

1.Features

- Small Body Outline Dimensions:
0.063" x 0.032" (1.6x0.8 mm)
- Low Body Height: 0.024" (0.6 mm) Nom
- 100 Watts peak pulse power ($t_p = 8/20\mu s$)
- Protects one I/O or power line
- Replacement for MLV(0603)
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Solid-state silicon-avalanche technology

2.Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 players

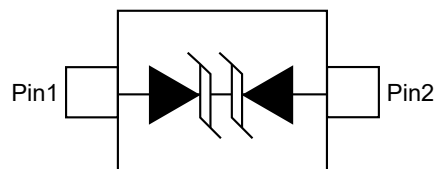
3.IEC COMPATIBILITY(EN61000-4)

- IEC 61000-4-2(ESD)+15kV(air)
+8kV(contact)
- IEC 61000-4-4 (EFT)40A(5/50ns)
- IEC 61000-4-5 (Lightning) 5.5A(8/20 μs)

4.Mechanical Characteristics

- JEDEC SOD-523 package
- Molding compound flammability rating:
UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA481
- RoHS/WEEE Compliant

5.Pinning information



SOD-523



6. Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

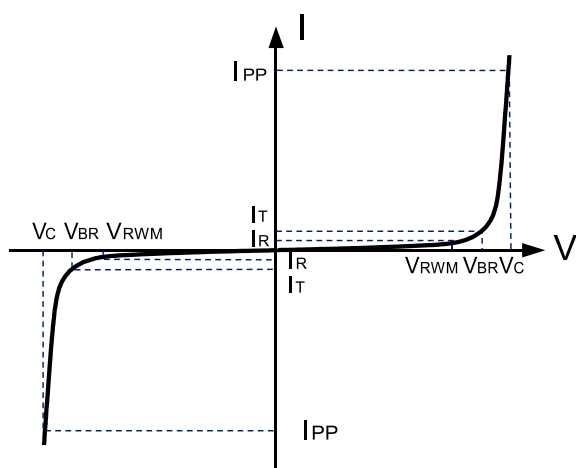
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	100	Watts
Maximum Peak Pulse Current ($t_p=8/20\mu\text{s}$)	V_{FP}	5.5	A
Junction Temperature	T_J	-55 to 125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^\circ\text{C}$



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$, $T=25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP}=5.5\text{A}$, $t_p=8/20\mu\text{s}$			15.5	V
Junction capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$		10		pF

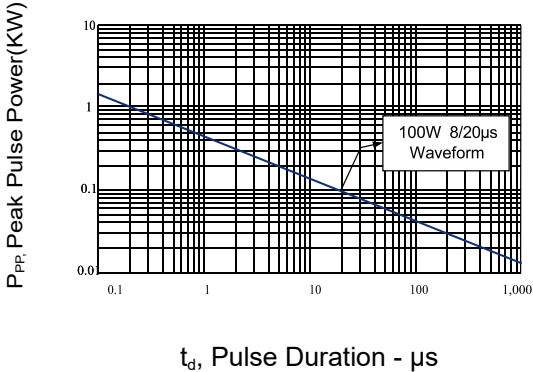
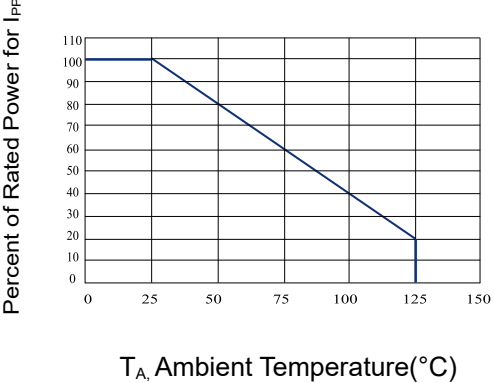
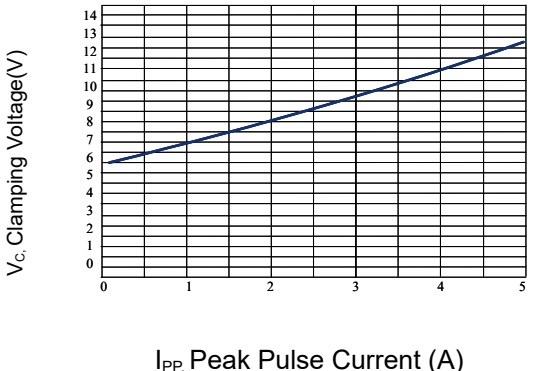
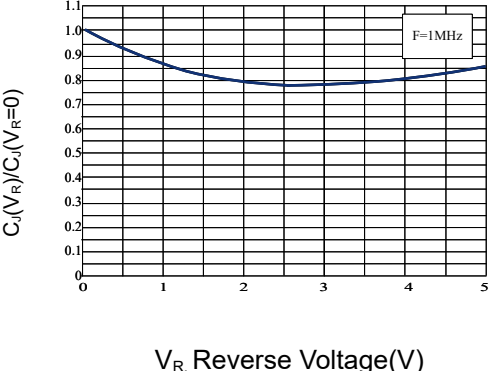
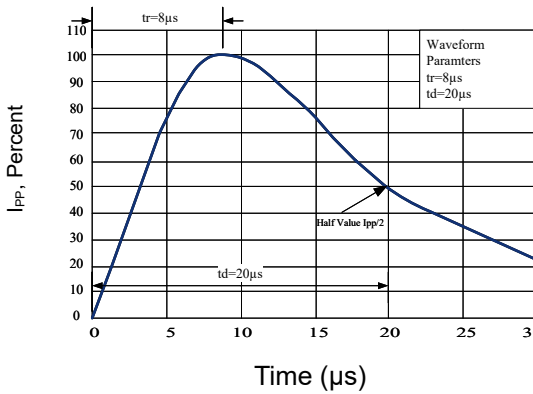
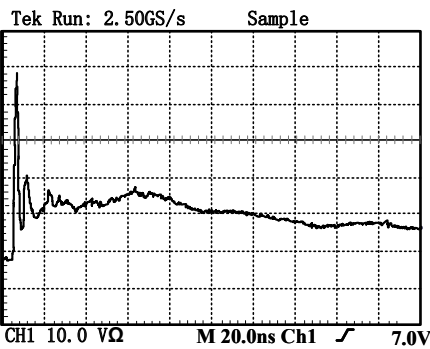
8. Electrical Parameters ($T=25^\circ\text{C}$)



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
I_F	Forward Current
V_F	Forward Voltage @ I_F

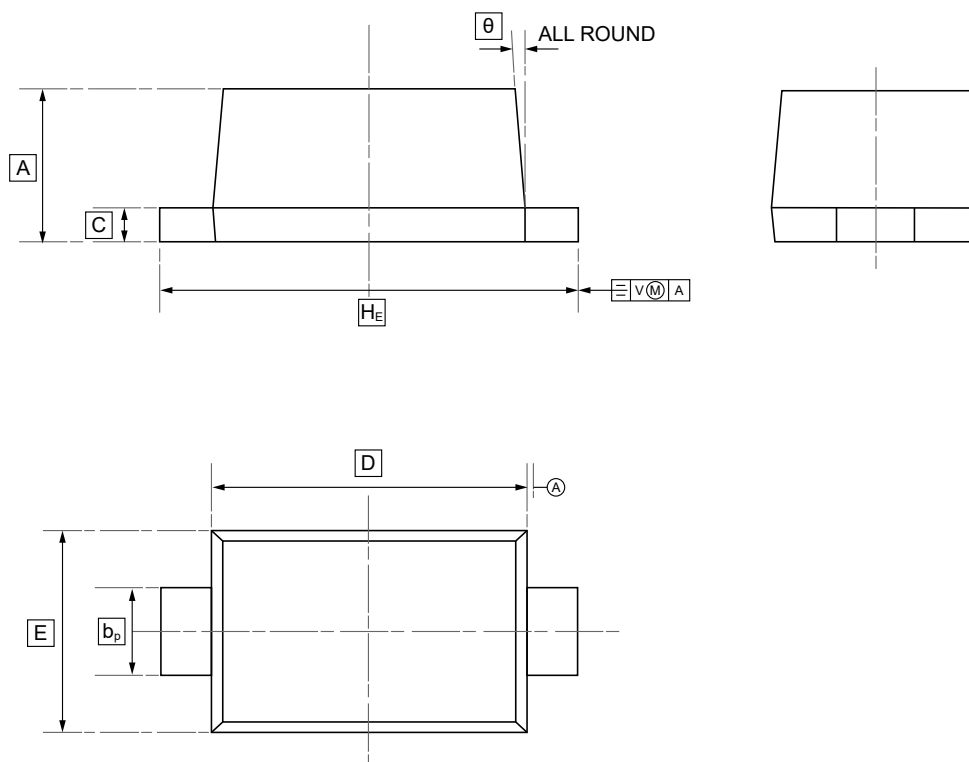


9. Typical characteristic

 P_{PP}, Peak Pulse Power(KW) t_d, Pulse Duration - μs	 Percent of Rated Power for I_{PP} T_A, Ambient Temperature($^{\circ}C$)
Figure 1: Peak Pulse Power vs. Pulse Time	Figure 2: Power Derating Curve
 V_C, Clamping Voltage(V) I_{PP}, Peak Pulse Current (A)	 $C_J(V_R)/C_J(V_R=0)$ V_R, Reverse Voltage(V)
Figure 3: Clamping Voltage vs. Peak Pulse Current Current	Figure 4: Normalized Junction Capacitance vs. Reverse Voltage
 I_{PP}, Percent Time (μs) Waveform Paramters $t_r=8\mu s$ $t_d=20\mu s$	 Tek Run: 2.50GS/s Sample CH1 10.0 VΩ M 20.0ns Ch1 7.0V
Figure 5: Pulse Waveform	Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



10.SOD-523 Package Outline Dimensions

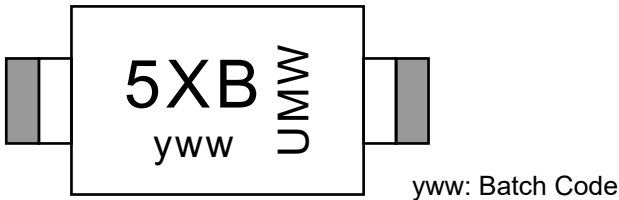


DIMENSIONS (mm are the original dimensions)

Symbol	A	b _p	C	D	E	H _E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	



11.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW BSD5C051V	SOD-523	3000	Tape and reel



12.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.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.