UMW CM1213A-04SO

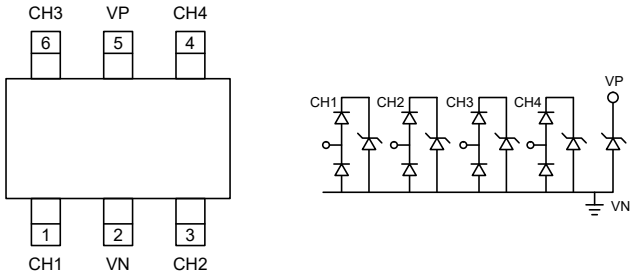
1.Features

- Ultra low capacitance: 0.35 pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5.5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±25kV
  Contact discharge: ±25kV
- – IEC61000-4-4 (EFT) 40A (5/50ns)

2.Applications

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

3.Pinning information



SOT23-6

4.Absolute Maximum Ratings T_A= 25°C

Parameter	Symbol	Maximum	Units
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±25	kV
ESD per IEC 61000−4−2 (Contact)		±25	kV
Junction Temperature Range	T_J	-55 to 125	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

5.Electrical Characteristic (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage (VP-VN)	V_{RWM}	Any I/O pin to ground		3.3	5.5	V
Breakdown Voltage	V_{BR}	I_T=1mA, any I/O pin to ground	6			V
Reverse leakage current	I_R	V_{RWM}=5V, any I/O pin to ground			0.3	μA
Clamping voltage (8 x 20μs pulse)	V_C	I_{PP}=3A, any I/O pin to ground			20	V
Junction capacitance	C_J	V_R=0V, f=1MHz, between I/O pins		0.35	0.4	pF
	C_J	V_R=0V, f=1MHz, any I/O pin to ground			0.8	pF

Notes 1: I/O pins are Pin 1, 3, 4 and 6.

6.Typical characteristic

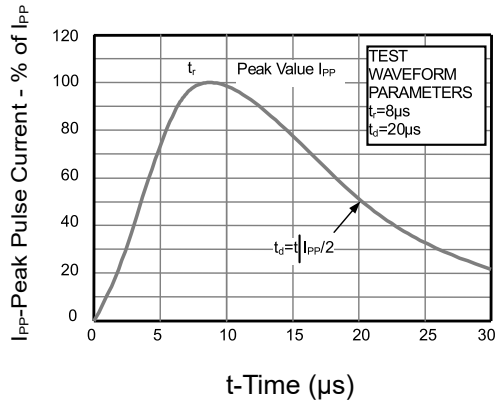


Figure 1: 8/20μs Pulse Waveform

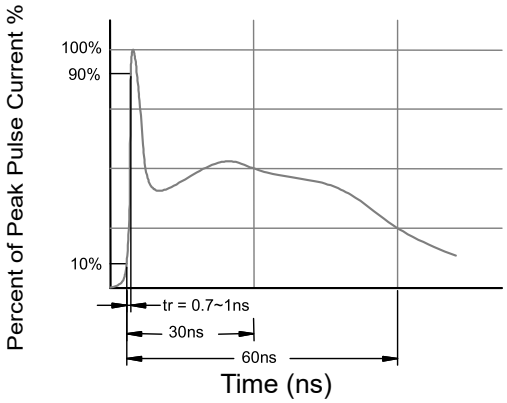


Figure 2: ESD Pulse Waveform
(according to IEC 61000-4-2)

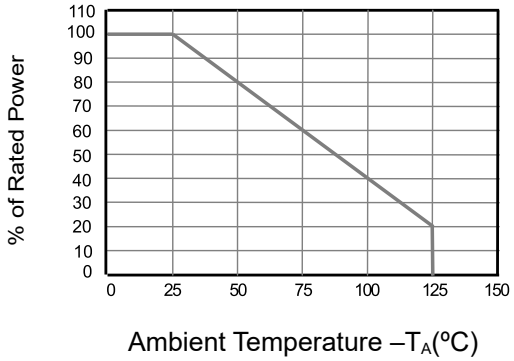
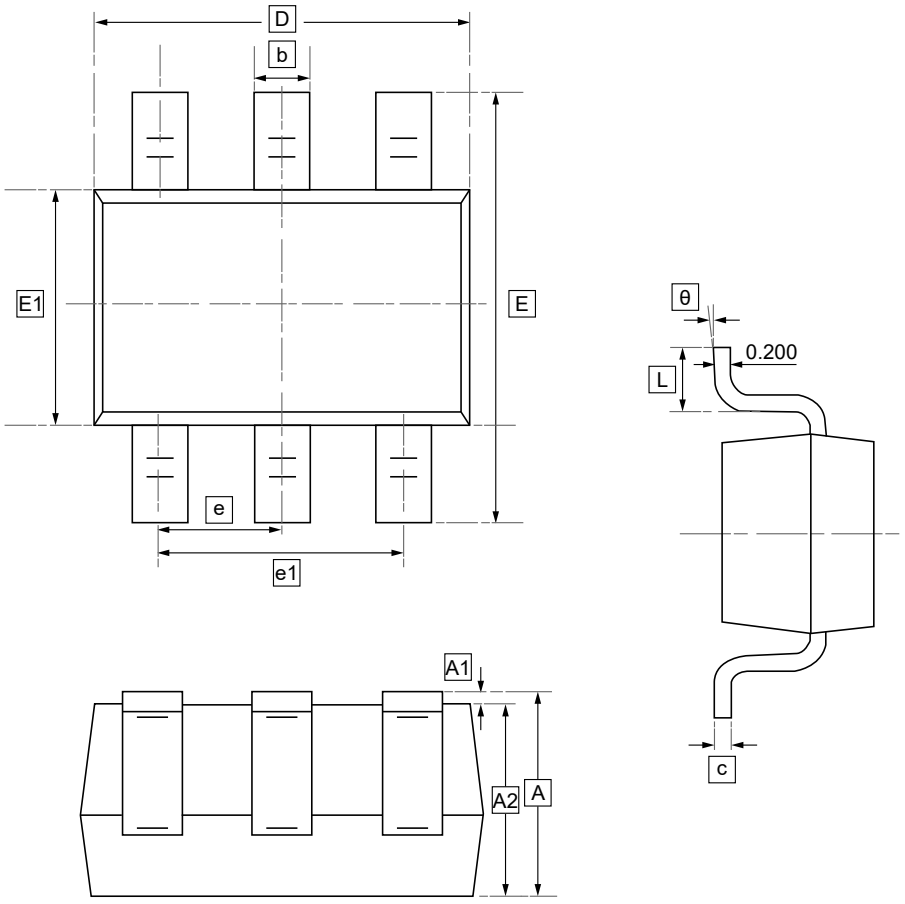


Figure 3: Power Derating Curve

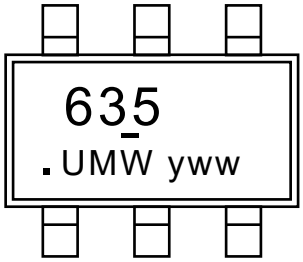
7.SOT-23-6 Package Outline Dimensions



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°

8.Ordering information



yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW CM1293A-04SO	SOT23-6	3000	Tape and reel

9.Disclaimer

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