UMW PTVSHC3D12VU

1.Description

The PTVSHC3D12VU protects sensitive s emiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. The PTVSHC3D12VU is available in a SOD-323 package with working voltages of 12 volt.

2.Mechanical Characteristics

- Mounting position: Any
- temperature:260°C Device meets
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

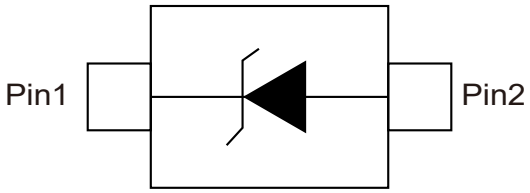
3.Features

- 1300W Peak pulse power per line (tp=8/20μs)
- Response time is typically < 1 ns
- Protect one I/O or power line
- Low clamping Voltage
- Transient protection for data lines to IEC 61000-4-2(ESD)
- ±30KV(air), ±30KV(contact); IEC 61000-4-4 (EFT) 40A (5/50ns)

4.Applications

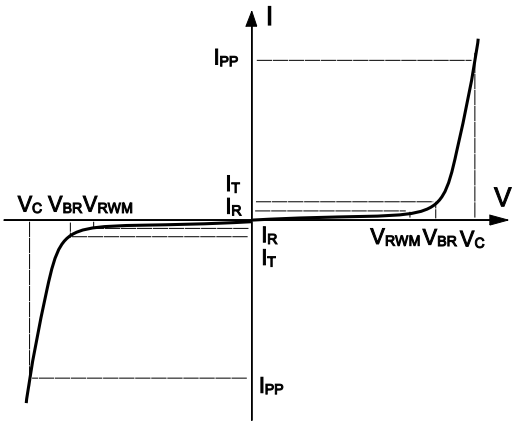
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

5.Pinning information



SOD-323

6.Electrical Parameters (T_A=25°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°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	I_T=1mA	13.5	15		V
Reverse Leakage Current	I_R	V_{RWM}=12V			1	μA
Clamping Voltage	V_C	I_{PP}=50A, t_p=8/20μs		24	30	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	240	295	350	pF

8.Absolute maximum rating @ 25°C

Parameter	Symbol	Value	Units
Peak Pulse Power (tp=8/20μs)	P_{PP}	1300	W
Lead Soldering Temperature	T_L	260 (10 sec)	°C
Junction Temperature	T_J	-55 to 125	°C
Storage Temperature	T_{STG}	-55 to 150	°C

9.Typical characteristic

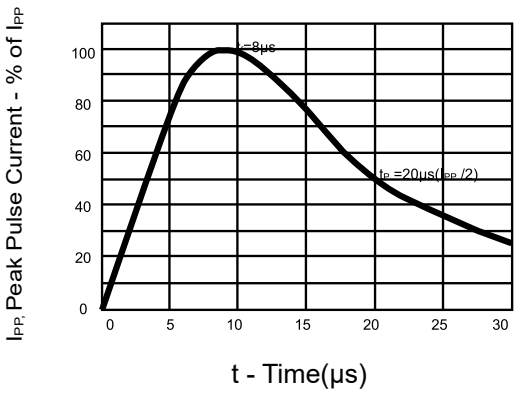


Figure 1: Pulse Waveform

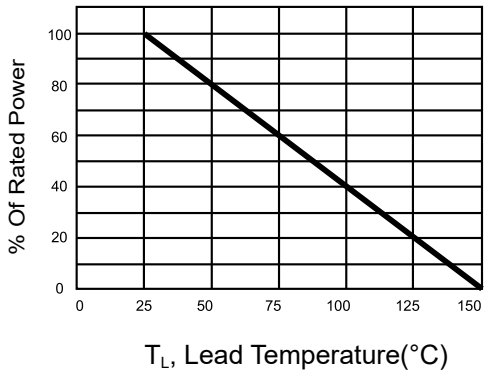


Figure 2: Power Derating Curve

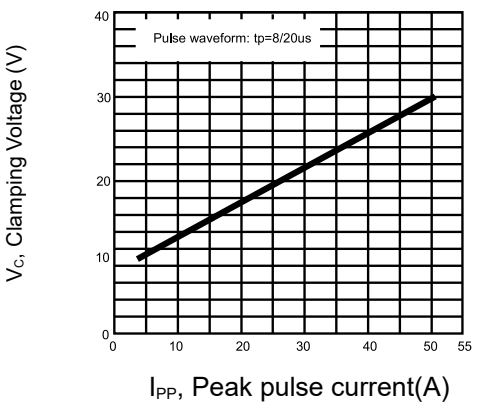


Figure 3: Clamping voltage vs. Peak pulse current

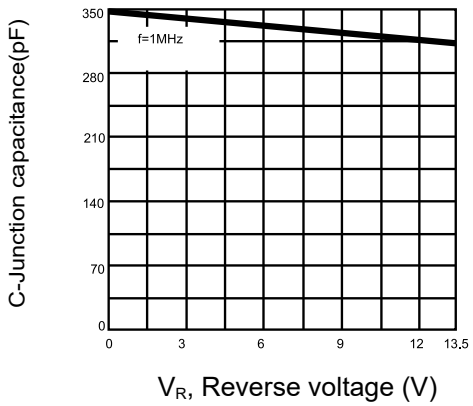


Figure 4: Capacitance vs. Reveres voltage

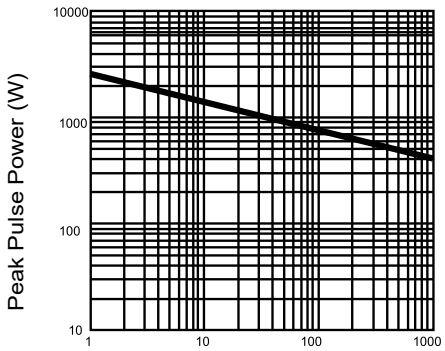


Figure 5: Non Repetitive Peak Pulse Power vs. Pulse time

10.Solder Reflow Recommendation

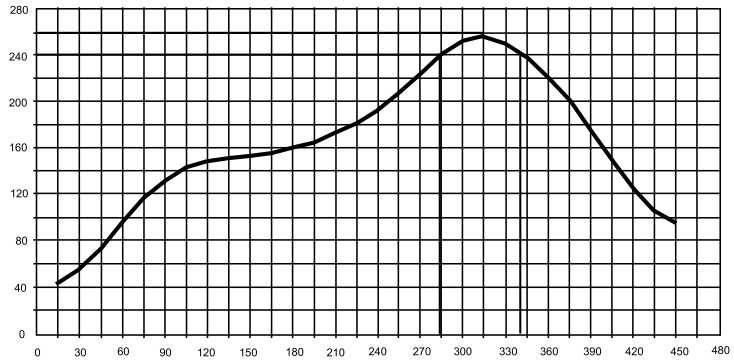
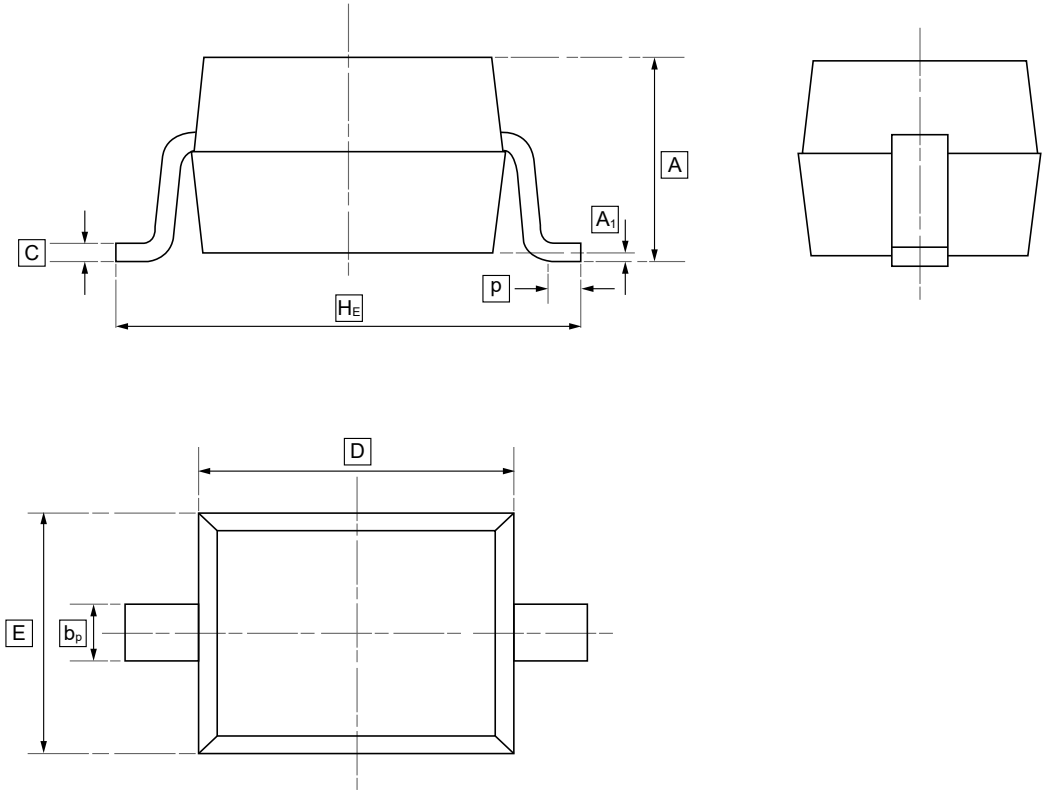


Figure 6: Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

11.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

12.Ordering information



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PTVSHC3D12VU	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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