UMW ESDBL36VD3

1.Description

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD.

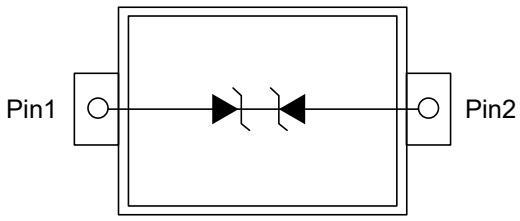
2.Features

- Bi-directional ESD protection of one line
- Reverse stand-off voltage: 36V
- Low reverse clamping voltage
- Low leakage current
- Excellent package:1.7mm×1.3mm×1.0mm

3.Applications

- Computers and peripherals Control &
- monitoring systems
- Audio and video equipment Cellular
- handsets and accessories
- Portable electronics
- Set-top box
- Other electronics equipments communi-cation systems

4.Pinning information



SOD-323

5.Absolute Maximum Ratings T_A= 25°C

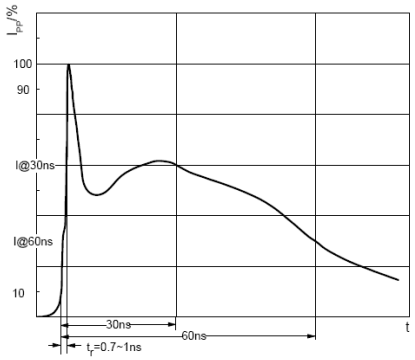
Parameter		Symbol	Maximum	Units
IEC 61000-4-2 ESD Voltage	Air Model	$V_{ESD(1)}$	±8	kV
	Contact Model		±8	kV
JESD22-A114-B ESD Voltage	Per Human Body Model		±15	kV
ESD Voltage	Machine Model		±0.4	kV
Peak Pulse Power		$P_{pp(2)}$	240	W
Peak Pulse Current		$I_{pp(2)}$	3	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	°C
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

Notes:

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

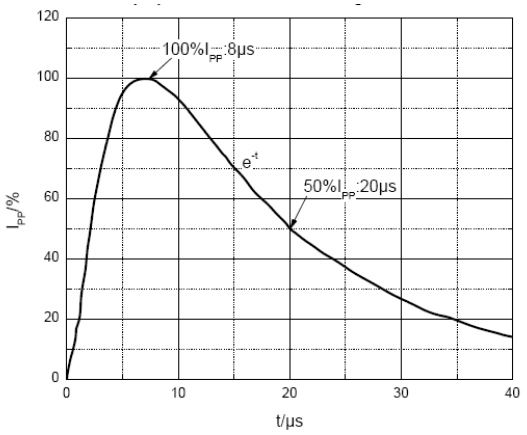
(2).Non-repetitive current pulse 8/20μs exponential decay waveform.

6.ESD standards compliance



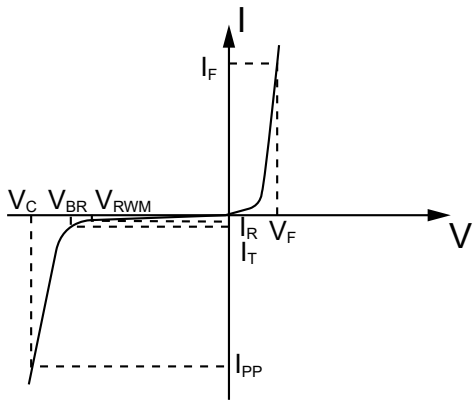
ESD pulse waveform according to IEC61000-4-2

Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15



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

ESD Class	Human Body Discharge V
0	0～249
1A	250～499
1B	500～999
1C	1000～1999
2	2000～3999
3A	4000～7999
3B	8000～15999



V-I characteristics for a uni-directional TVS

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage

7.Electrical Characteristic (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse stand off voltage	$V_{RWM(1)}$				36	V
Reverse leakage current	I_R	V_{RWM}=36V			1	μA
Breakdown voltage	$V_{(BR)}$	I_T=1mA	40		48	V
Clamping voltage	$V_{C(2)}$	I_{PP}=3A			80	V
Junction capacitance	C_J	V_R=0V, f=1MHz			15	pF

Notes:

(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform.

8.Typical characteristic

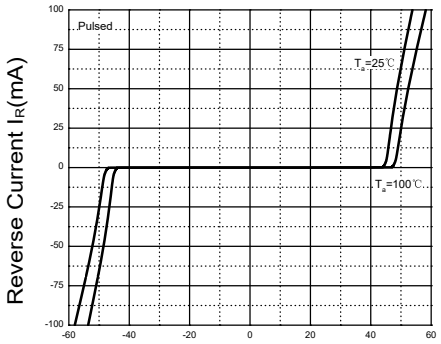


Figure 1: Reverse Characteristics

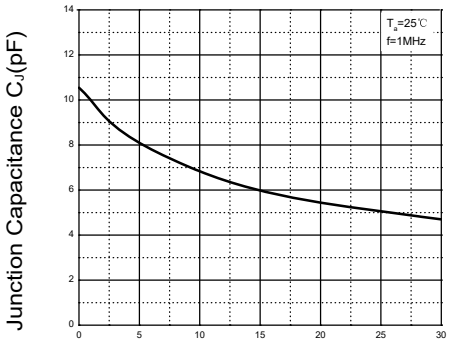


Figure 2: Capacitance Characteristics

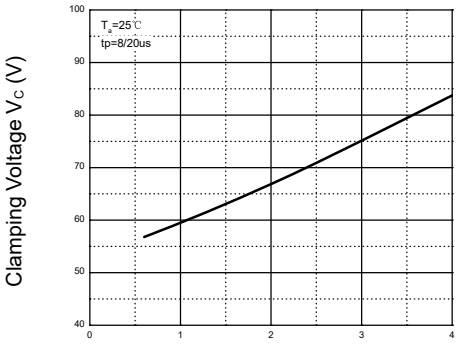
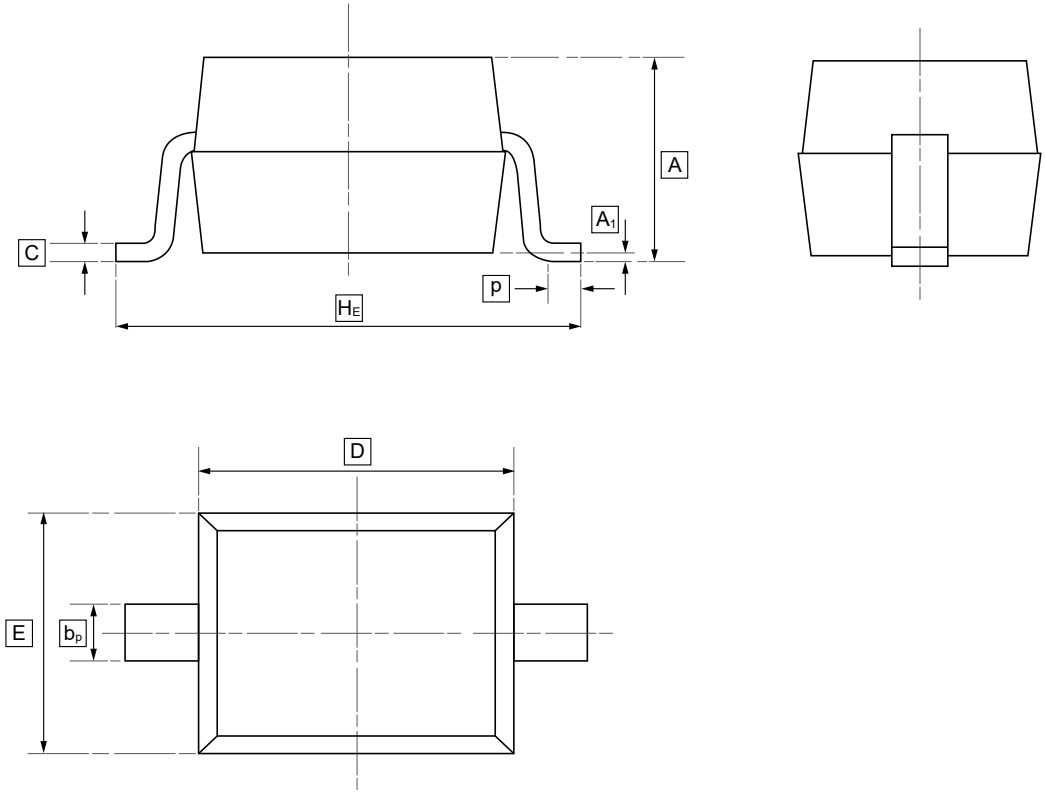


Figure 3: V_C —— I_{PP}

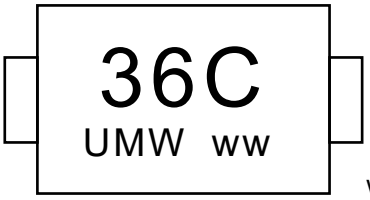
9.SOD-323 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b_p	C	D	E	H_E	A_1	p
Min	0.80	0.25	0.10	1.50	1.15	2.30	0.01	0.20
Max	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50

10.Ordering information



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW ESDBL36VD3	SOD-323	3000	Tape and reel

11.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.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.