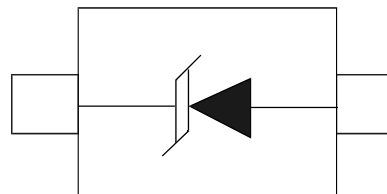


Features

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



Applications

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

MACHANICAL DATA

- SOD-523 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: 260°C/10S

Quick reference data

$T_{amb} = 25$ °C unless otherwise specified.

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

Limiting values

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

Symbol	Parameter	Conditions		Min	Max	Unit
P_{PP}	peak pulse power	$t_p = 8/20 \mu s$	[1][2]	-	45	W
I_{PP}	peak pulse current	$t_p = 8/20 \mu s$	[1][2]	-	4.5	A
T_j	junction temperature			-	150	°C
T_{amb}	ambient temperature			-55	+150	°C
T_{stg}	storage temperature			-65	+150	°C

[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.

ESD maximum ratings

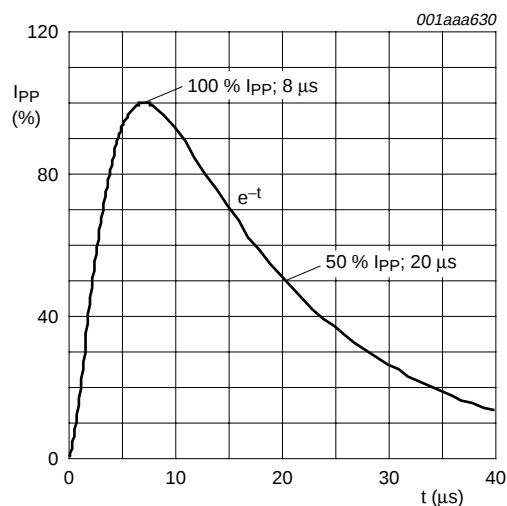
$T_{amb} = 25^\circ C$ unless otherwise specified.

Symbol	Parameter	Conditions		Min	Max	Unit
V_{ESD}	electrostatic discharge voltage	IEC 61000-4-2 (contact discharge)	[1]	-	30	kV
		machine model		-	400	V
		MIL-STD-883 (human body model)		-	10	kV

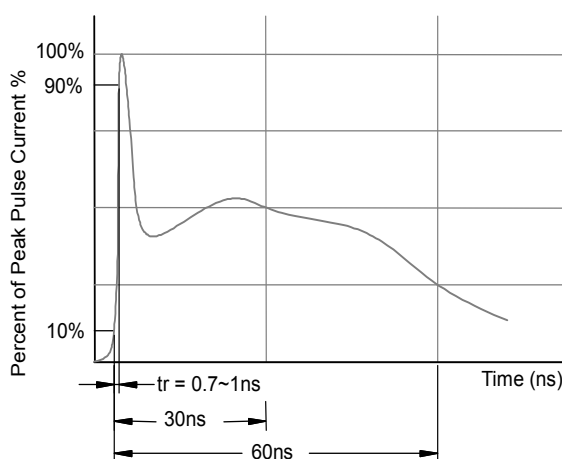
[1] Device stressed with ten non-repetitive ESD pulses.

ESD standards compliance

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



8/20 μs pulse waveform according to IEC 61000-4-5



ESD pulse waveform according to IEC 61000-4-2

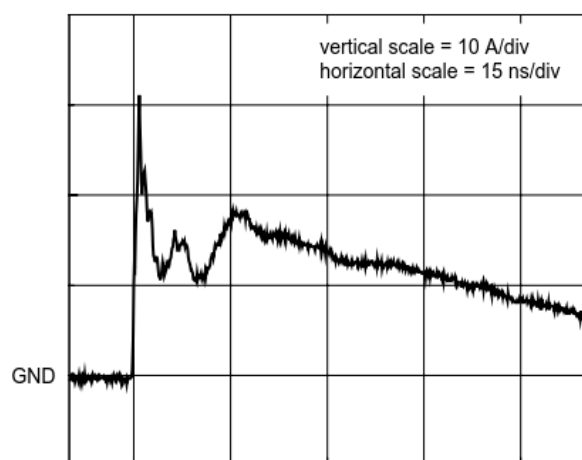
Characteristics

T_{amb} = 25 °C unless otherwise specified.

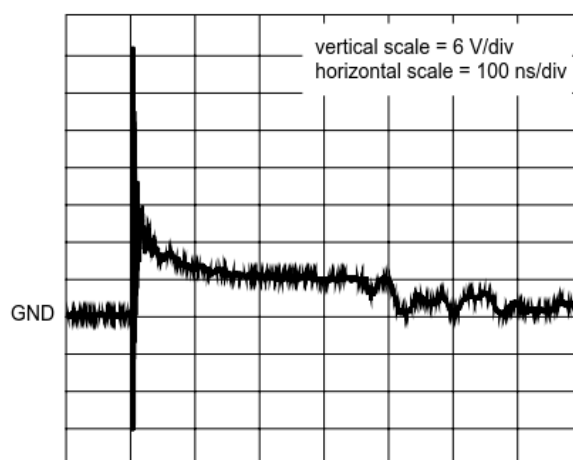
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
V _{RWM}	reverse standoff voltage			-	-	3.3	V
I _{RM}	reverse leakage current	V _{RWM} = 3.3 V		-	100	300	nA
V _{BR}	breakdown voltage	I _R = 5 mA		5.3	5.6	6.0	V
C _d	diode capacitance	f = 1 MHz; V _R = 0 V		-	34	40	pF
V _{CL}	clamping voltage		[1][2]				
		I _{PP} = 1 A		-	-	8	V
		I _{PP} = 4.5 A		-	-	11	V
r _{dif}	differential resistance	I _R = 5 mA		-	-	30	Ω
V _F	forward voltage	I _F = 200 mA		-	-	1.2	V

[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.



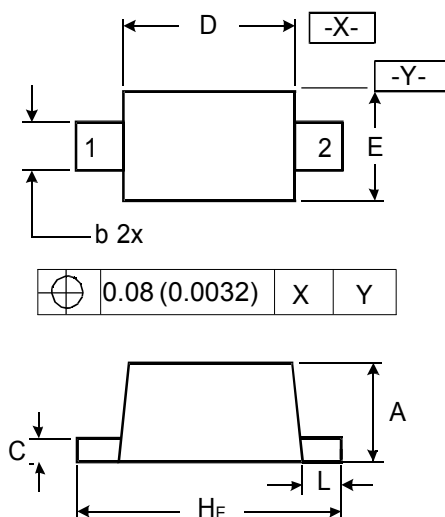
unclamped +8 kV ESD pulse waveform
(IEC 61000-4-2 network)



clamped +8 kV ESD pulse waveform
(IEC 61000-4-2 network)

Package outline dimensions

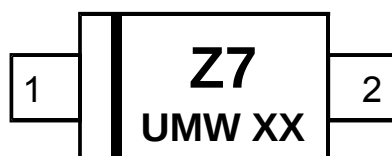
SOD-523



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H _E	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

Marking



In the second line, "XX" represents a period

Ordering information

Order code	Package	Baseqty	Deliverymode
UMW PESD3V3L1UB	SOD-523	3000	Tape and reel