# UMW CESDBLC5V0D3

## 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.

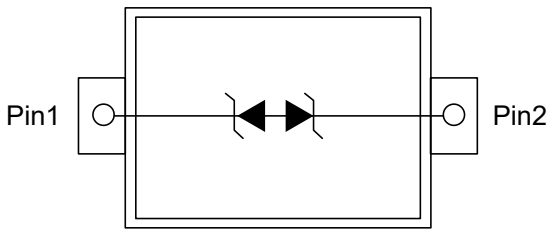
## 2.Features

- Bi-directional ESD protection of one line
- Low capacitance: 12pF(Typ.)
- Low reverse stand-off voltage: 5.0V
- Low reverse clamping voltage
- Low leakage current
- Excellent package:1.7mm×1.3mm×1.0mm

## 3.Applications

- Computers and peripherals
- PAD
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- Subscriber identity module(SIM) card protection
- Other electronics equipments communi cation systems

## 4.Pinning information




**SOD-323**

## 5.Absolute Maximum Ratings $T_A$= 25°C

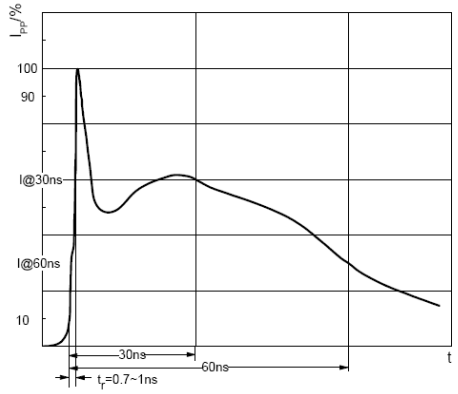
| Parameter | | Symbol | Maximum | Units |
|---|---|---|---|---|
| IEC 61000-4-2 ESD Voltage | Air Model | $V_{ESD(1)}$ | ±25 | kV |
| | Contact Model | | ±25 | kV |
| JESD22-A114-B ESD Voltage | Per Human Body Model | | ±16 | kV |
| ESD Voltage | Machine Model | | ±0.4 | kV |
| Peak Pulse Power | | $P_{PP(2)}$ | 50 | W |
| Peak Pulse Current | | $I_{PP(2)}$ | 5 | A |
| Lead Solder Temperature − Maximum (10 Second Duration) | | $T_L$ | 260 | °C |
| Junction Temperature | | $T_J$ | 150 | °C |
| Storage Temperature Range | | $T_{STG}$ | -55 to 150 | °C |

Notes:

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

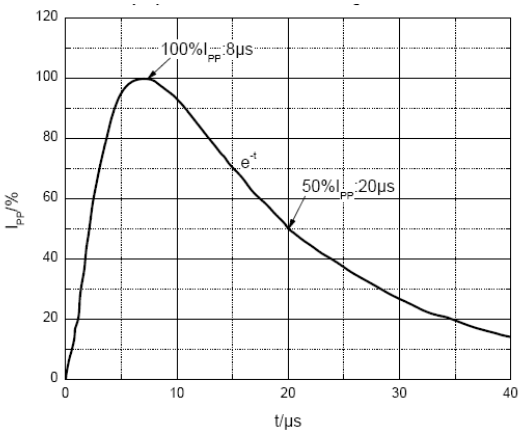
(2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

## 6.ESD standards compliance



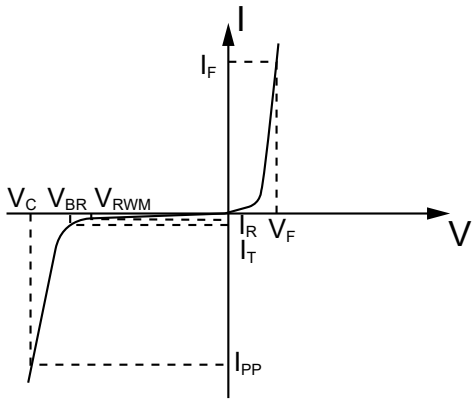

ESD pulse waveform according to IEC61000-4-2

| 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 | $V_{RWM(1)}$ | | | | 5 | V |
| Reverse leakage current | $I_R$ | $V_{RWM}$=5V | | | 0.1 | μA |
| Breakdown voltage | $V_{(BR)}$ | $I_T$=1mA | 5.8 | | 7.8 | V |
| Clamping voltage | $V_{C(2)}$ | $I_{PP}$=5A | | | 10 | V |
| Junction capacitance | $C_J$ | $V_R$=0V, f=1MHz | | 12 | 15 | pF |

Notes:

(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

## 8.Typical characteristic

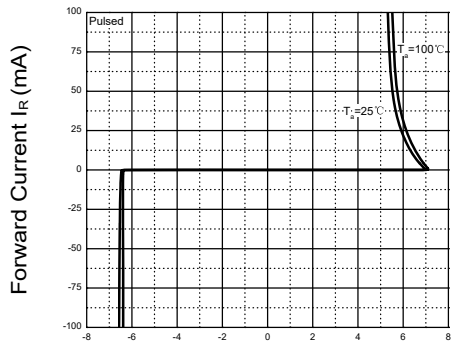



Figure 1: Reverse Characteristics

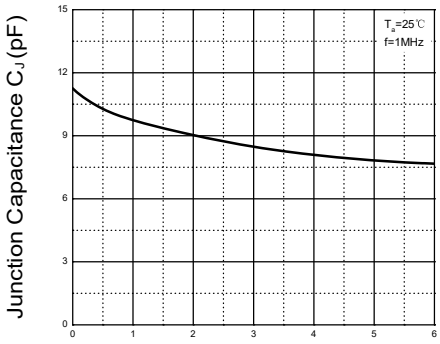



Figure 2: Capacitance Characteristics

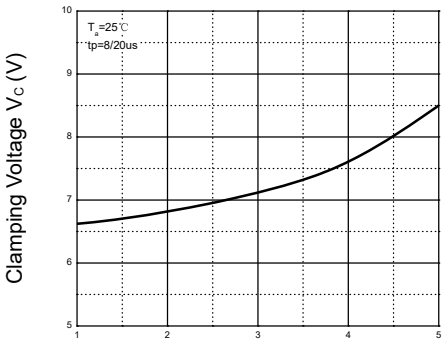
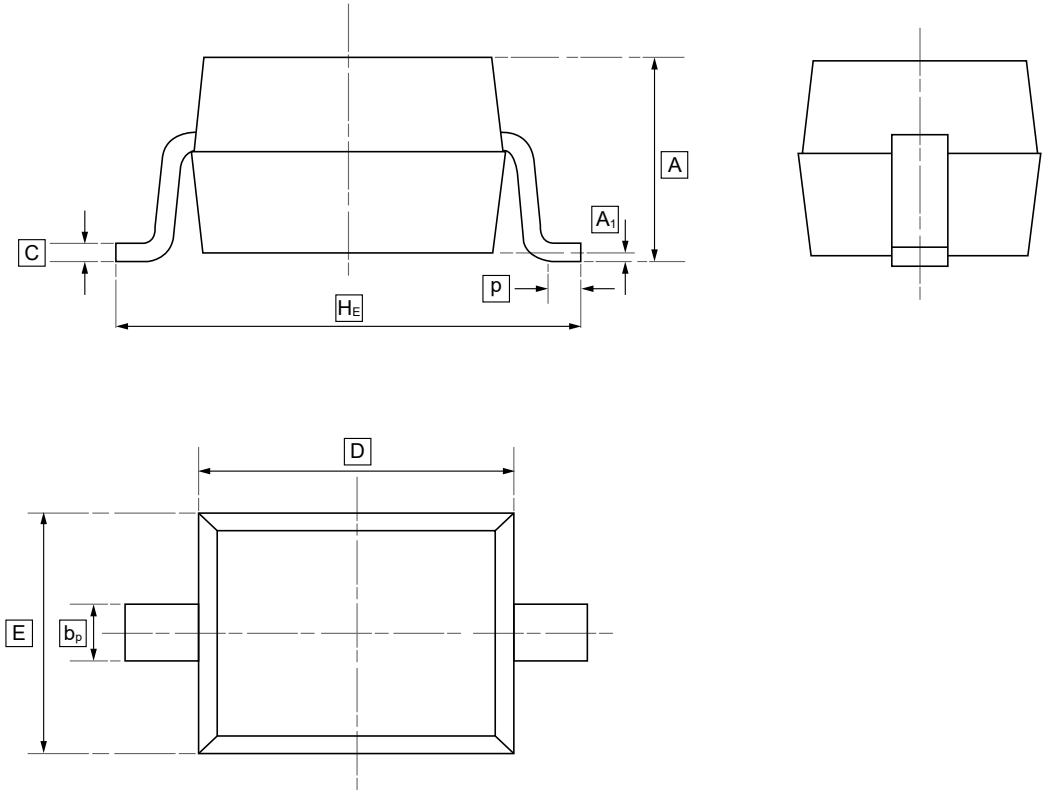



Figure 3: $V_C$ —— $I_{PP}$

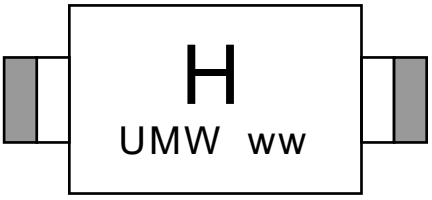
## 9.SOD-323 Package Outline Dimensions




**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 CESDBLC5V0D3 | SOD-323 | 3000 | Tape and reel |

## 11.Disclaimer

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