UMW D5V0L2B3SO-7

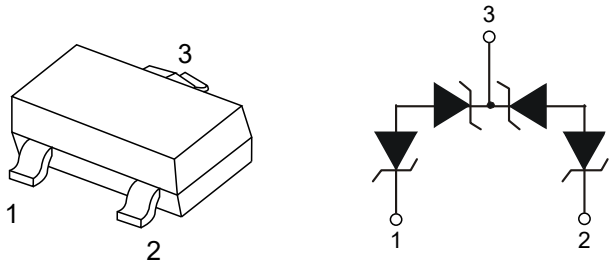
1.Features

- Air – ±30kV, Contact – ±30kV
- 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°C unless otherwise specified)

Parameter	Symbol	Symbol	Value	Units
Peak Pulse Power Dissipation	8/20μs, Per in Fig. 1	P_{PP}	84	W
Peak Pulse Current	8/20μs, 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°C unless otherwise noted)

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

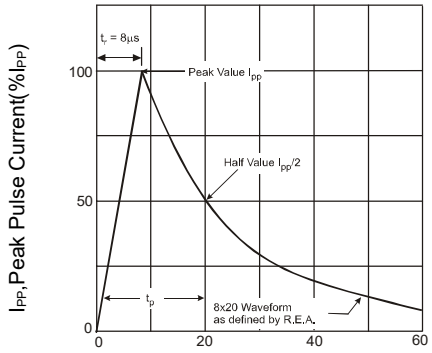
Notes:

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.

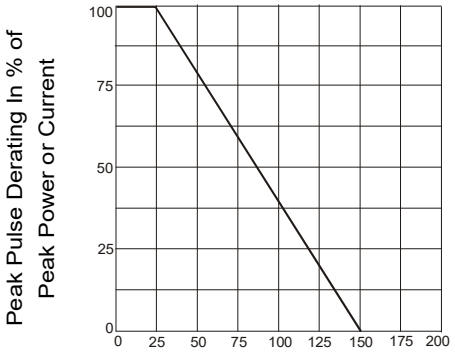
6. Short duration pulse test used to minimize self-heating effect.

7.Typical characteristic



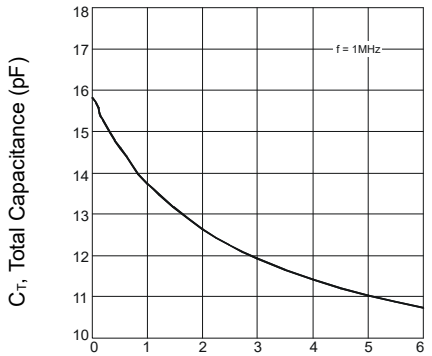
t,Time(μs)

Figure 1: Typical 8 x 20μs Pulse Waveform



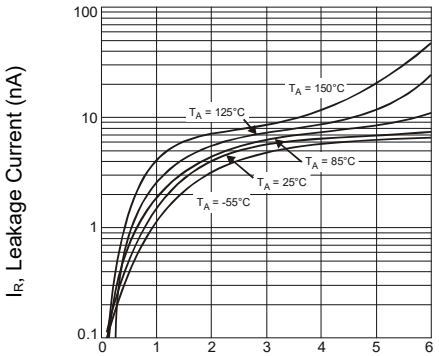
T_A,Ambient Temperature(°C)

Figure 2: Pulse Derating Curve



V_R, Reverse Voltage (V)

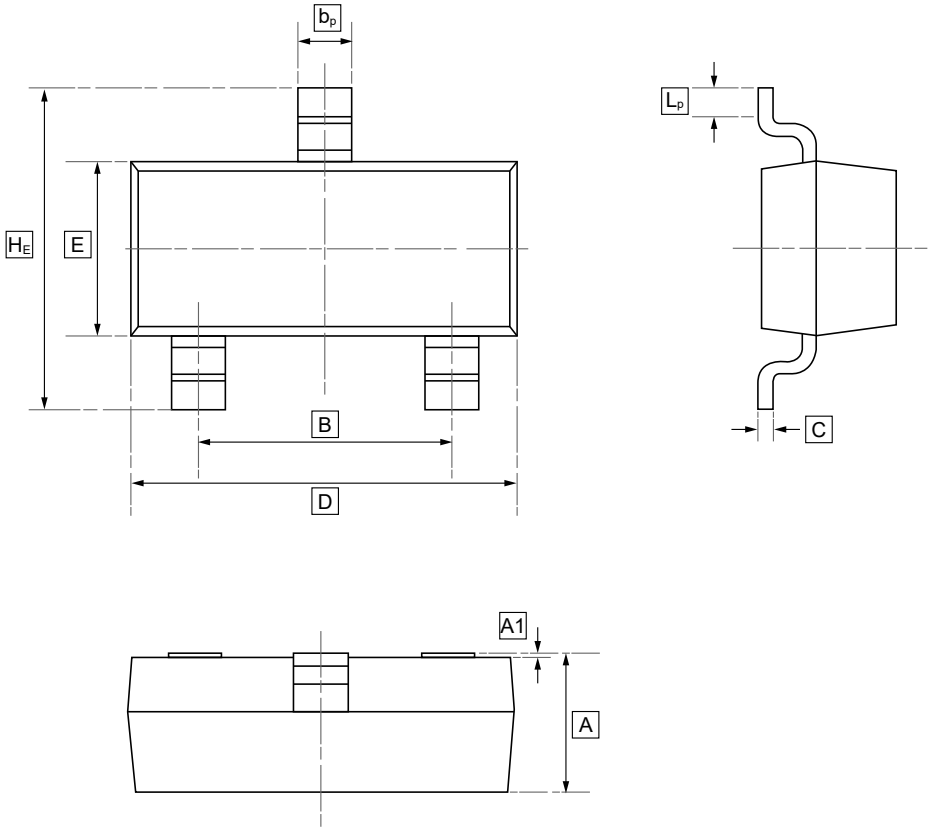
Figure 3: Typical Total Capacitance vs. Reverse Voltage



V_R, Reverse Voltage (V)

Figure 4: Typical Reverse Characteristics

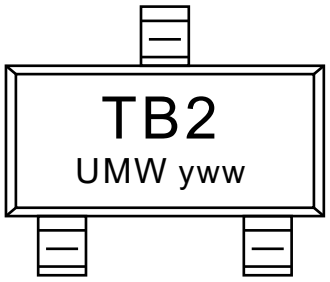
8.SOT-23 Package Outline Dimensions



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



yww: Batch Code

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

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