

1.Description

This device has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and lightning.

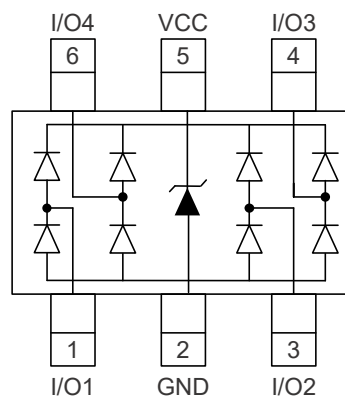
2.Features

- Protects four I/O lines and one Vcc line
- Low capacitance
- Working voltages : 5V
- Low leakage current
- Low capacitance for high-speed interfaces
- No insertion loss to 2.0GHz
- Response Time is < 1 n

3.Applications

- Digital Visual Interface (DVI)
- USB 1.1/2.0/OTG
- IEEE 1394 Firewire Ports
- Notebooks & Handhelds
- Projection TV & Monitors
- Set-top box
- Flat Panel Displays
- PCI Express

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}	150	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	5	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	kV
Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$



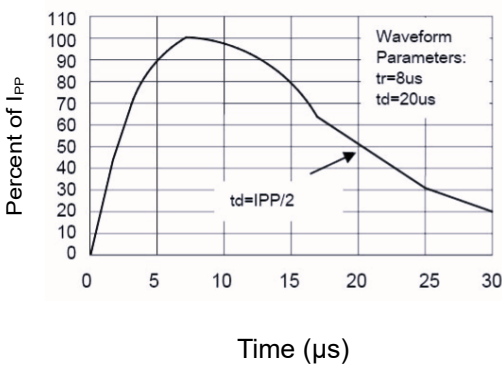
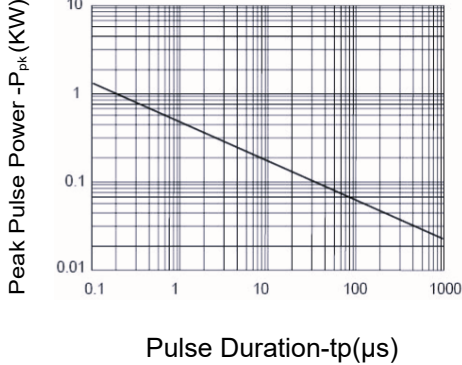
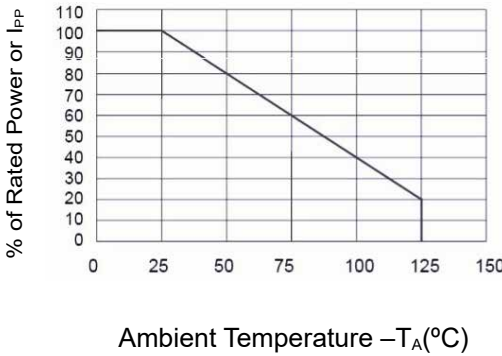
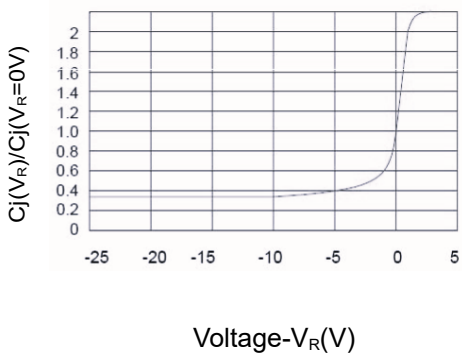
6. Electrical Characteristic ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}	Any I/O pin to GND			5	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$, Any I/O pin to GND	6			V
Reverse leakage current	I_R	$V_{RWM}=5\text{V}$, Any I/O pin to GND			1	μA
Diode Forward Voltage	V_F	$I_F=15\text{mA}$			1.2	V
Clamping Voltage 1	V_{C1}	$I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$ any I/O pin to GND			15	V
Clamping Voltage 2	V_{C2}	$I_{PP}=5\text{A}$, $t_P=8/20\mu\text{s}$ any I/O pin to GND			28	V
Junction Capacitance 1	C_{J1}	$V_R=0\text{V}$, $f=1\text{MHz}$ Between I/O pins			0.4	pF
Junction Capacitance 2	C_{J2}	$V_R=0\text{V}$, $f=1\text{MHz}$ Any I/O pin to GND			0.8	pF

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

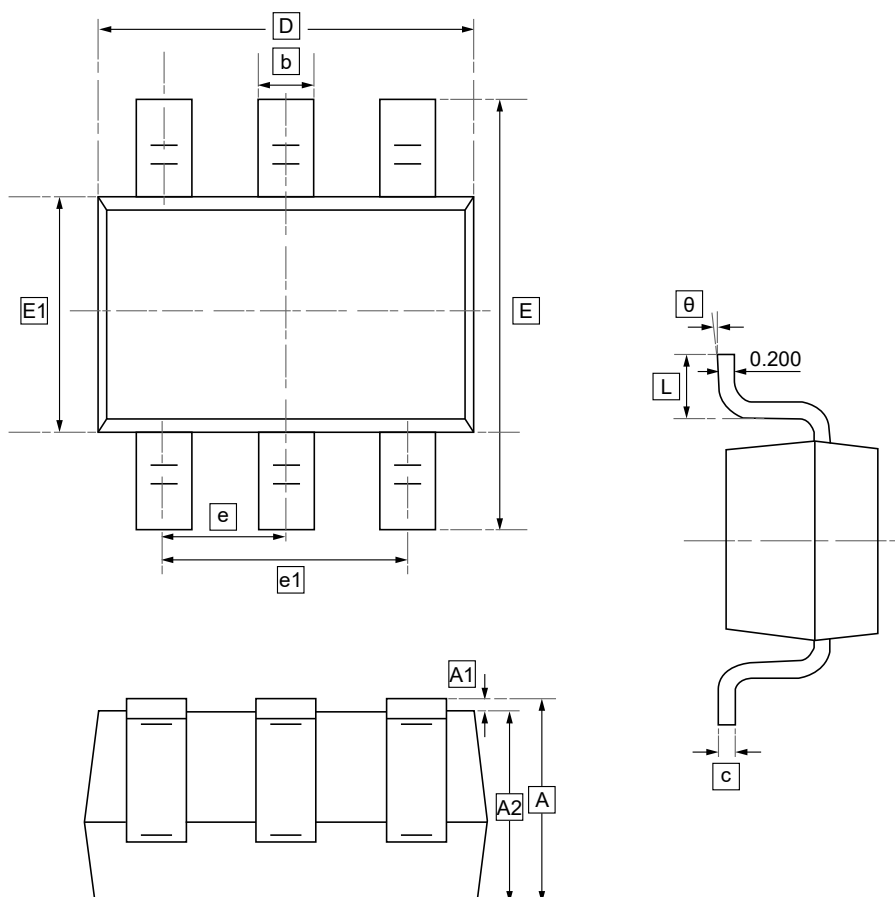


7. Typical characteristic

	
Figure 1: Pulse Waveform	Figure 2: Non-Repetitive Peak Pulse Power vs. Pulse Time
	
Figure 3: Power Derating Curve	Figure 4: Junction Capacitance vs. Reverse Voltage



8.SOT-23-6 Package Outline Dimensions

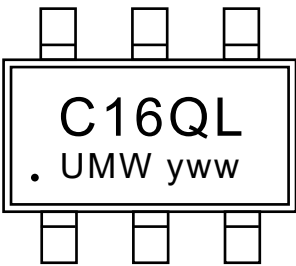


DIMENSIONS (mm are the original dimensions)

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 AZC199-04S	SOT23-6	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.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.