

### 1. Description

The UMW PESDNC3D5VB protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events.

### 2. Applications

- Laptop computers
- Cellular phones
- Digital cameras
- PDAs

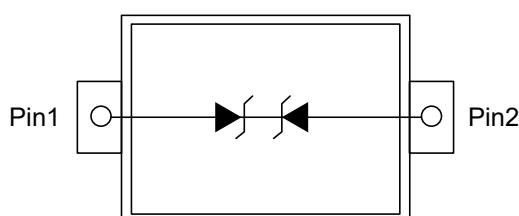
### 3. Features

- 350W peak pulse power per line ( $t_p=8/20\mu s$ )
- SOD-323 package
- Replacement for MLV(0805)
- Bidirectional configurations
- Protects one power or I/O port
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to
- IEC 61000-4-2(ESD) $\pm 30KV$ (air), $\pm 30KV$ (contact)
- IEC 61000-4-4(EFT)40A(5/50ns)

### 4. Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflowtemperature:260 °C
- Pure tin plating: 7 ~ 17 um
- Pin flatness: $\leq 3$ mil

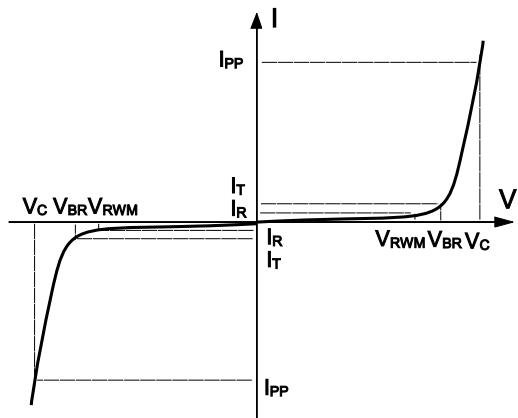
### 5. Pinning information



**SOD-323**



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



Symbol	Parameter
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$P_{PP}$	Peak Pulse Power
$C_J$	Junction Capacitance
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



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

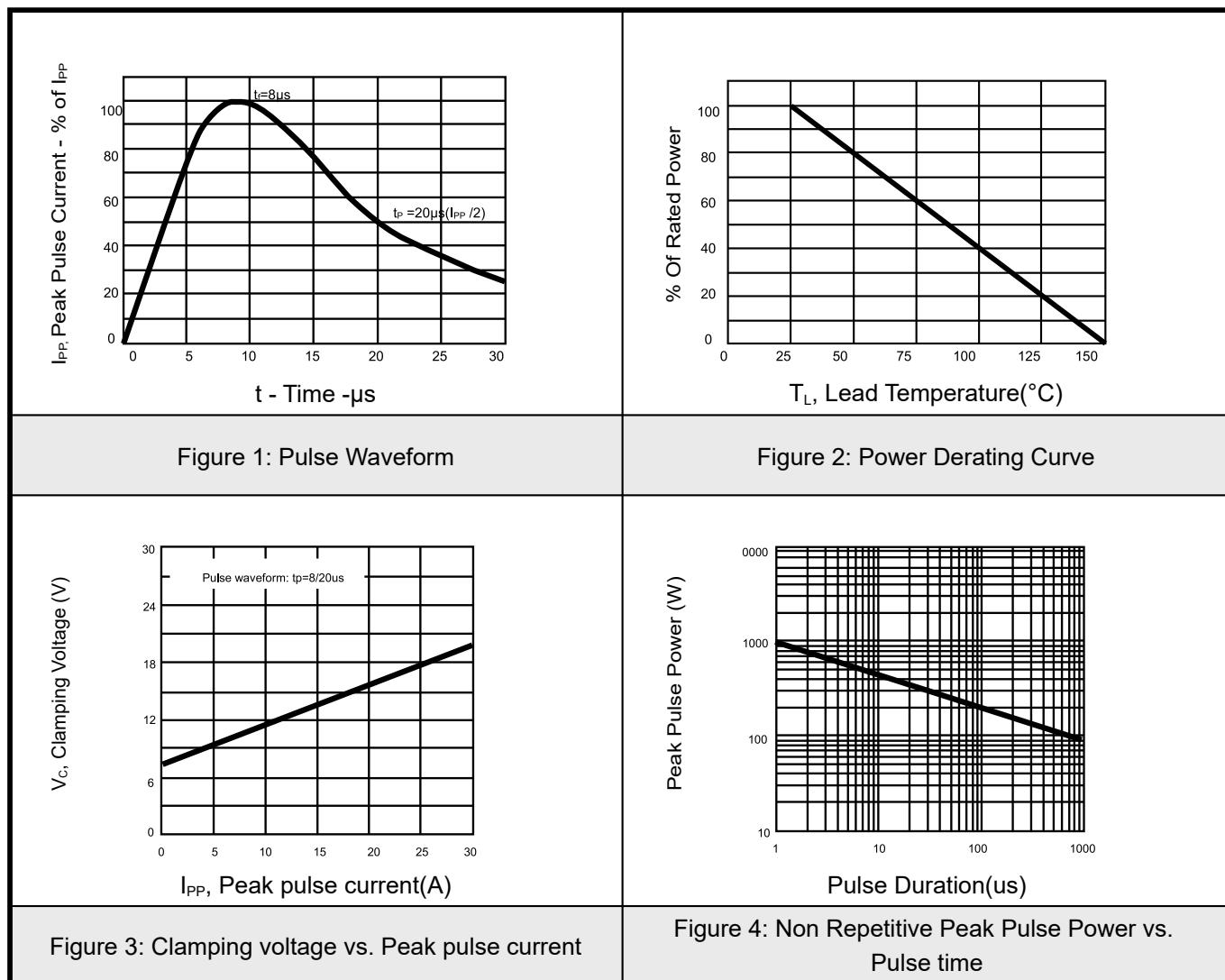
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Working Voltage	$V_{RWM}$				5	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6		8	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$ , $T=25^\circ\text{C}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$			9.2	V
		$I_{PP}=5\text{A}$ , $t_p=8/20\mu\text{s}$			11	V
		$I_{PP}=24\text{A}$ , $t_p=8/20\mu\text{s}$			23	V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$		85		pF

## 8. Absolute maximum rating @ 25°C

Parameter	Symbol	Value	Units
Unidirectional Peak Pulse Power	$P_{PP}$	350	W
Operating Temperature	$T_J$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C



## 9.Typical characteristic





## 10. Solder Reflow Recommendation

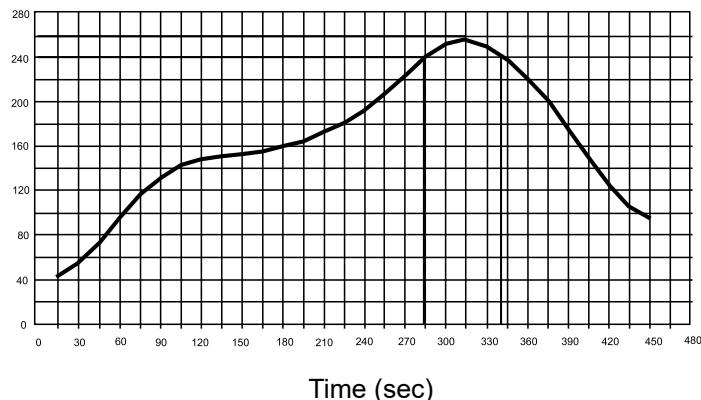


Figure 5: Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

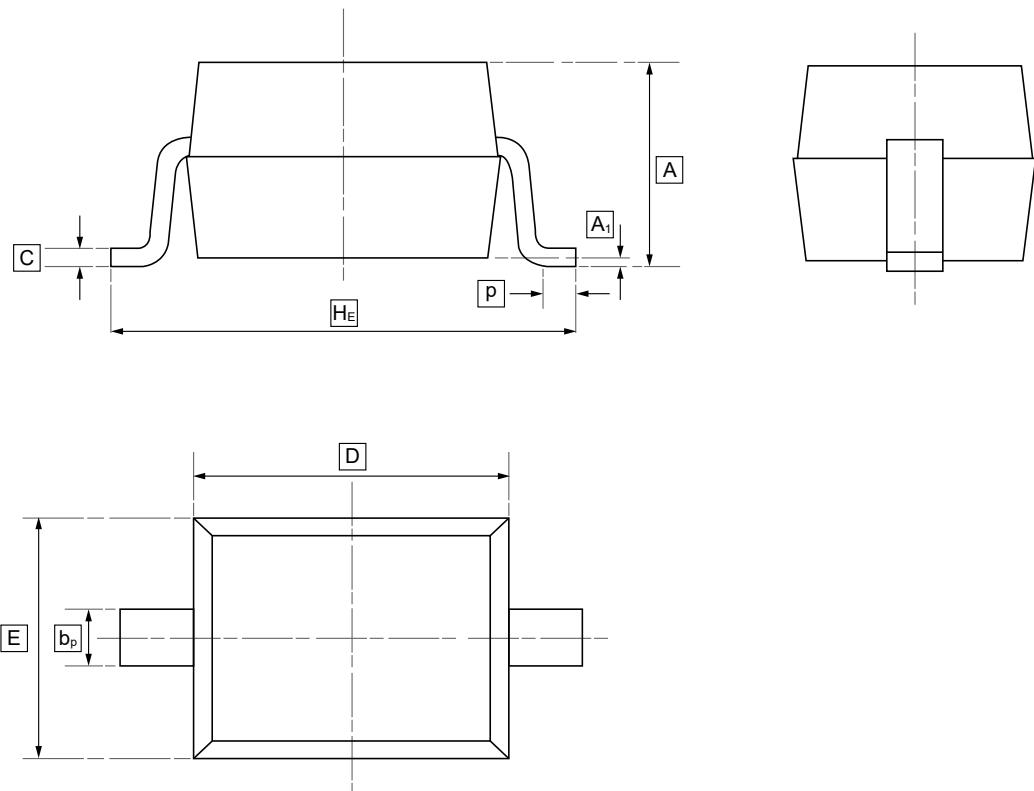
### PCB Design

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.



## 11. SOD-323 Package Outline Dimensions

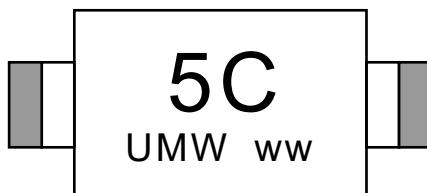


### DIMENSIONS (mm are the original dimensions)

Symbol	A	$b_p$	C	D	E	$H_E$	$A_1$	P
<b>Min</b>	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20
<b>Max</b>	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50



## **12.Ordering information**



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESDNC3D5VB	SOD-323	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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