

1.Features

- Ultra low capacitance: 0.3pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- ROHS Compliant
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) : 4.7A(8/20 μs)

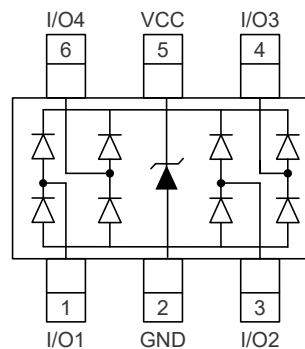
2.Applications

- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital video interface(DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- IEEE 1394 firewire ports
- Consumer products (STB, DVD, DSC, DVC...)

3.Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

4.Pinning information



SOT23-6



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

Parameter	Symbol	Maximum	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$) ($V_{CC}-GND$)	P_{pp}	300	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	4.7	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 20	kV
Junction Temperature Range	T_J	-55 to 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$

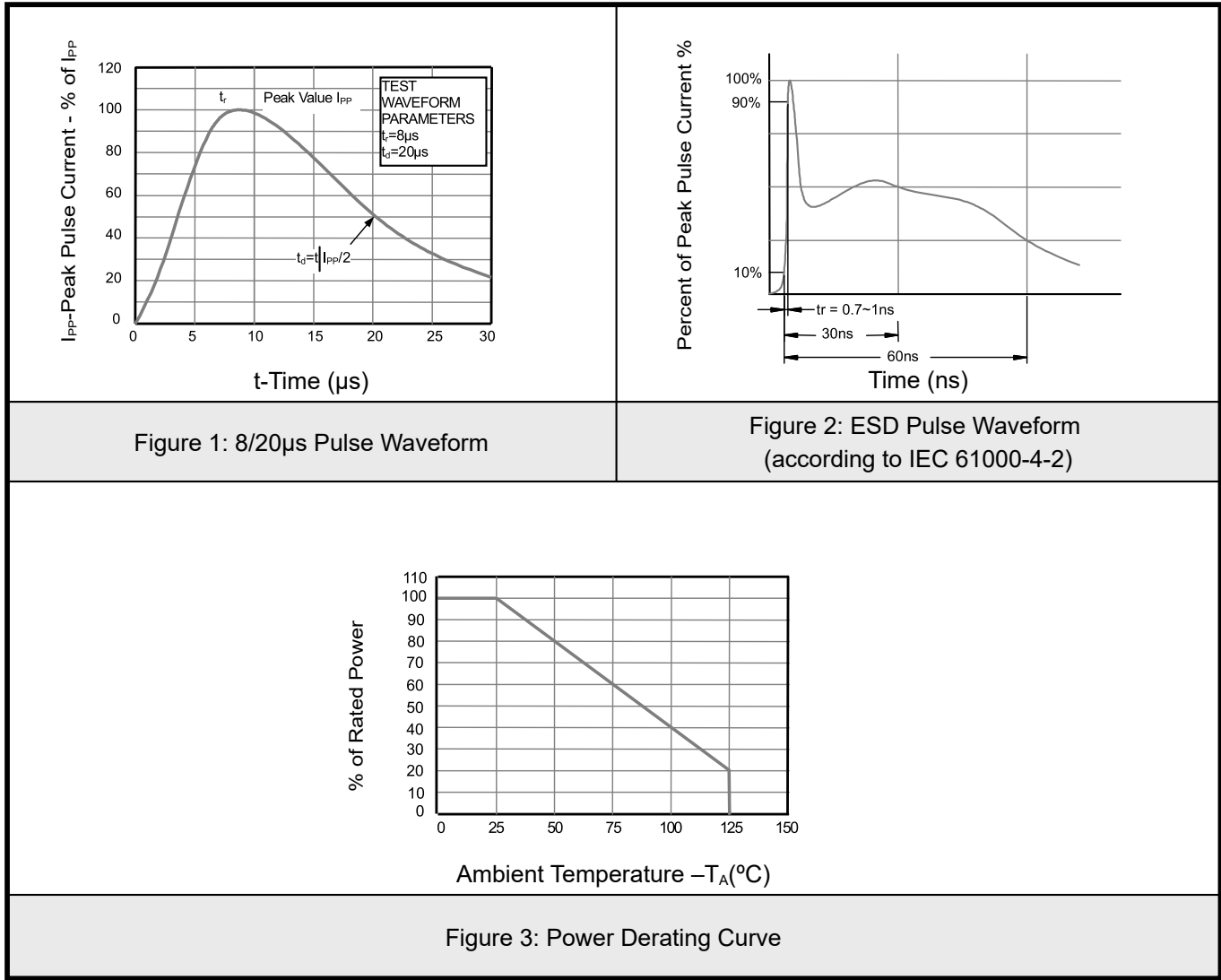


6. Electrical Characteristic ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground			5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, any I/O pin to ground	6			V
Reverse leakage current	I_R	$V_{RWM}=5\text{V}$, any I/O pin to ground			0.08	μA
Clamping voltage (8 x 20 μs pulse)	V_C	$I_{PP}=3\text{A}$, any I/O pin to ground			11	V
Clamping voltage (8 x 20 μs pulse)	V_C	$I_{PP}=4.7\text{A}$, any I/O pin to ground			15	V
Junction capacitance	C_J	$I_{PP}=17\text{A}$ (8 x 20 μs pulse) VCC to ground			18	V
	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$, between I/O pins		0.3	0.4	pF
	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$, any I/O pin to ground			0.8	pF

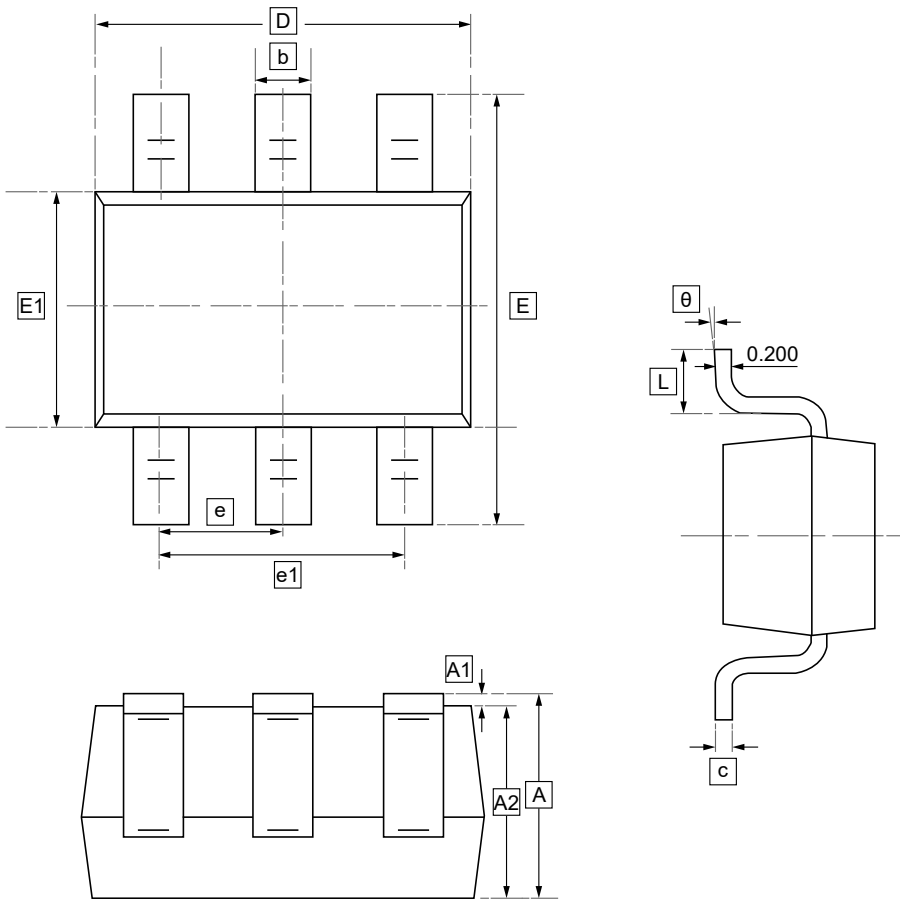


7. Typical characteristic





8.SOT-23-6 Package Outline Dimensions

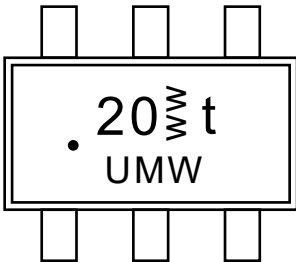


DIMENSIONS (mm are the original dimensions)

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



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW IP4220CZ6	SOT23-6	3000	Tape and reel



10.Disclaimer

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