UMW PESD5V2S2UT

1.Features

- 300 W peak pulse power (t_p=8/20μs)
- Bidirectional and unidirectionalconfigurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C_j=120 pF typ.)
- Protection two data lines
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 20A(8/20μs)

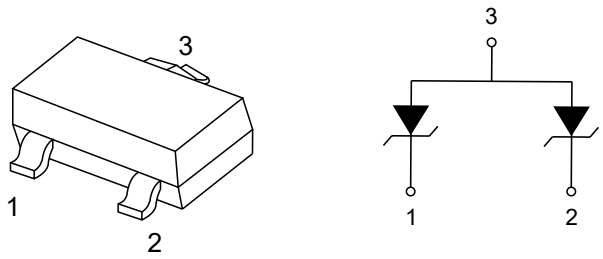
2.Applications

- Dataline
- Automatic Teller Machines
- Net works
- Power line

3.Mechanical Data

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

4.Pinning information



SOT-23

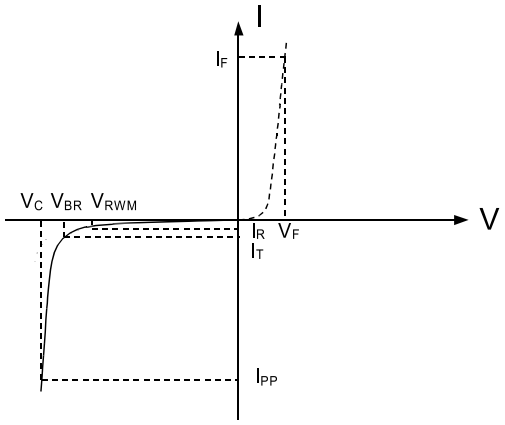
5.Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{PP}	300	W
Peak Pulse Current (t_p=8/20μs)(note1)	I_{PP}	20	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	30	kV
ESD per IEC 61000-4-2(Contact)		30	kV
Lead Soldering Temperature	T_L	260	°C
Junction Temperature	T_J	-55 to 125	°C
Storage Temperature	T_{STG}	-55 to 125	°C

6.Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6	7	8.5	V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25°C		0.5	1	μA
Peak PulseCurrent	I_{PP}	t_p=8/20μs			20	A
Clamping Voltage	V_C	I_{PP}=10A, t_p=8/20μs			12	V
		I_{PP}=20A, t_p=8/20μs			16	V
Junction Capacitance	C_J	V_R=0V, f=1MHz,(pin1,pin2 to pin3)		120		pF

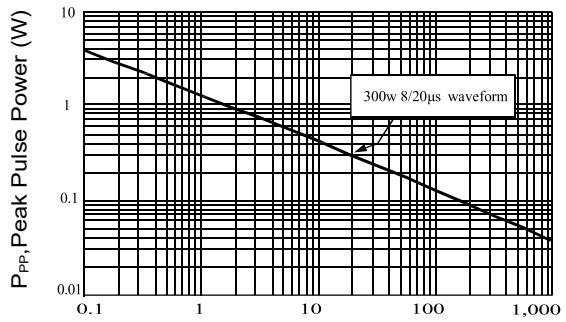
7.Electrical Parameters (T_A=25°C unless otherwise noted)



Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

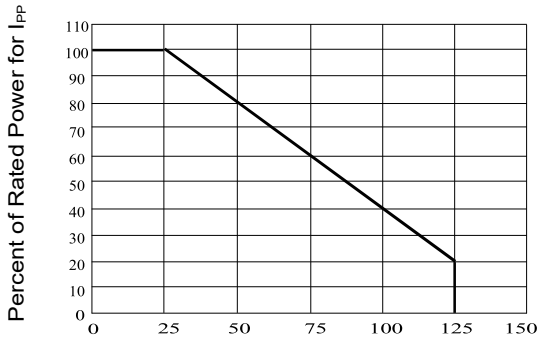
Notes: 8/20μs pulse waveform.

8.Typical characteristic



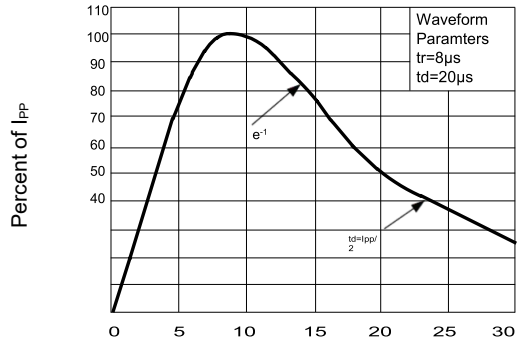
t_d, Pulse Duration(μs)

Figure 1: Peak Pulse Power vs. Pulse Time



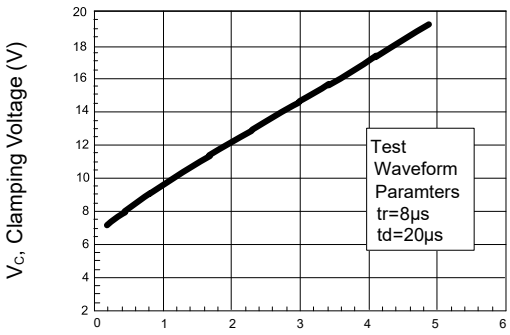
T_A, Ambient Temperature(°C)

Figure 2: Power Derating Curve



Time (μs)

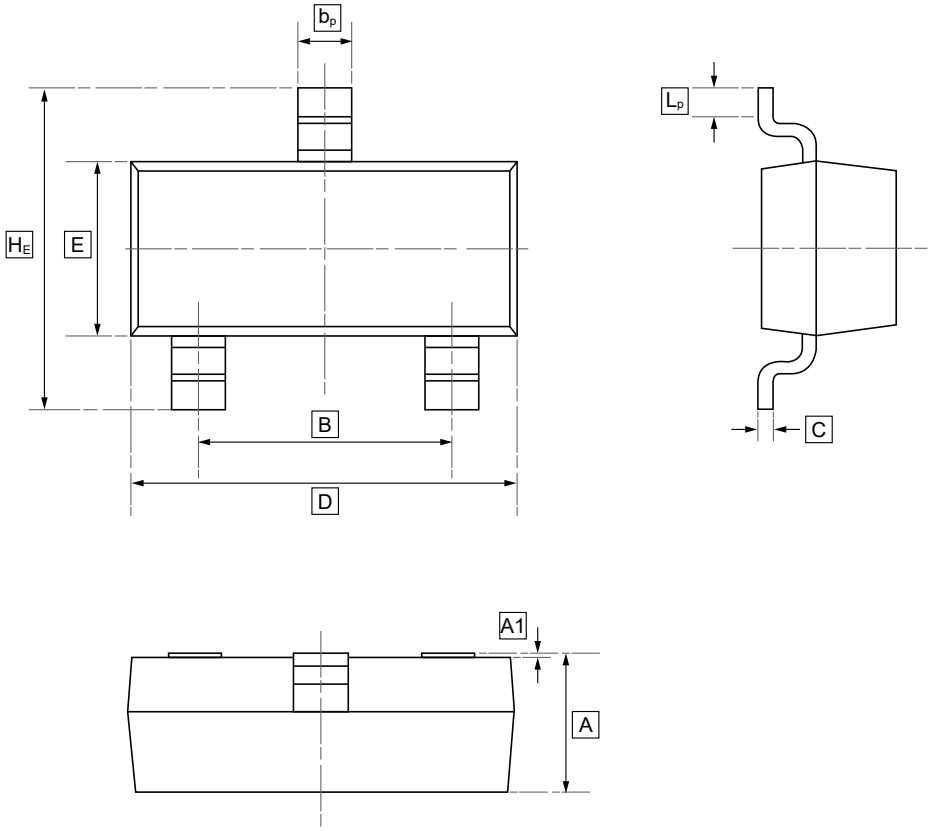
Figure 3: Pulse Waveform



I_{PP}, Peak Pulse Current(A)

Figure 4: Clamping Voltage vs.Ipp

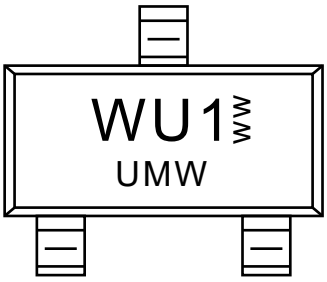
9.SOT-23 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	B	b_p	C	D	E	H_E	A1	L_p
Min	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20
Max	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50

10.Ordering information



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESD5V2S2UT	SOT-23	3000	Tape and reel

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