

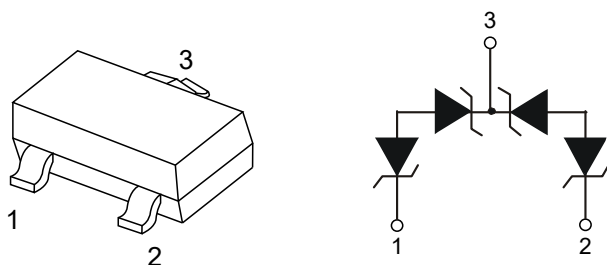
1.Features

- Air – $\pm 30\text{kV}$, Contact – $\pm 30\text{kV}$
- 2 Channels of Bi-Directional ESD Protection
- Low Channel Input Capacitance
- Typically Used in Cellular Handsets, Portable Electronics
- Communication Systems, Computers and Peripherals

2.Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, “Green” Molding Compound.
UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe
- (Lead Free Plating). Solderable per MIL-STD-202, Method 208

3.Pinning information



SOT-23

4.Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Symbol	Value	Units
Peak Pulse Power Dissipation	8/20 μs , Per in Fig. 1	P_{PP}	84	W
Peak Pulse Current	8/20 μs , Per in Fig. 1	I_{PP}	6	A
ESD Protection – Contact Discharge	Standard IEC 61000-4-2	$V_{ESD_Contact}$	± 30	kV
ESD Protection – Air Discharge	Standard IEC 61000-4-2	V_{ESD_Air}	± 30	kV



5. Thermal Characteristics

Parameter	Symbol	Value	Units
Package Power Dissipation (Note 5)	P_D	300	mW
Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	417	°C/W
Junction Temperature Range	T_J	-65 to 150	°C
Storage Temperature Range	T_{STG}	-65 to 150	°C

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

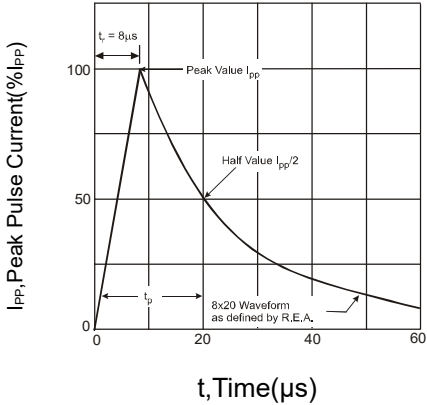
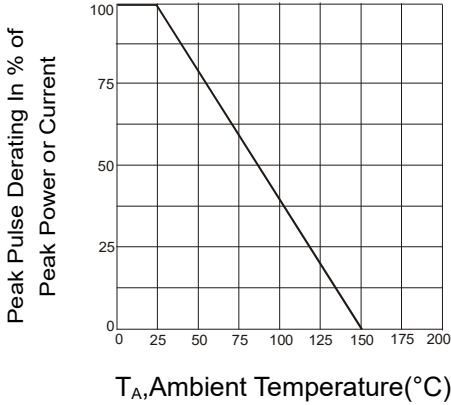
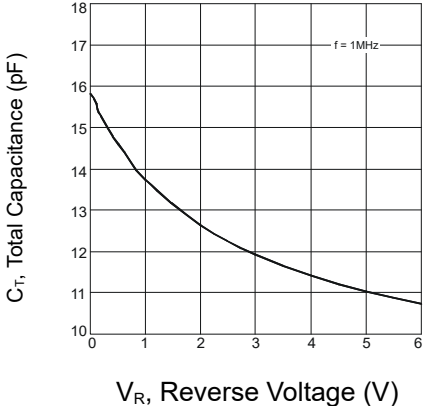
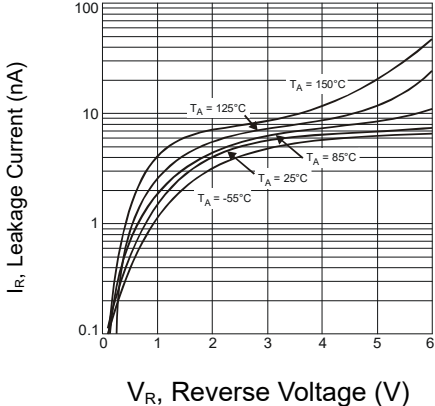
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_R=1\text{mA}$	6	7	8	V
Reverse Leakage Current (Note 6)	I_R	$V_{RWM}=5\text{V}$		10	100	nA
Clamping Voltage (Note 4)	V_{CL}	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$		7	9	V
		$I_{PP}=3\text{A}, t_p=8/20\mu\text{s}$		8.7	10.7	V
		$I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$		10.5	12	V
		$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$		11.5	14	V
Differential Resistance	R_{DIF}	$I_R=1\text{A}, t_p=8/20\mu\text{s}$		0.2		Ω
Channel Input Capacitance	C_T	$V_{IN}=0\text{V}, f=1\text{MHz}(\text{Channel to Pin 3})$		15	20	pF

Notes:

4. Measured from channel to pin 3; Non-repetitive current pulse per Fig. 1.
5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes.
6. Short duration pulse test used to minimize self-heating effect.

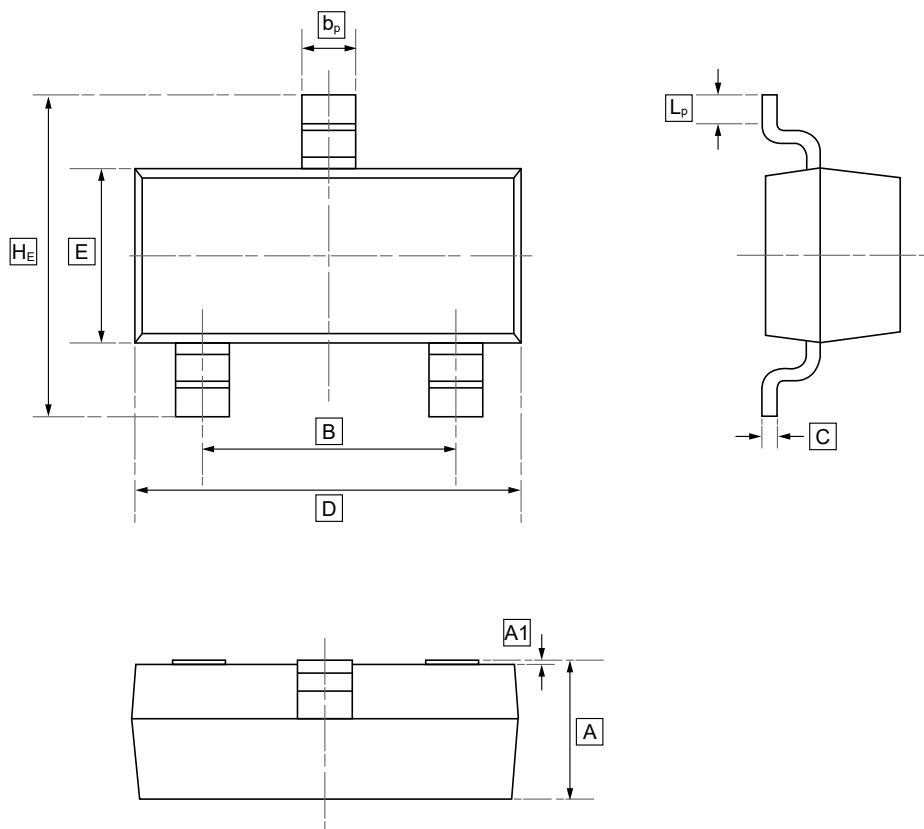


7. Typical characteristic

	
Figure 1: Typical 8 x 20µs Pulse Waveform	Figure 2: Pulse Derating Curve
	
Figure 3: Typical Total Capacitance vs. Reverse Voltage	Figure 4: Typical Reverse Characteristics



8.SOT-23 Package Outline Dimensions

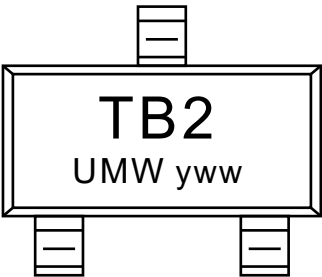


DIMENSIONS (mm are the original dimensions)

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



9.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW D5V0L2B3SO-7	SOT-23	3000	Tape and reel



10.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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