

Ultra Low Capacitance ESD Protection Array

DESCRIPTION

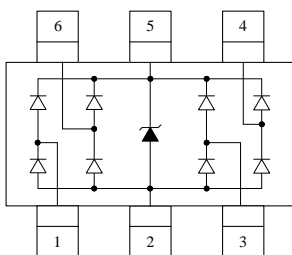
The AZC199-04 has a low capacitance of 0.4pF maximum and operates with virtually no insertion loss to 1GHz. This makes the device ideal for protection of high-speed data lines such as USB 2.0, Firewire, DVI, and gigabit Ethernet interfaces. The low capacitance array configuration allows the user to protect four high-speed data or transmission lines. The low inductance construction minimizes voltage overshoot during high current surges. They may be used to meet the ESD immunity requirements of IEC61000-4-2, Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).

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.

ORDERING INFORMATION

- ✧ Device: AZC199-04
- ✧ Package: SOT-23-6L
- ✧ Marking: V05
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

PIN CONFIGURATION



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 ns
- ✧ Solid-state silicon avalanche technology
- ✧ ROHS compliant

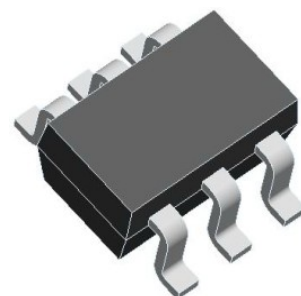
MACHANICAL DATA

- ✧ SOT-23-6L package
- ✧ Flammability Rating: UL 94V-0
- ✧ Terminal: Matte tin plated.
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$
- ✧ Reel size: 7 inch

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

PACKAGE OUTLINE

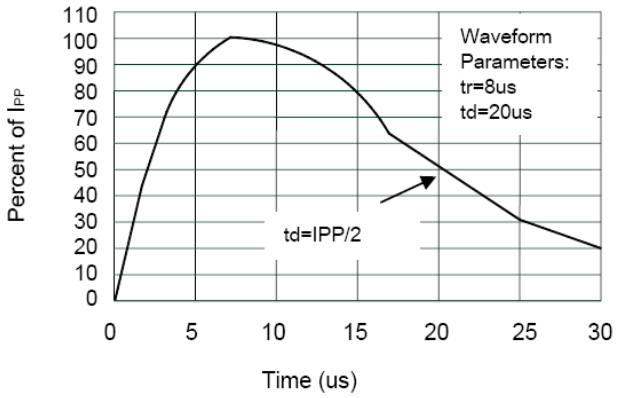


ABSOLUTE MAXIMUM RATING			
Symbol	Parameter	Value	Units
P_{Pk}	Peak Pulse Power (8/20 μ s)	150	W
I_{PP}	Peak Pulse Current (8/20 μ s)	5	A
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 15 ± 8	kV
T_{OPT}	Operating Temperature	-55/+150	$^{\circ}$ C
T_{STG}	Storage Temperature	-55/+150	$^{\circ}$ C

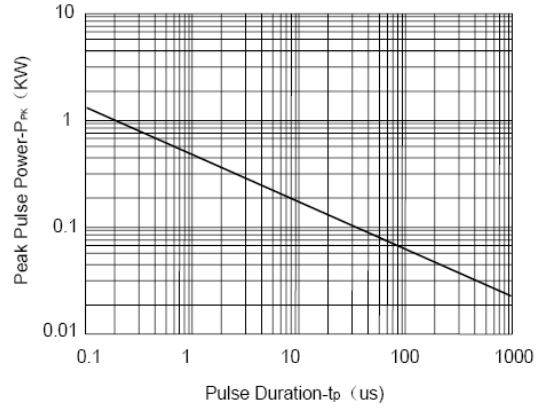
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}$ C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$ Any I/O pin to GND	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$ Any I/O pin to GND			1	μ A
V_F	Diode Forward Voltage	$I_F = 15mA$			1.2	V
V_{C1}	Clamping Voltage 1	$I_{PP} = 1A, t_p = 8/20\mu s$ Any I/O pin to GND			15	V
V_{C2}	Clamping Voltage 2	$I_{PP} = 5A, t_p = 8/20\mu s$ Any I/O pin to GND			28	V
C_{J1}	Junction Capacitance 1	$V_R = 0V, f = 1MHz$ Between I/O pins			0.4	pF
C_{J2}	Junction Capacitance 2	$V_R = 0V, f = 1MHz$ Any I/O pin to GND			0.8	pF

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

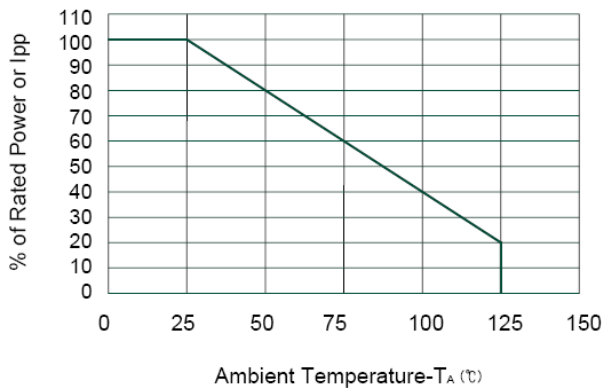
ELECTRICAL CHARACTERISTICS CURVE



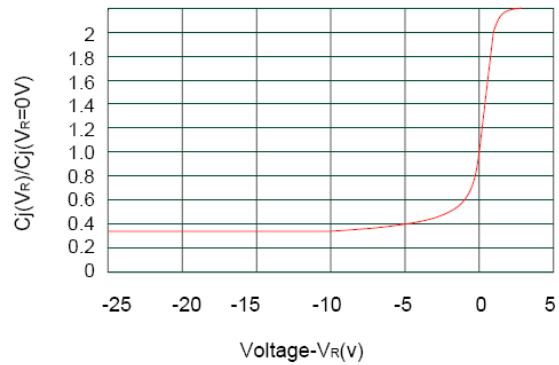
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

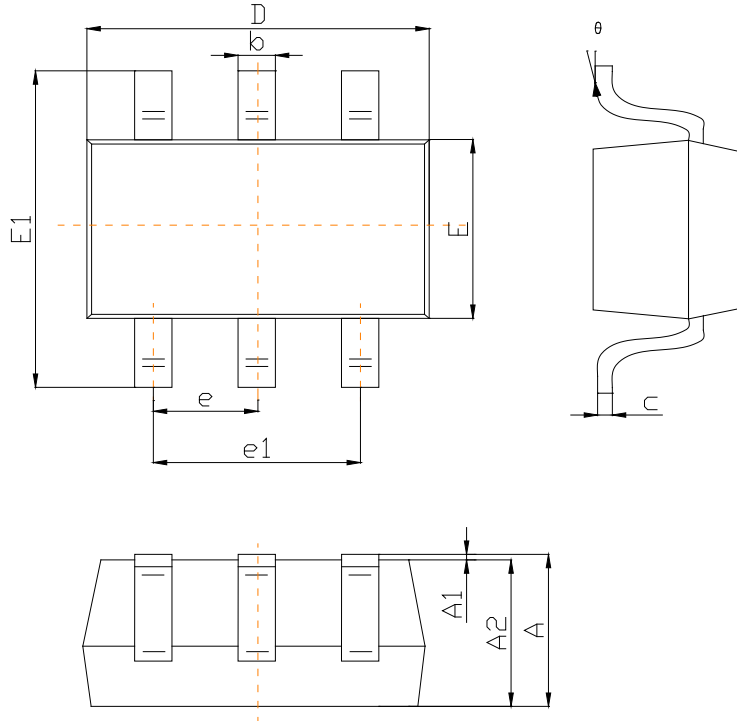


Power Derating Curve



Junction Capacitance vs. Reverse Voltage

SOT-23-6L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100		0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0,950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
	0°	8°	0°	8°

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [SLKORMICRO](#) manufacturer:

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE8.2A](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#)
[SMBJ33CATR](#) [SMBJ6.5A](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD112-B1-02EL E6327](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-](#)
[HF](#) [3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [JANTX1N6126A](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [SCM1293A-04SO](#)
[ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [CEN955 W/DATA](#) [VESD12A1A-HD1-GS08](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL](#)
[E6327](#) [AOZ8808DI-03](#) [5KP15A](#) [5KP48A](#) [5KP90A](#) [ESD3V3D7-TP](#) [15KPA36A-LF](#) [P4KE56CA](#) [P4KE68A](#) [P4KE91CATR](#) [P6KE120A](#)
[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)