

1.Features

- Unidirectional ESD protection of one line
- Low diode capacitance: $C_d=34\text{pF}$
- Low clamping voltage: $V_{CL}=11\text{V}$
- Very low leakage current: $I_{RM}=100\text{nA}$
- ESD protection up to 30 kV
- IEC 61000-4-2; level 4 (ESD)
- AEC-Q101 qualified

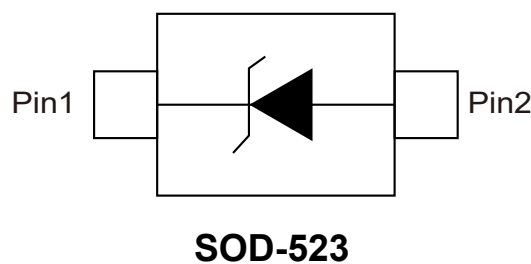
2.Mechanical Data

- SOD-523 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering
guaranteed: $260^{\circ}\text{C}/10\text{S}$

3.Applications

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Communication systems
- FireWire
- Subscriber Identity Module (SIM) card protection
- High-speed data lines
- Portable electronics

4.Pinning information



5. Quick reference data

$T_{amb}=25^{\circ}\text{C}$ unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
reverse standoff voltage	V_{RWM}				3.3	V
diode capacitance	C_d	$V_R=0\text{V}$, $f=1\text{MHz}$		34	40	pF



6. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Parameter	Symbol	Conditions	Min	Typ	Max	Units
peak pulse power	P_{PP}	$t_p=8/20\mu s$ ①②			45	W
peak pulse current	I_{PP}	$t_p=8/20\mu s$ ①②			4.5	A
junction temperature	T_J				150	°C
ambient temperature	T_{amb}		-55		150	°C
storage temperature	T_{STG}		-65		150	°C

Notes:

- ① Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.
 ② Measured from pin 1 to pin 2.

7. ESD maximum ratings

$T_{amb}=25^{\circ}C$ unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
electrostatic discharge voltage	V_{ESD}	IEC 61000-4-2 (contact discharge) ①			30	kV
		machine model			400	V
		MIL-STD-883 (human body model)			16	kV

Notes:

- ① Device stressed with ten non-repetitive ESD pulses.

8. ESD standards compliance

Parameter	Conditions
IEC 61000-4-2; level 4 (ESD)	> 15 kV (air); > 8 kV (contact)
MIL-STD-883; class 3 (human body model)	> 4 kV



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
reverse standoff voltage	V_{RWM}				3.3	V
reverse leakage current	I_{RM}	$V_{\text{RWM}}=3.3\text{V}$		100	300	nA
breakdown voltage	V_{BR}	$I_{\text{R}}=1\text{mA}$	5.3	5.6	6	V
diode capacitance	C_{d}	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$		34	40	pF
clamping voltage	V_{CL}	①②				
		$I_{\text{PP}}=1\text{A}$			8	V
		$I_{\text{PP}}=4.5\text{A}$			11	V
differential resistance	r_{dif}	$I_{\text{R}}=5\text{mA}$			30	Ω
forward voltage	V_{F}	$I_{\text{F}}=200\text{mA}$			1.2	V

Notes:

① Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.

② Measured from pin 1 to pin 2.

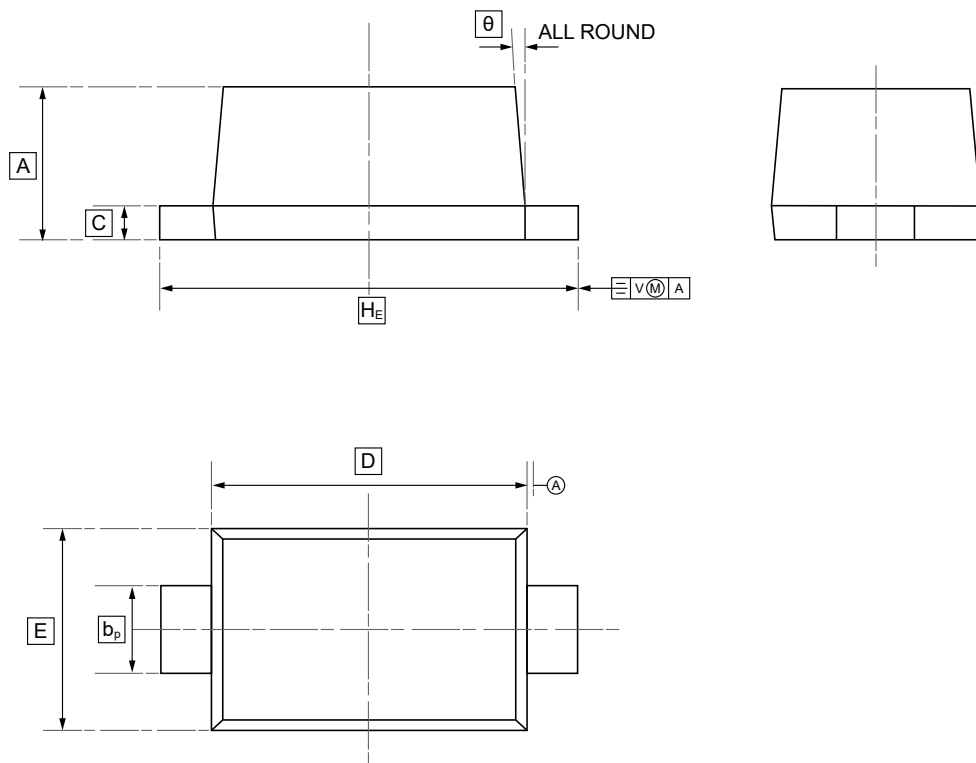


10. Typical characteristic

Figure 1: 8/20 μs pulse waveform according to IEC 61000-4-5	Figure 2: ESD pulse waveform according to IEC 61000-4-2
Figure 3: unclamped +8 kV ESD pulse waveform (IEC 61000-4-2 network)	Figure 4: clamped +8 kV ESD pulse waveform (IEC 61000-4-2 network)



11.SOD-523 Package Outline Dimensions

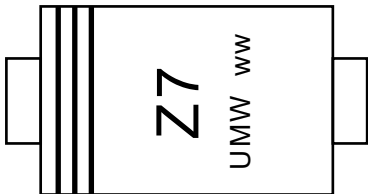


DIMENSIONS (mm are the original dimensions)

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	



12.Ordering information



ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESD3V3L1UB	SOD-523	3000	Tape and reel



13.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

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