

1.Features

- Bidirectional ESD protection of oneline
- Femtofarad capacitance: $C_d=400\text{fF}$
- Low ESDclamping voltage: 30V
at 30ns and $\pm 8\text{kV}$
- Very low leakage current: $\text{IRM}<1\text{nA}$
- ESD protection up to 10kV
- IEC61000-4-2; level4(ESD)
- AEC-Q101 qualified

3.Applications

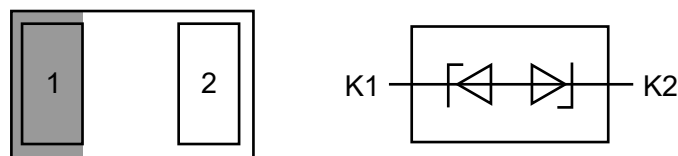
- 10/100/1000Mbit/sEthernet
- FireWire
- High-speed data lines
- Subscriber Identity Module(SIM) card protection
- Cellular handsets and accessories

2.Mechanical Data

- SOD-882 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering
- guaranteed: 260°C/10s

- Portable electronics
- Communication systems
- Computers and peripherals
- Audio and video equipment
- Antenna protection

4.Pinning information



SOD-882



5. Quick reference data

Parameter	Symbol	Conditions	Min	Typ	Max	Units
reverse stand off voltage	V_{RWM}				5.5	V
diode capacitance	C_d	$V_R=0V$, $f=1MHz$		0.4	0.55	pF

6. Limiting values

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
peak pulse current	I_{PP}	$t_p=8/20\mu s$ ①			2.5	A
junction temperature	T_J				125	°C
ambient temperature	T_{amb}		-40		125	°C
storage temperature	T_{STG}		-55		125	°C

Notes:

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

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			10	kV
		IEC 61000-4-2 air discharge			10	kV
		MIL-STD-883 (human body model)			10	kV

Notes:

① Device stressed with ten non-repetitive ESD pulses.



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
reverse stand off voltage	V_{RWM}				5.5	V
reverse leakage current	I_{RM}	$V_{RWM}=5\text{V}$		1	100	nA
breakdown voltage	V_{BR}	$I_R=1\text{mA}$	6	8	10	V
diode capacitance	C_d	$V_R=0\text{V}$, $f=1\text{MHz}$		0.4	0.55	pF
clamping voltage	V_{CL}	①				
		$I_{PP}=1\text{A}$			11	V
		$I_{PP}=2.5\text{A}$			15	V
differential resistance	r_{dif}	$I_R=20\text{mA}$			30	Ω

Notes:

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

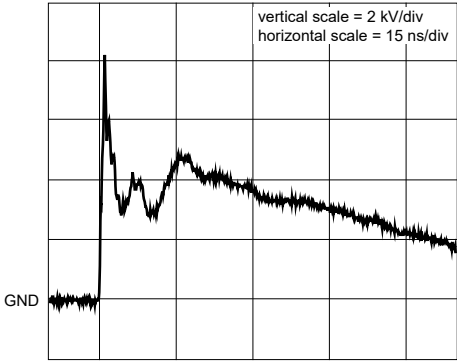
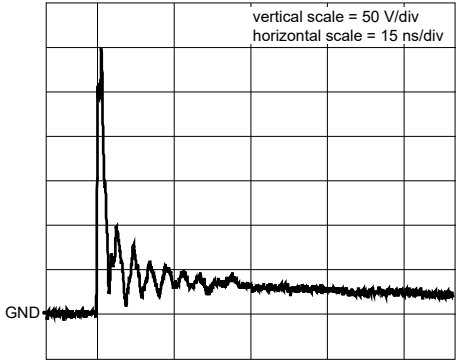
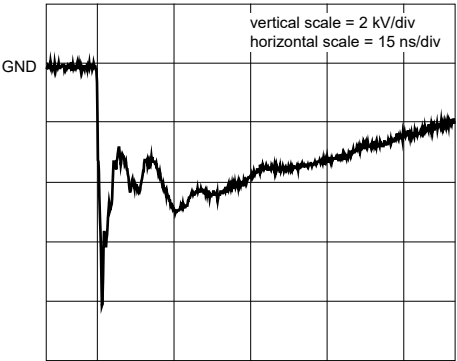
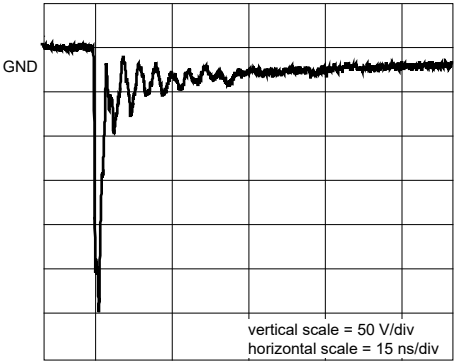


9.1 Typical Characteristic

Figure 1: 8/20 μ s pulse waveform according to IEC 61000-4-5	Figure 2: ESD pulse waveform according to IEC 61000-4-2
Figure 3: Diode capacitance as a function of reverse voltage; typical values	Figure 4: V-I characteristics for a unidirectional ESD protection diode

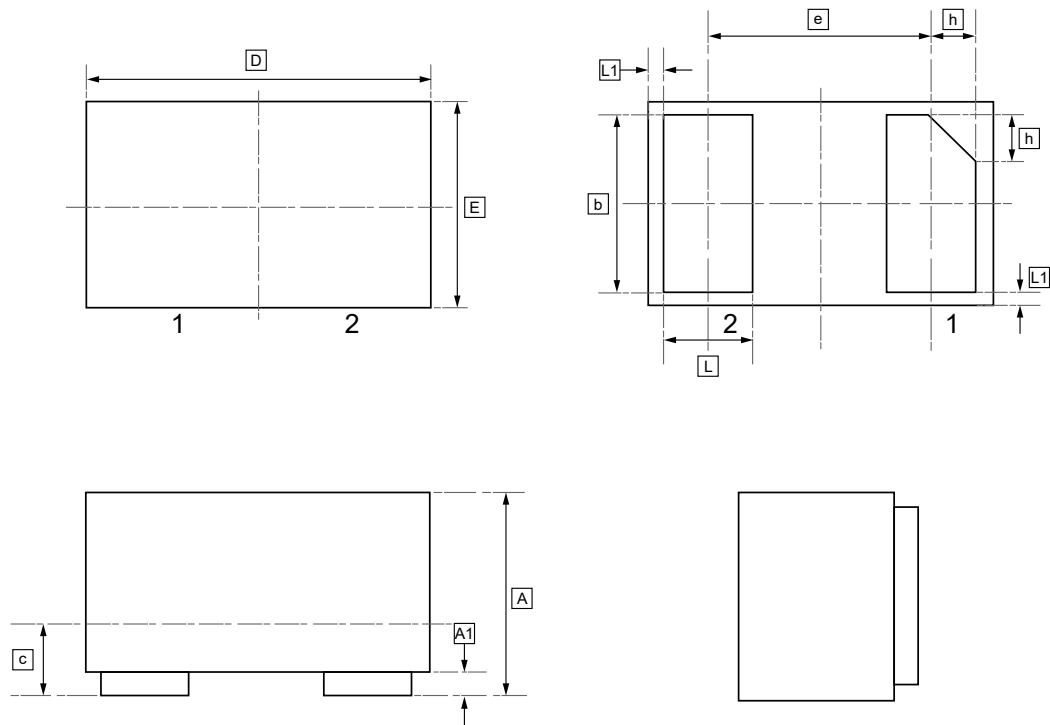


9.2 Typical Characteristic

	
Figure 5: unclamped +8 kV ESD pulse waveform (IEC 61000-4-2 network)	Figure 6: clamped +8 kV ESD pulse waveform (IEC 61000-4-2 network) pin 1 to 2
	
Figure 7: unclamped -8 kV ESD pulse waveform (IEC 61000-4-2 network)	Figure 8: clamped -8 kV ESD pulse waveform (IEC 61000-4-2 network) pin 1 to 2



10.SOD-882 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	b	c	D	e	E	L	L1	h
Min	0.45	0.00	0.45	0.12	0.95	0.65	0.55	0.20	0.05	0.07
Max	0.55	0.05	0.55	0.18	1.05	BSC	0.65	0.30	REF	0.17



11.Ordering Information



Order Code	Package	Base QTY	Delivery Mode
UMW PESD5V0F1BL	SOD-882	10000	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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