

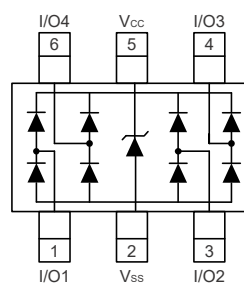
1.Features

- TLP Dynamic Resistance: 0.25Ω
- Low Channel Input Capacitance of 0.65pF Typical
- Typically Used for High Speed Ports such as USB 2.0,
- IEEE1394, HDMI, Laptop and Personal Computers, Flat
- Panel Displays, Video Graphics Displays
- SIM Po
- Low Clamping Voltage, I/O to VSS
- Typical 9V at 10A 100ns, TLP
- Typical 7.7V at 6A 8μs/20μs
- IEC 61000-4-4 (EFT): Level-4
- IEC 61000-4-5 (Lightning): ±6A
- 4 Channels of ESD protection
- IEC 61000-4-2 (ESD): Air – +27/-19kV
Contact – ±16kV

2.Mechanical Data

- Case Material: Molded Plastic, “Green”
Molding Compound
- Weight: 0.016 grams (approximate)
- Terminals: Matte Tin Finish annealed
over Copper leadframe

3.Pinning information



SOT23-6



4. Thermal resistance rating

Parameter	Symbol	Value	Units
Power Dissipation Typical (Note 5)	P_D	300	mW
Thermal Resistance, Junction to Ambient Typical (Note 5)	$R_{\theta JA}$	417	°C/W

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

Parameter	Symbol	Value	Units	Conditions
Peak Pulse Current, per IEC 61000-4-5	$I_{pp_I/O}$	± 6	A	I/O to V_{SS} , 8/20 μs
Peak Pulse Power, per IEC 61000-4-5	$P_{pp_I/O}$	55	W	I/O to V_{SS} , 8/20 μs
Operating Voltage (DC)	V_{DC}	5.5	V	I/O to V_{SS}
ESD Protection-Contact Discharge, per IEC 61000-4-2	$V_{ESD_I/O}$	± 16	kV	I/O to V_{SS}
ESD Protection-Air Discharge, per IEC 61000-4-2	$V_{ESD_I/O}$	+27/-19	kV	I/O to V_{SS}
Junction Temperature	T_{OP}	-55 to 85	°C	
Storage Temperature	T_{STG}	-55 to 150	°C	



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

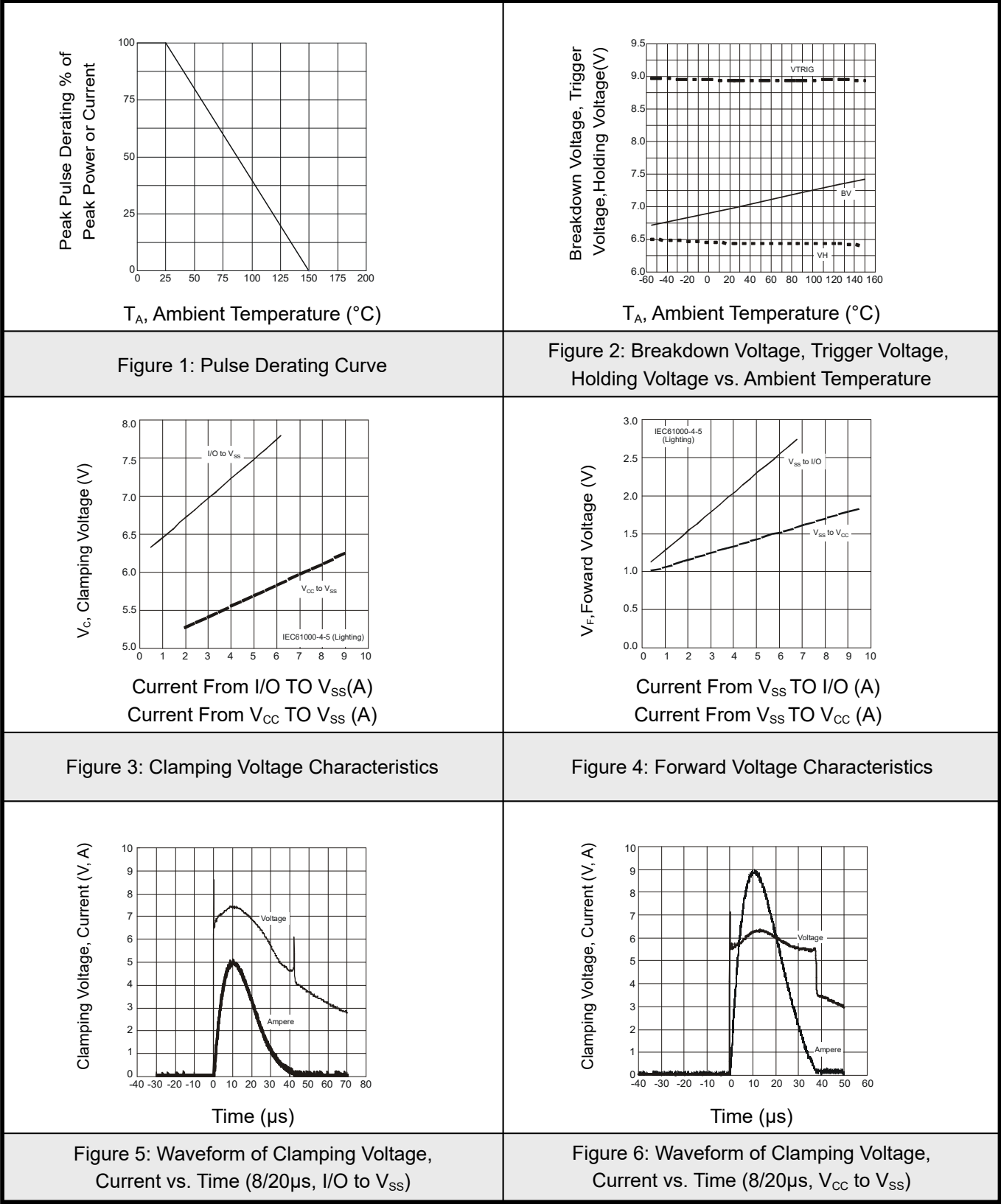
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}	V_{CC} to V_{SS}			5	V
Reverse Current (Note 6)	$I_{RR}(V_{CC} \text{ to } V_{SS})$	$V_R=V_{RWM}=5\text{V}$, V_{CC} to V_{SS}			1	μA
Reverse Current (Note 6)	$I_{R(I/O \text{ to } V_{SS})}$	$V_R=V_{RWM}=5\text{V}$, any I/O to V_{SS}			0.5	μA
Reverse Breakdown Voltage	V_{BR}	$I_R=1\text{mA}$, V_{CC} to V_{SS}	6.2			V
Forward Clamping Voltage	V_F	$I_{PP}=9\text{A}$, V_{CC} to V_{SS} , 8/20 μs	-1	-0.8		V
Reverse Clamping Voltage (Note 7)	V_{C_VCC}	$I_{PP}=6\text{A}$, I/O to V_{SS} , 8/20 μs		6.3		V
	$V_{C_I/O}$	TLP, 10A, $t_p=100\text{ns}$, V_{CC} to V_{SS} , per Fig. 8		7.7	9	V
ESD Clamping Voltage	V_{ESD_VCC}	TLP, 10A, $t_p=100\text{ns}$, I/O to V_{SS} , per Fig. 8		6.8		V
	$V_{ESD_I/O}$	TLP, 10A, $t_p=100\text{ns}$, V_{CC} to V_{SS}		9		V
Dynamic Resistance	R_{DIF_VCC}	TLP, 10A, $t_p=100\text{ns}$, I/O to V_{SS}		0.1		Ω
	$R_{DIF_I/O}$	$V_R=2.5\text{V}$, $V_{CC}=5\text{V}$, $f=1\text{MHz}$		0.25		Ω
Channel Input Capacitance	$C_{I/O \text{ to } V_{SS}}$	$V_{CC}=5\text{V}$, $V_{SS}=5\text{V}$, I/O=2.5V, $f=1\text{MHz}$		0.65	0.8	pF
Variation of Channel Input Capacitance	$\Delta C_{I/O}$	$T=+25^\circ\text{C}$, I/O_x to V_{SS} – I/O_y to V_{SS}		0.02		pF

Notes:

1. Device mounted on Polyimide PCB pad layout.
2. Short duration pulse test used to minimize self-heating effect.
3. Clamping voltage value is based on an 8x20 μs peak pulse current (I_{PP}) waveform.

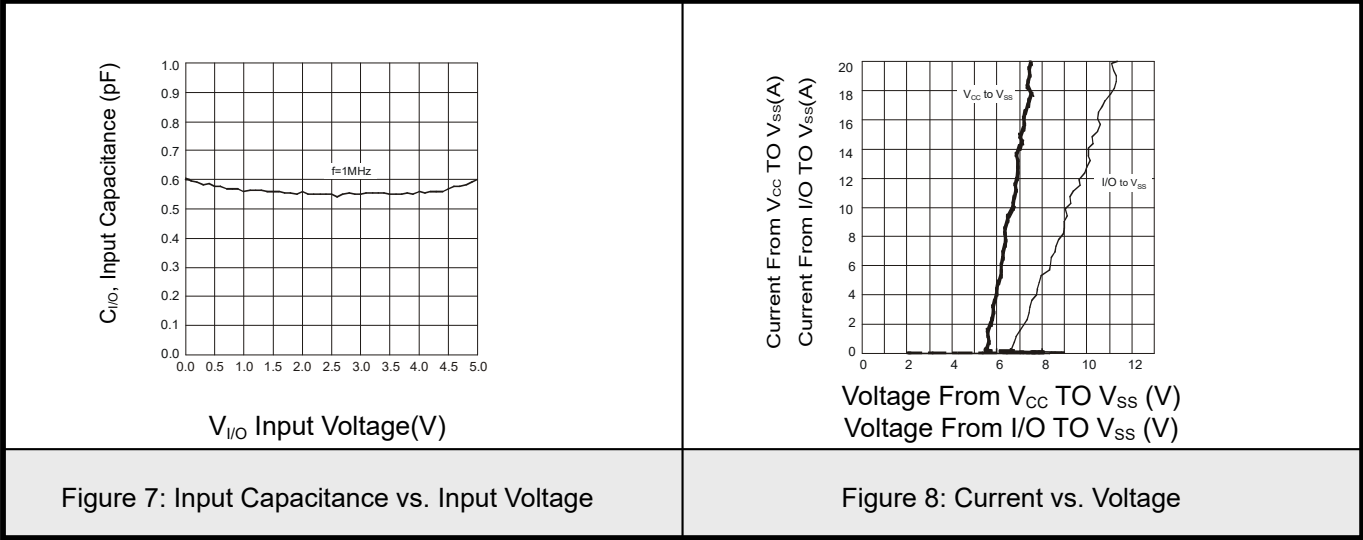


7.1Typical characteristic



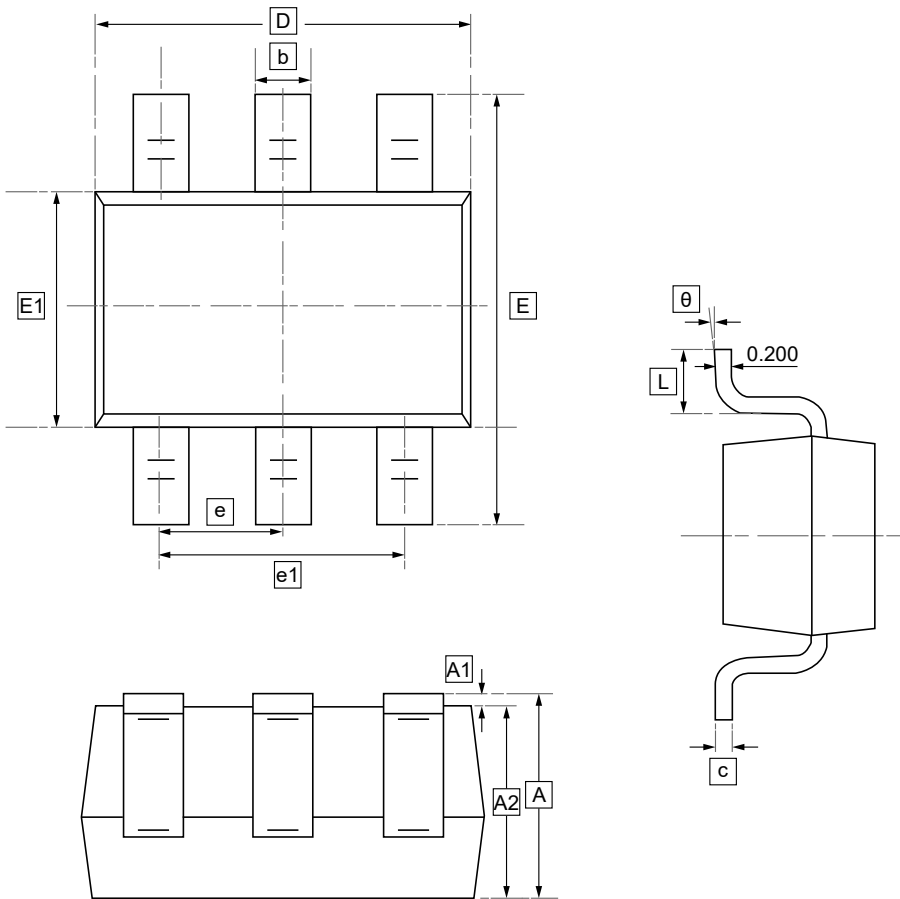


7.2Typical characteristic





8.SOT-23-6 Package Outline Dimensions

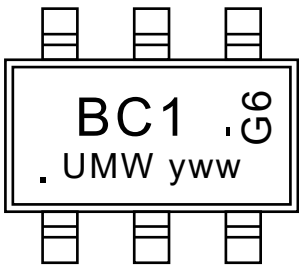


DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	c	D	E1	E	e	e1	L	θ
Min	1.050	0.000	1.050	0.300	0.100	2.820	1.500	2.650	0.950	1.800	0.300	0°
Max	1.250	0.100	1.150	0.500	0.200	3.020	1.700	2.950	BSC	2.000	0.600	8°



9.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW DT1042-04SO-7	SOT23-6	3000	Tape and reel



10.Disclaimer

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