

1.Description

AZC199-02S is a design which includes ESD rated diode arrays to protect high speed data interfaces. The AZC199-02S has been specifically designed to protect sensitive components which are connected to data and transmission lines from over-voltage caused by Electrostatic Discharging (ESD).

3.Features

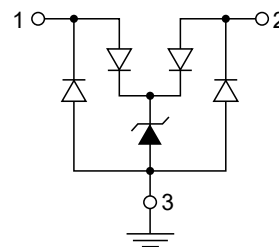
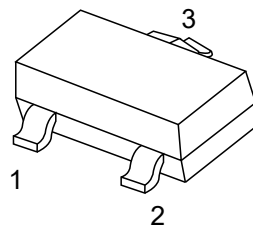
- ESD Protect for 2 high-speed I/O lines
- Provide ESD protection for each line to IEC 61000-4-2,(ESD) (contact/air) $\pm 16\text{kV}$
IEC 61000-4-4 (EFT) Level-3, 55A (5/50ns)
IEC 61000-4-5 (Lightning) 5A (8/20 μs)
- For low operating voltage applications: 5V, 4.2V, 3.3V, 2.5V etc.

2.Applications

- Video Graphics Cards
- Digital Visual Interface (DVI)
- USB2.0 Power and Data lines protection
- Notebook and PC Computers
- Monitors and Flat Panel Displays

- Low capacitance : 1.6pF typical
- Fast turn-on and Low clamping voltage
- Array of ESD rated diodes with internal equivalent TVS diode
- Solid-state silicon-avalanche and active circuit triggering technology
- Green part

4.Pinning information



SOT-23



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

Parameter	Symbol	Rating	Units
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	5	A
Operating Supply Voltage	V_{DC}	6	V
ESD per IEC 61000-4-2 (Air/Contact)	V_{ESD}	± 16	kV
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	$^\circ\text{C}$
Junction Temperature	T_{OP}	-55 to 85	$^\circ\text{C}$
Storage Temperature	T_{STO}	-55 to 150	$^\circ\text{C}$
DC Voltage at any I/O pin	V_{IO}	(GND – 0.5) to 5.5	V

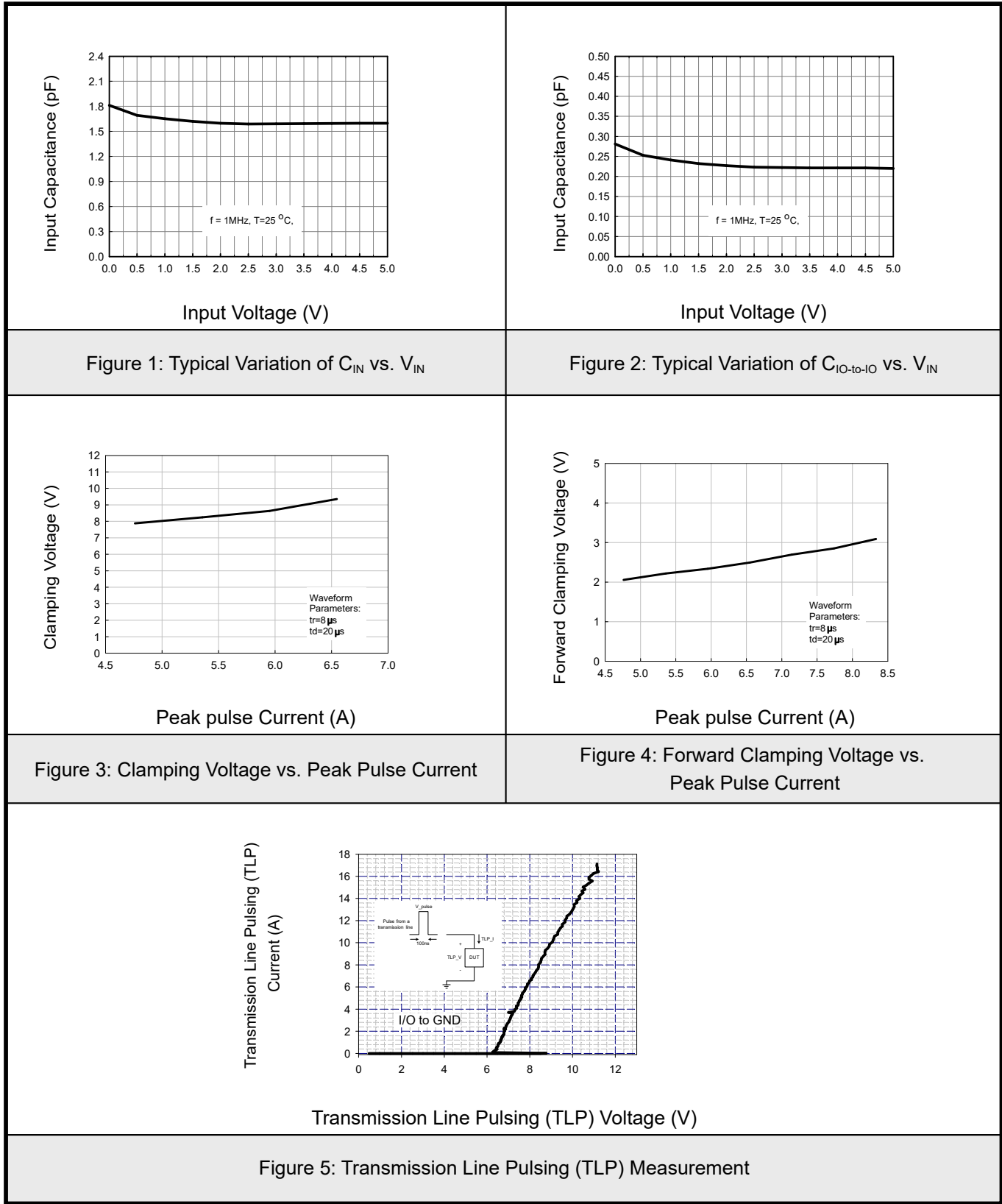


6. Electrical Characteristic ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 1/2 to Pin3, $T=25^\circ\text{C}$			5	V
Leakage Current	I_{Leak}	$V_{pin1 \text{ or } pin2}=5\text{V}$, $V_{Pin3}=0\text{V}$, $T=25^\circ\text{C}$			1	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV}=1\text{mA}$, $T=25^\circ\text{C}$, Pin 1/2 to Pin 3	7		10	V
Forward Voltage	V_F	$I_F=15\text{mA}$, $T=25^\circ\text{C}$, Pin 3 to Pin1/2		0.85	1.1	V
ESD Clamping Voltage	V_{clamp}	IEC 61000-4-2 +6kV, $T=25^\circ\text{C}$ Contact mode, Pin 1/2 to Pin 3		11		V
ESD Dynamic Turn on Resistance	$R_{dynamic}$	IEC 61000-4-2 0~+6kV, $T=25^\circ\text{C}$ Contact mode, Pin 1/2 to Pin 3		0.3		Ω
Lightning Clamping Voltage	$V_{lightning}$	$I_{pp}=5\text{A}$, $t_p=8/20\mu\text{s}$, $T=25^\circ\text{C}$ Pin 1/2 to Pin 3		8.5		V
Channel Input Capacitance	C_{IN}	$V_{pin3}=0\text{V}$, $V_{pin1 \text{ or } 2}=2.5\text{V}$, $f=1\text{MHz}$, $T=25^\circ\text{C}$ Pin 1/2 to Pin 3		1.6	1.9	pF
Channel to Channel Input Capacitance	C_{CROSS}	$V_{pin3}=0\text{V}$, $V_{pin1 \text{ or } 2}=2.5\text{V}$, $f=1\text{MHz}$, $T=25^\circ\text{C}$ Between Pin 1 and Pin 2		0.23	0.28	pF
Variation of Channel Input Capacitance	ΔC_{IN}	$V_{pin3}=0\text{V}$, $V_{pin1 \text{ or } 2}=2.5\text{V}$, $f=1\text{MHz}$, $T=25^\circ\text{C}$ (Pin 1 to Pin 3)–(Pin 2 to Pin 3)		0.06	0.08	pF

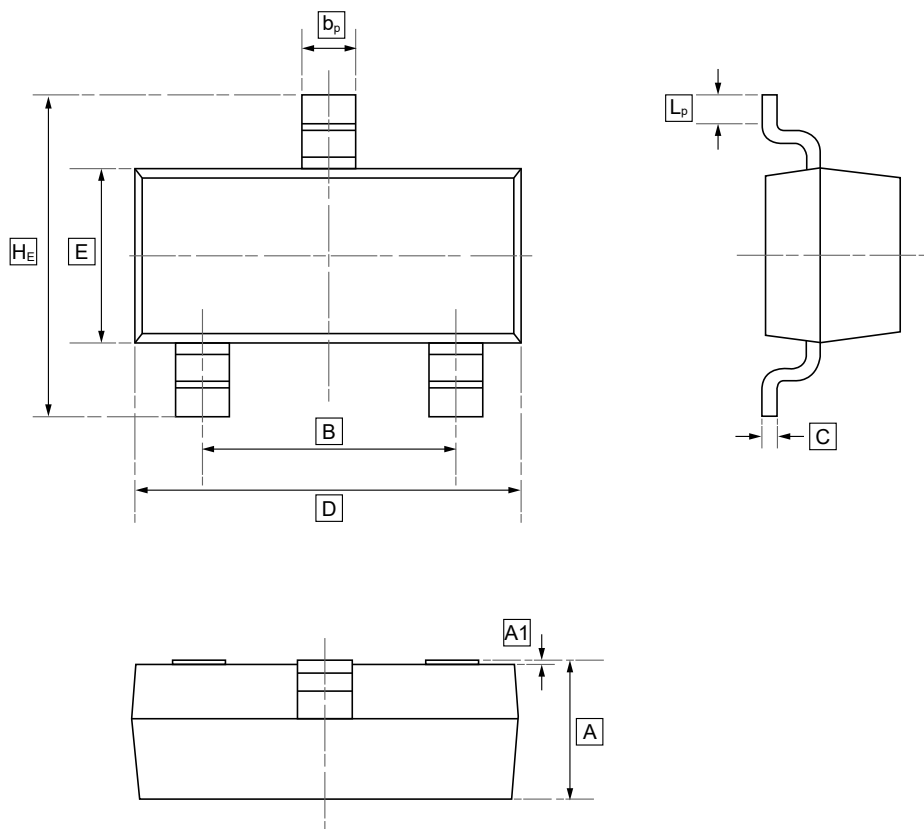


7. Typical characteristic





8.SOT-23 Package Outline Dimensions

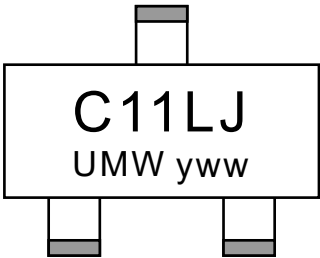


DIMENSIONS (mm are the original dimensions)

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 AZC199-02S	SOT-23	3000	Tape and reel



10.Disclaimer

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