

1. Description

The PTVSHC3D12VU protects sensitive semiconductor 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.

3. Features

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

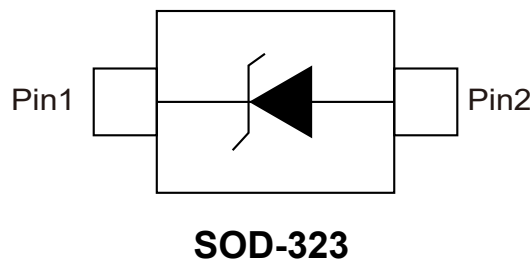
2. Mechanical Characteristics

- Mounting position: Any
- temperature: 260°C Device meets
- Pure tin plating: $7 \sim 17\ \mu\text{m}$
- Pin flatness: $\leq 3\text{mil}$

4. Applications

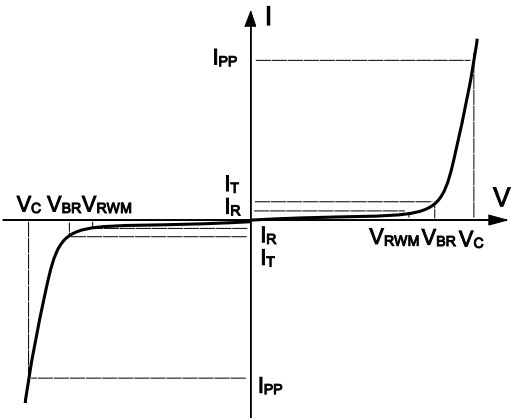
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals
- MP3 players

5. Pinning information





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 ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

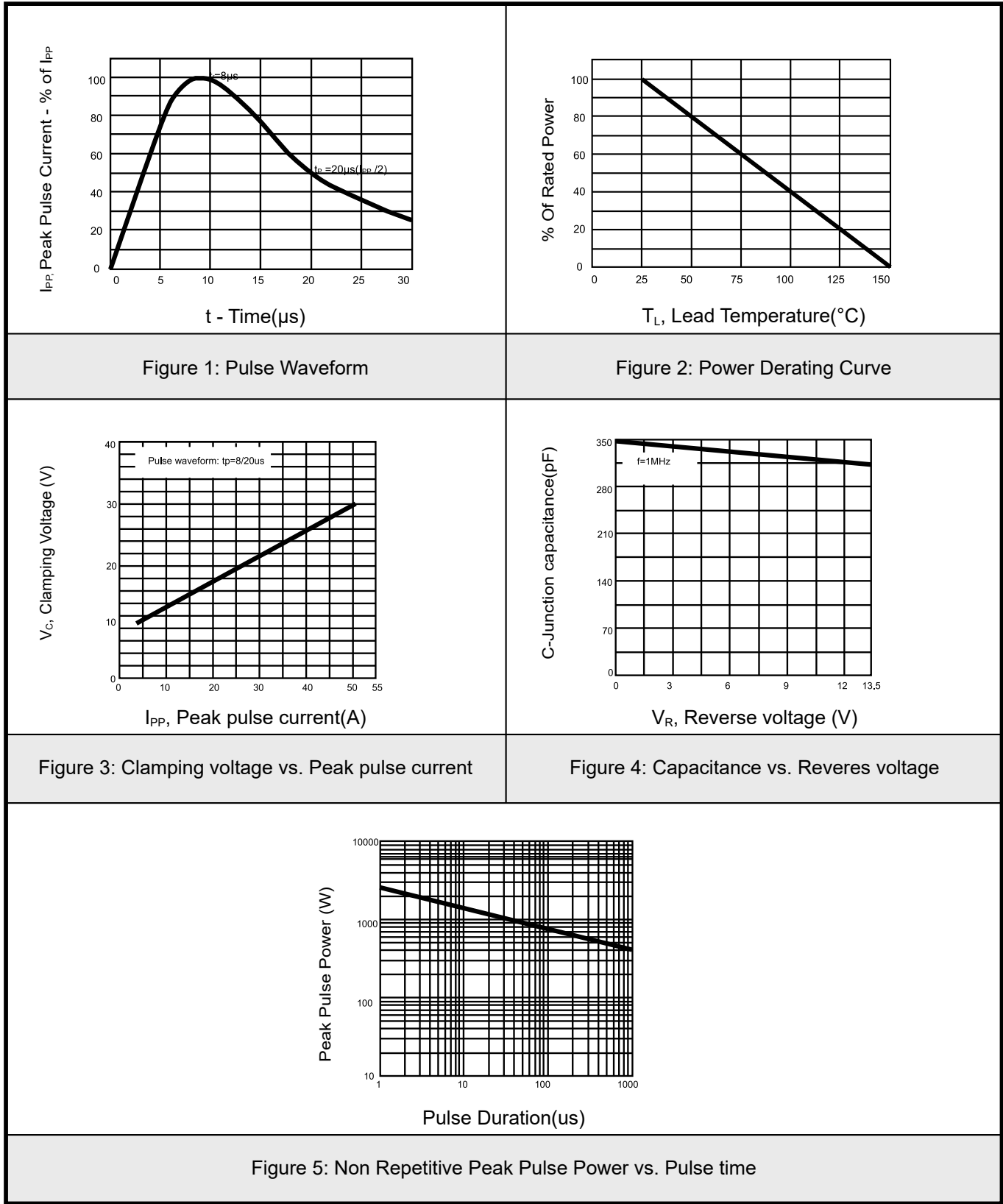
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	13.5	15		V
Reverse Leakage Current	I_R	$V_{RWM}=12\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP}=50\text{A}$, $t_p=8/20\mu\text{s}$		24	30	V
Junction Capacitance	C_J	$V_R=0\text{V}$,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

8. Absolute maximum rating @ 25°C

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	1300	W
Lead Soldering Temperature	T_L	260 (10 sec)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to 125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$



9. Typical characteristic





10.Solder Reflow Recommendation

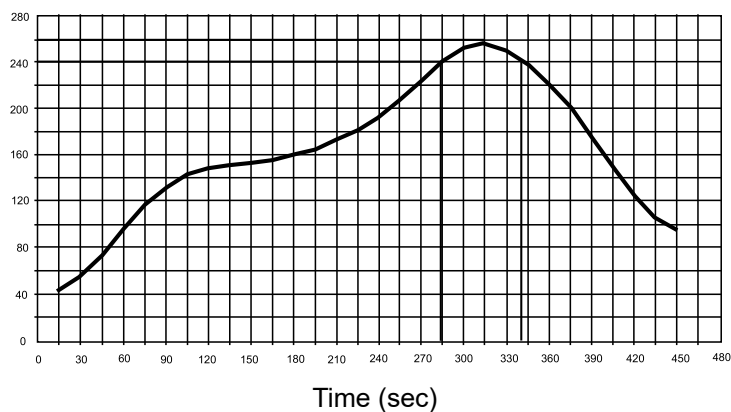
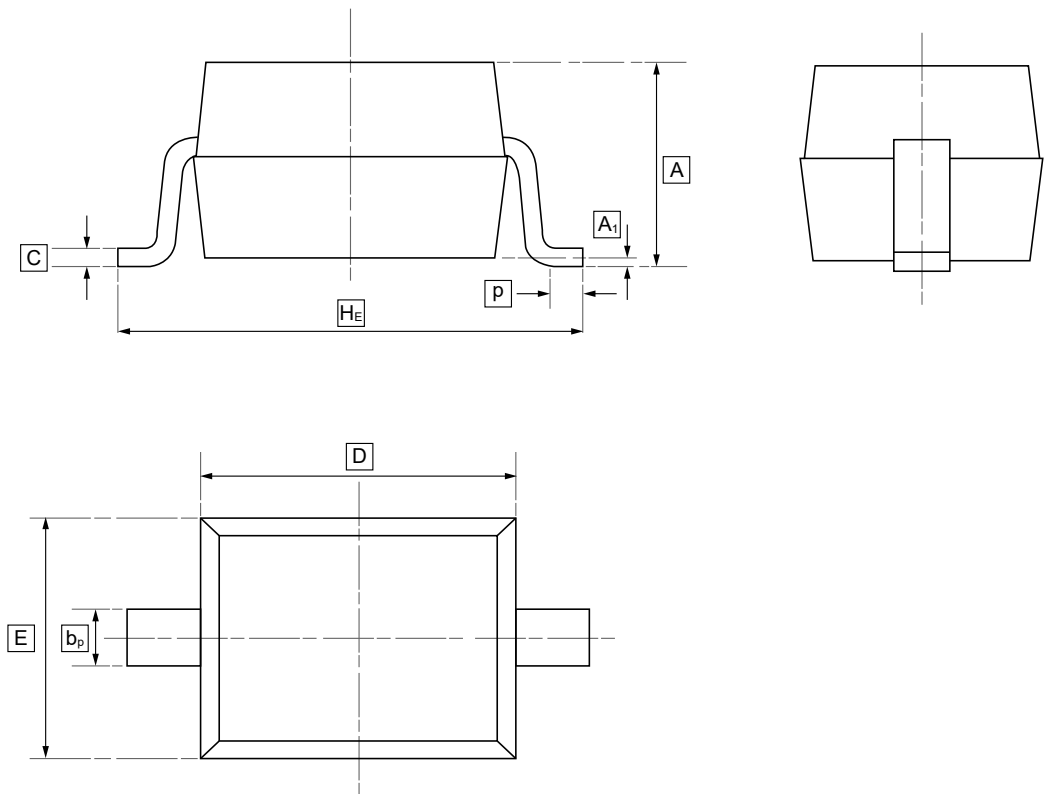


Figure 6: Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



11.SOD-323 Package Outline Dimensions

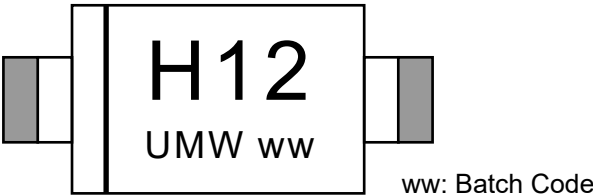


DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	A ₁	P
Min	0.90	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



12.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW PTVSHC3D12VU	SOD-323	3000	Tape and reel



13.Disclaimer

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