

### 1. Features

- Unidirectional ESD protection of two lines
- ESD protection up to 30 kV
- Low diode capacitance:  $C_d=17\text{pF}$
- IEC 61000-4-2; level 4 (ESD)
- Max. peak pulse power:  $P_{PP}=160\text{W}$
- IEC 61000-4-5 (surge);  $I_{PP}=2.5\text{A}$
- Low clamping voltage:  $V_{CL}=55\text{V}$
- AEC-Q101 qualified
- Ultra low leakage current:  $IRM \leq 1\mu\text{A}$

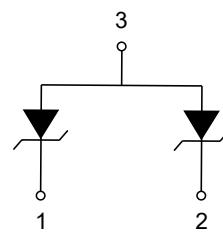
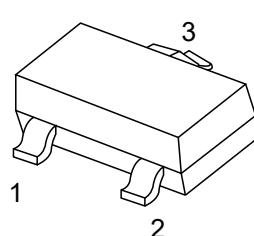
### 2. Applications

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Subscriber Identity Module (SIM) card protection
- Portable electronics
- Communication systems
- 10/100 Mbit/s Ethernet

### 3. Mechanical Data

- SOT-23 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:  $260^\circ\text{C}/10\text{S}$
- MSL 1

### 4. Pinning information



**SOT-23**



## 5. Quick reference data

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
reverse standoff voltage	$V_{RWM}$				36	V
diode capacitance	$C_d$	$V_R=0V, f=1MHz$		17	35	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			160	W
peak pulse current	$I_{PP}$	$t_p=8/20\mu s$ ①②			2.5	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  $\mu s$  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) ①②			30	kV
		machine model ②			400	V
		MIL-STD-883 (human body model)			8	kV

Notes:

① Device stressed with ten non-repetitive ESD pulses.

② Measured from pin 1 to pin 2.



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units	
reverse standoff voltage	$V_{RWM}$				36	V	
reverse leakage current	$I_{RM}$	$V_{RWM}=30\text{V}$		<0.02	1	$\mu\text{A}$	
breakdown voltage	$V_{BR}$	$I_R=5\text{mA}$	40	44		V	
diode capacitance	$C_d$	$V_R=0\text{V}$ , $f=1\text{MHz}$	①		17	$\text{pF}$	
clamping voltage	$V_{CL}$	$I_{PP}=1\text{A}$	①②		55	60	V
differential resistance	$r_{dif}$	$I_{PP}=0.5\text{A}$			300	$\Omega$	

Notes:

① Measured from pin 1 or 2 to pin 3.

② Non-repetitive current pulse 8/20  $\mu\text{s}$  exponential decay waveform according to IEC 61000-4-5.



## 9.Typical Characteristic

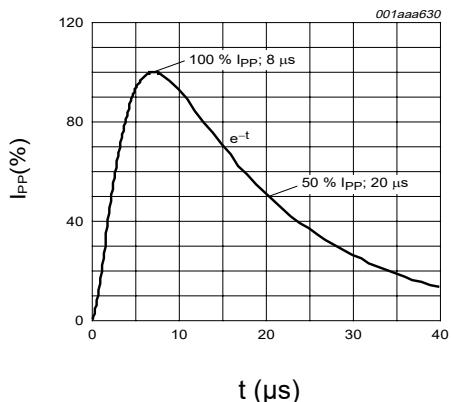


Figure 1: 8/20  $\mu$ s pulse waveform according to IEC 61000-4-5

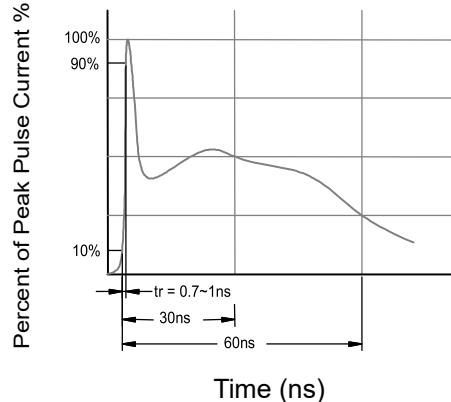


Figure 2: ESD pulse waveform according to IEC 61000-4-2

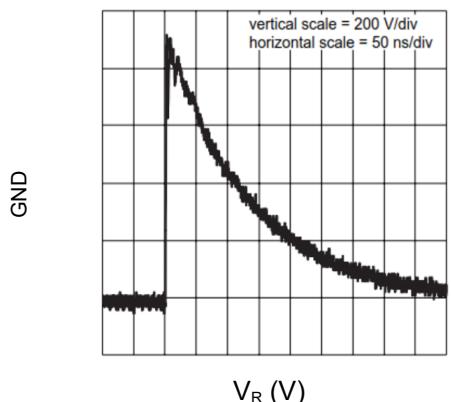


Figure 3: unclamped +1 kV ESD voltage waveform (IEC61000-4-2 network)

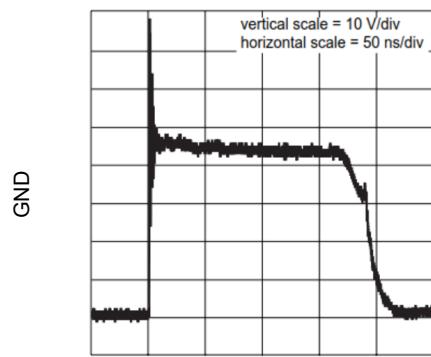


Figure 4: unclamped +1 kV ESD voltage waveform (IEC61000-4-2 network)

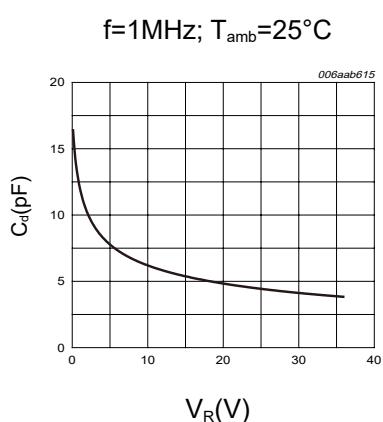
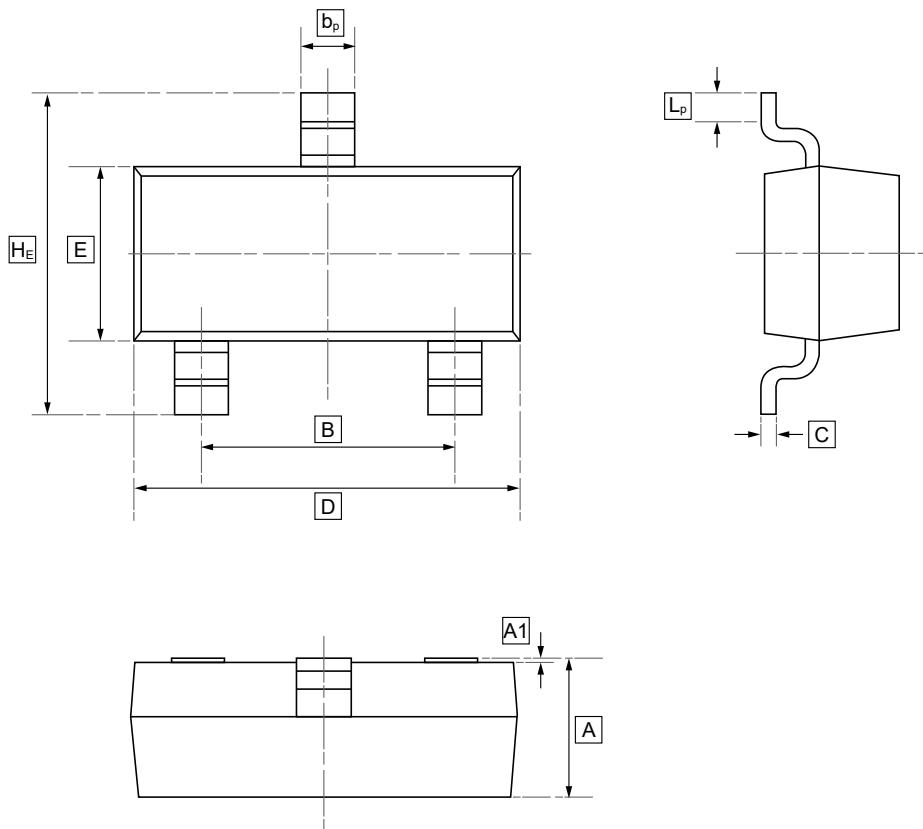


Figure 5: Diode capacitance as a function of reverse voltage; typical values



## 10.SOT-23 Package Outline Dimensions

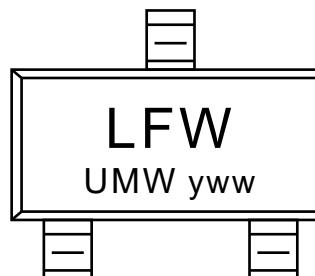


### DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b <sub>p</sub>	C	D	E	H <sub>E</sub>	A1	L <sub>p</sub>
<b>Min</b>	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
<b>Max</b>	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50



## **11.Ordering information**



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESD36VS2UT	SOT-23	3000	Tape and reel



## **12.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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