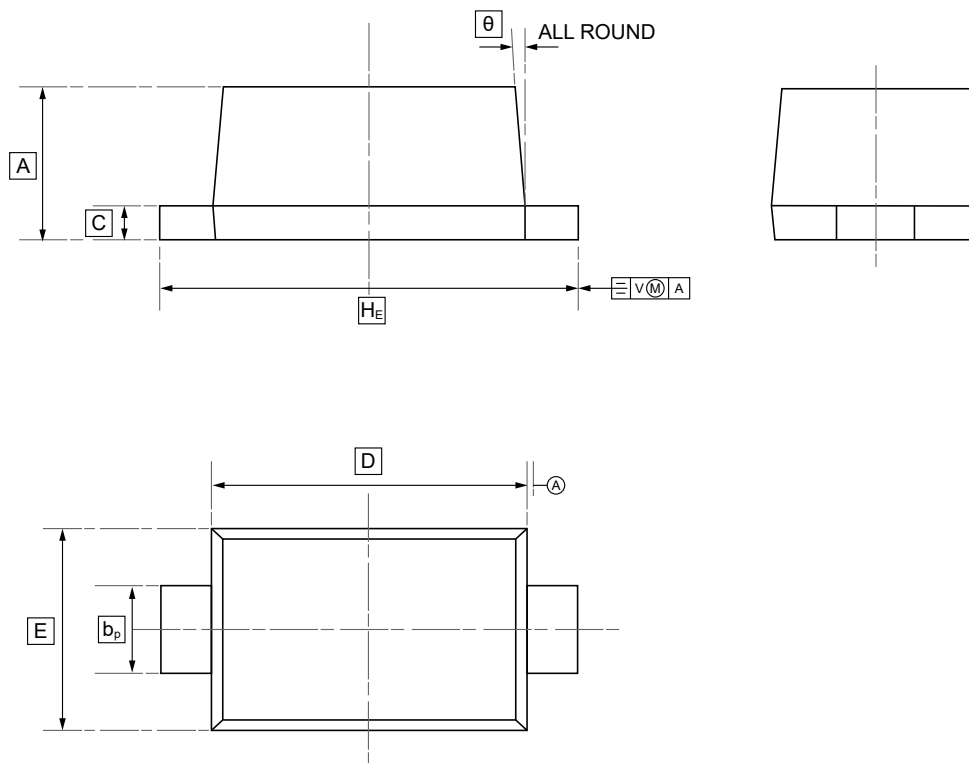


7.2Typical characteristic





8.SOD-523 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	



9.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW ESD5Z3V3	SOD-523	3000	Tape and reel



10.Disclaimer

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