# UMW SDD32A12L01

## 1.Description

The UMW SDD32A12L01 is designed to protect low voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

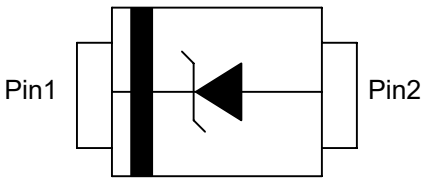
## 2.Applications

- Cellular handsets & Accessories
- Cordless phones
- Personal digital assistants (PDAs)
- Notebooks & Handhelds
- Portable instrumentation
- Digital cameras
- Peripherals
- MP3 players

## 3.Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- Protects one I/O line
- Peak power dissipation of 320W under 8/20μs waveform
- Working voltage: 12V
- Low leakage current
- Low clamping voltage
- Solder reflow temperature: Pure Tin-Sn 260~270℃

## 4.Pinning information




**SOD-323**

## 5.Absolute Maximum Ratings

| Parameter | Symbol | Maximum | Units |
|---|---|---|---|
| Peak pulse power (tp=8/20us waveform) | $P_{PP}$ | 320 | W |
| ESD voltage (Contact discharge) | $V_{ESD}$ | ±8 | kV |
| ESD voltage (Air discharge) | | ±15 | kV |
| Storage & Junction temperature range | $T_{STG,}$ $T_J$ | -55 to 150 | °C |

## 6.Electrical Characteristics ($T_J$=25°C)

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| Reverse stand-off voltage | $V_{RWM}$ | | | | 12 | V |
| Reverse breakdown voltage | $V_{BR}$ | $I_{BR}$=1mA | 13.3 | | | V |
| Reverse leakage current | $I_R$ | $V_R$=12V | | | 1 | μA |
| Clamping voltage (tp=8/20μs) | $V_C$ | $I_{PP}$=1A | | | 19 | V |
| Off state junction capacitance | $C_J$ | 0Vdc, f=1MHz | | | 150 | pF |

## 7.Typical characteristic

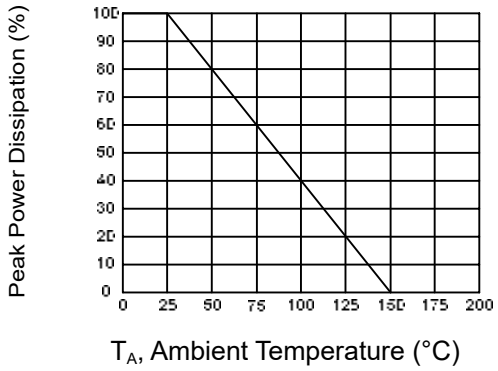



Figure 1: Power Derating Curve

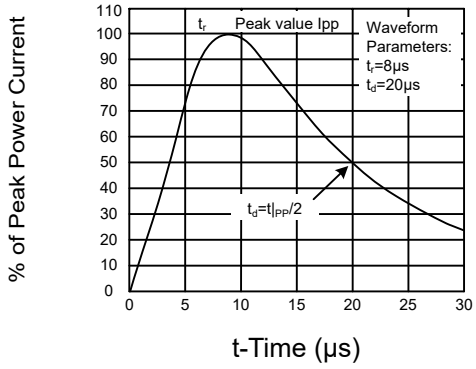



Figure 2: Pulse Waveform

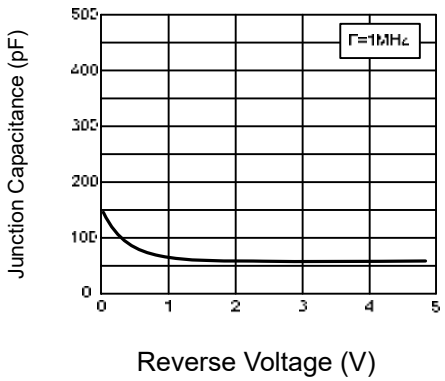
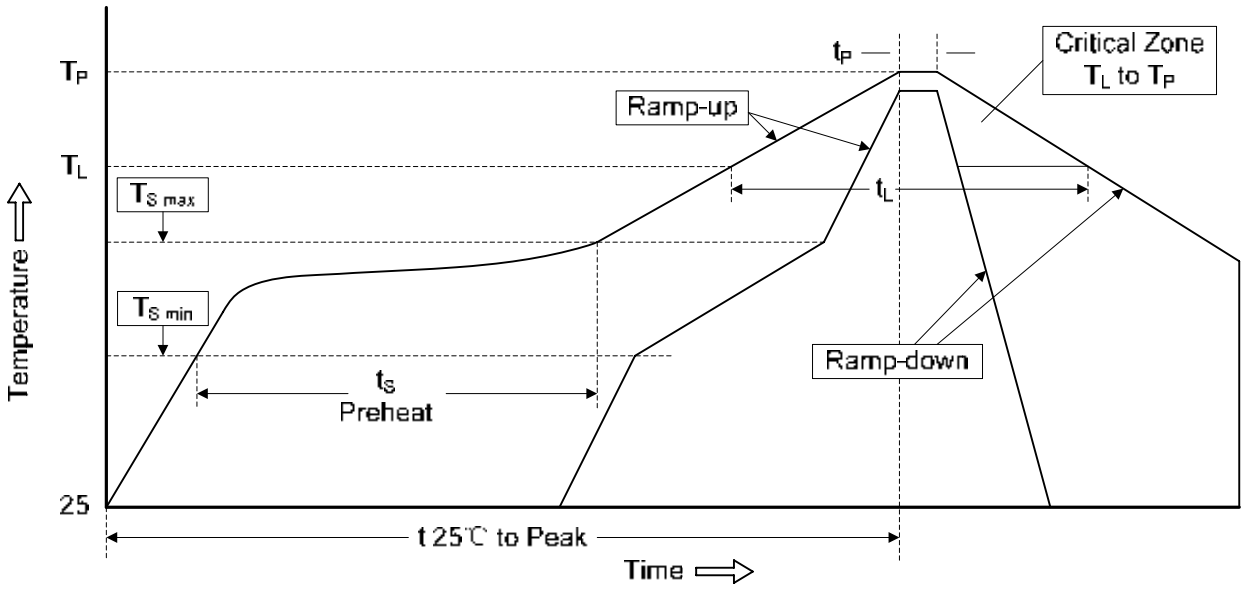


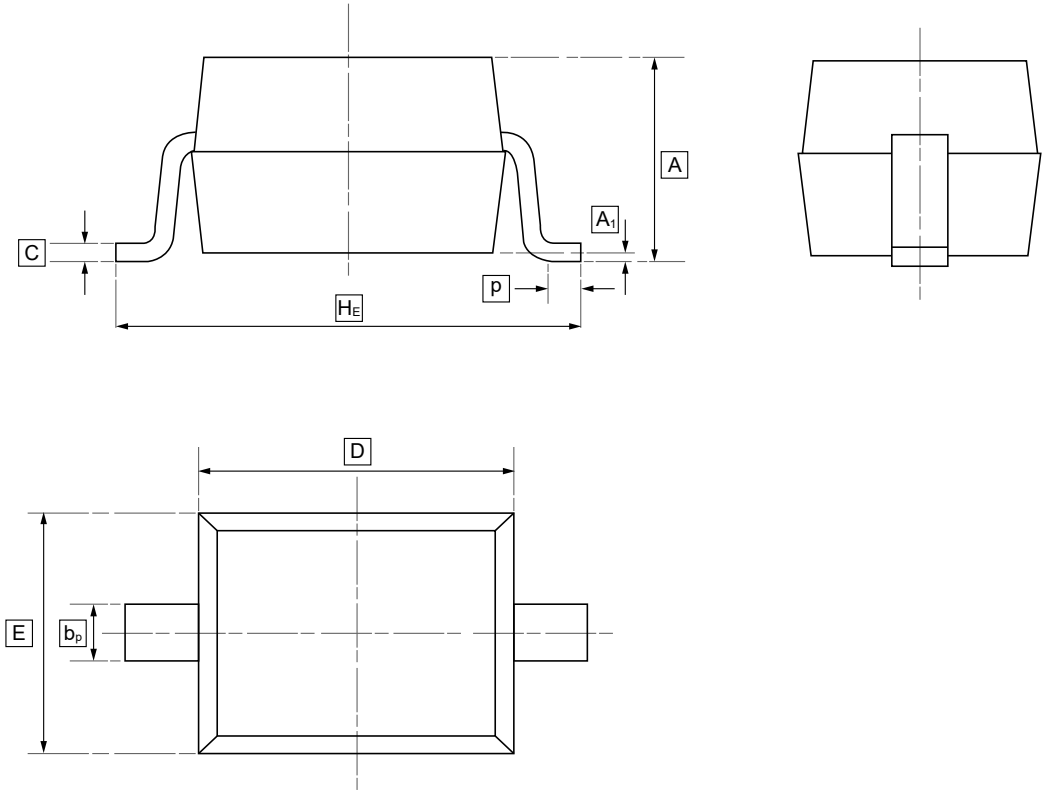

Figure 3: Capacitance vs. Reverse Voltage

## 8.Recommended Soldering Conditions

| Profile Feature | | Pb-Free Assembly |
|---|---|---|
| Average ramp-up rate ($T_L$ to $T_P$) | | 3°C/second max. |
| Preheat | -Temperature Min ($T_{s(min)}$) | 150°C |
| | -Temperature Max ($T_{s(max)}$) | 200°C |
| | -Time (Min to Max) ($t_s$) | 60-180 secs. |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate | | 3°C/sec. Max |
| Time maintained above | -Temperature ($T_L$) | 217°C |
| | -Time ($T_L$) | 60-150 secs. |
| Peak Temperature ($T_p$) | | 260°C |
| Time within 5°C of actual Peak Temperature ($T_p$) | | 20-40 seconds |
| Ramp-down Rate | | 6°C/sec. Max |
| Time 25°C to Peak Temperature | | 8 min. Max |



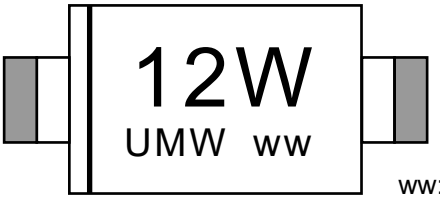
## 9.SOD-323 Package Outline Dimensions




**DIMENSIONS (mm are the original dimensions)**

| Symbol | A | $b_p$ | C | D | E | $H_E$ | $A_1$ | P |
|---|---|---|---|---|---|---|---|---|
| **Min** | 0.90 | 0.25 | 0.10 | 1.60 | 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 SDD32A12L01 | SOD-323 | 3000 | Tape and reel |

## 11.Disclaimer

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