UMW UBD32C05L01

1.Description

The UBD32C05L01 of transient voltage suppressors are designed to protect low voltage, state-of-the- art CMOS semicon-ductors from transients caused by electro-static discharge (ESD), cable discharge events (CDE), lightning and other induced voltage surges.

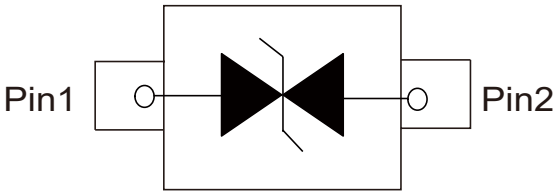
2.Applications

- High-speed data lines
- Microprocessor based equipment
- LAN / WAN equipment
- Desktops PC and serves
- Notebook, Laptop and Palmtop computers
- Portable instrumentation
- Peripherals
- Universal serial bus (USB) port protection

3.Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD-323 surface mount package
- Protects one I/O line
- Working voltage: 5V
- Low leakage current
- Low operating and clamping voltages
- Solder reflow temperature: Pure Tin-Sn 260~270°C

4.Pinning information



SOD-323

5.Absolute Maximum Ratings

Parameter	Symbol	Maximum	Units
Peak pulse power (tp=8/20us waveform)	I_{PP}	3	A
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}				5	V
Reverse breakdown voltage	V_{BR}	I_{BR}=1mA	6			V
Reverse leakage current	I_R	V_R=5V			1	μA
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=1A			11	V
Clamping voltage (tp=8/20μs)	V_C	I_{PP}=3A			20	V
Off state junction capacitance	C_J	0Vdc, f=1MHz		0.4		pF

7.Typical characteristic

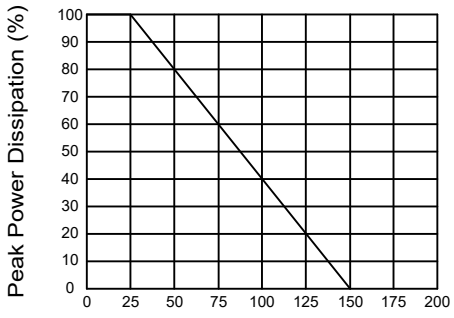


Figure 1: Power Derating Curve

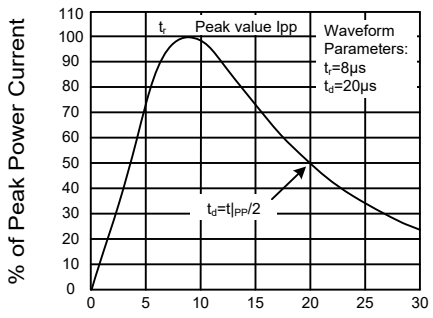


Figure 2: Pulse Waveform

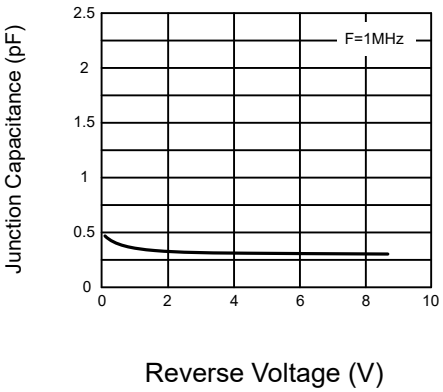


Figure 3: Normalized Capacitance vs. Reverse Voltage

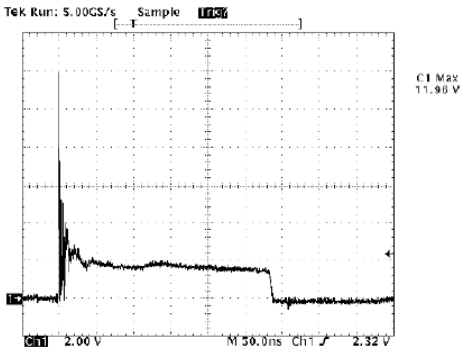
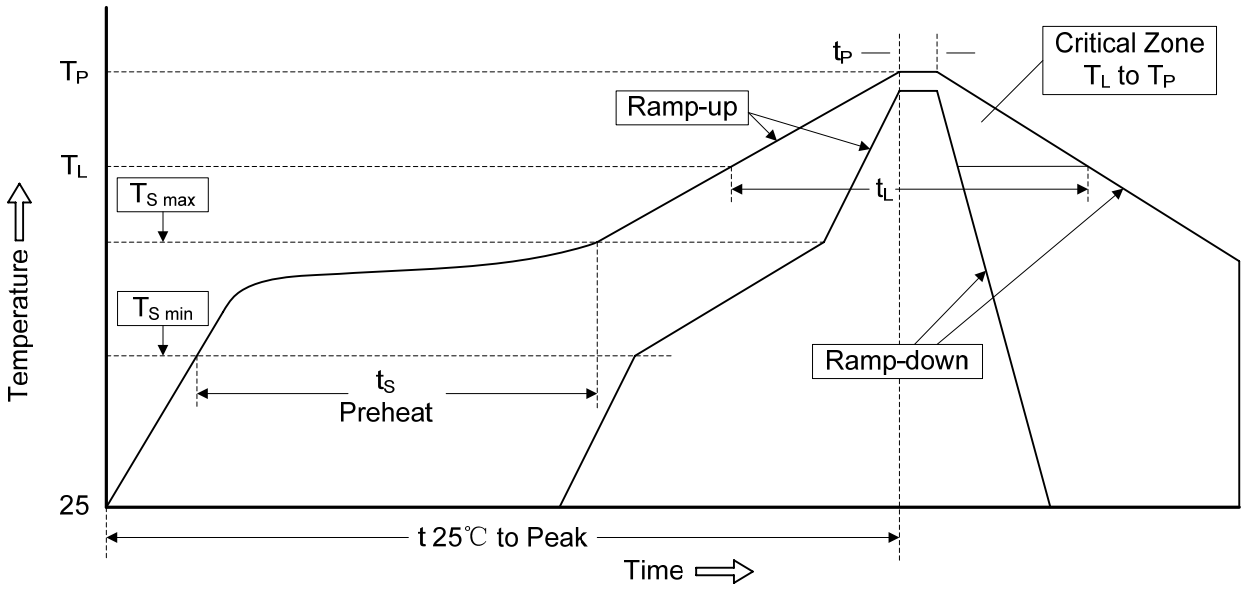


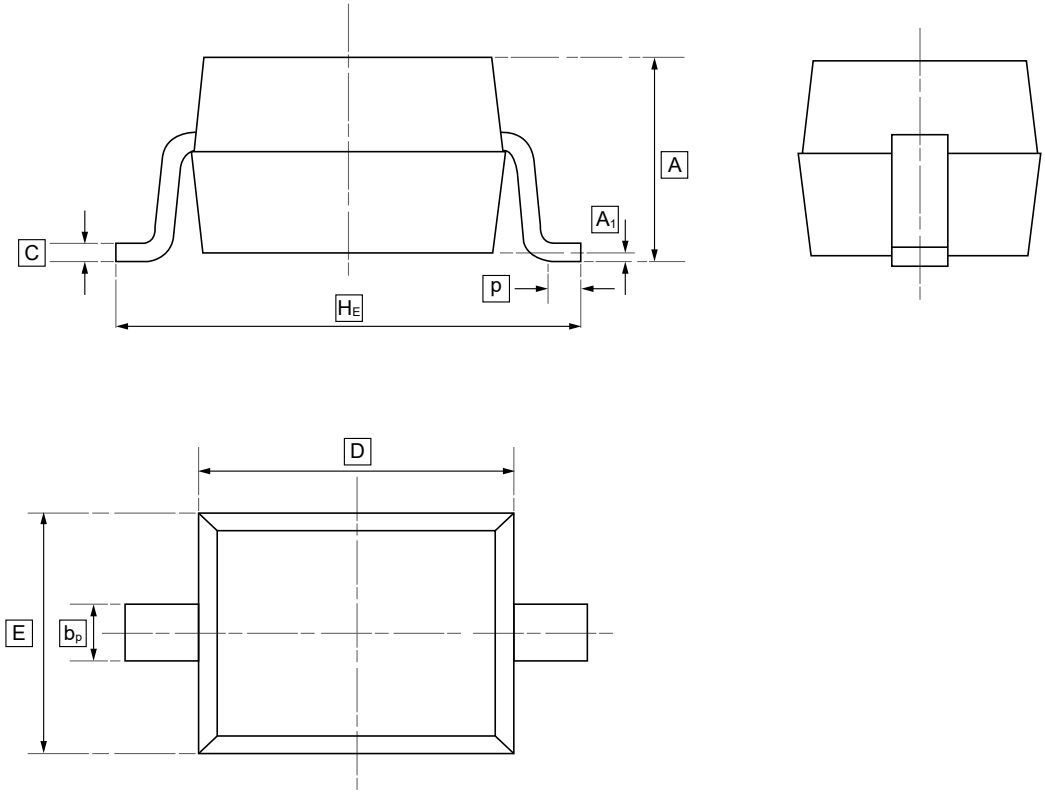
Figure 4: ESD Clamping (8kV Contact IEC61000-4-2)

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



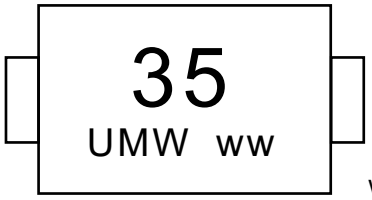
9.SOD-323 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b_p	C	D	E	H_E	A_1	p
Min	0.80	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 UBD32C05L01	SOD-323	3000	Tape and reel

11.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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