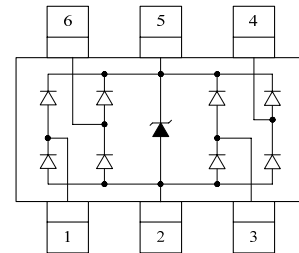


DESCRIPTION

AZC099-04S 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 ($\pm 15kV$ air, $\pm 8kV$ 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.



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

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

ABSOLUTE MAXIMUM RATING

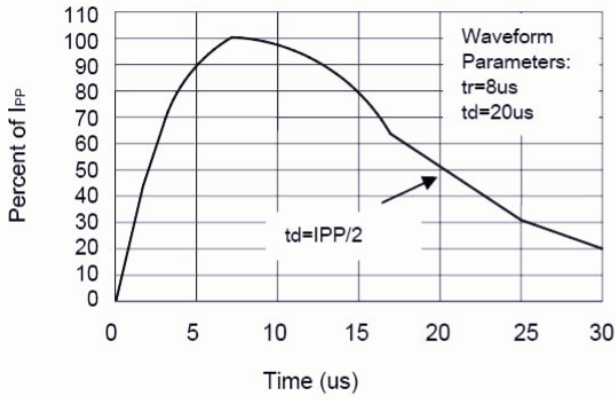
Symbol	Parameter	Value	Units
P_{PK}	Peak Pulse Power (8/20 μ s)	150	W
I_{PP}	Peak Pulse Current (8/20 μ s)	5	A
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 15 ± 8	kV
T_{OPT}	Operating Temperature	-55/+150	$^{\circ}$ C
T_{STG}	Storage Temperature	-55/+150	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS (Tamb=25 $^{\circ}$ C)

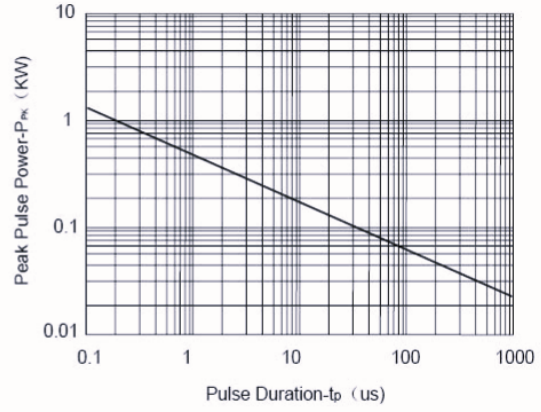
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$ Any I/O pin to GND	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$ Any I/O pin to GND			1	μ A
V_F	Diode Forward Voltage	$I_F = 15mA$			1.2	V
V_{C1}	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.

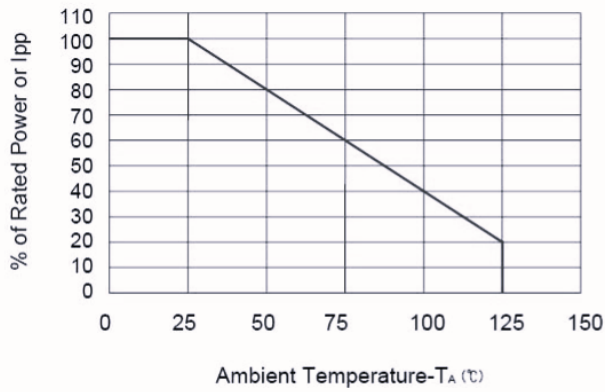
ELECTRICAL CHARACTERISTICS CURVE



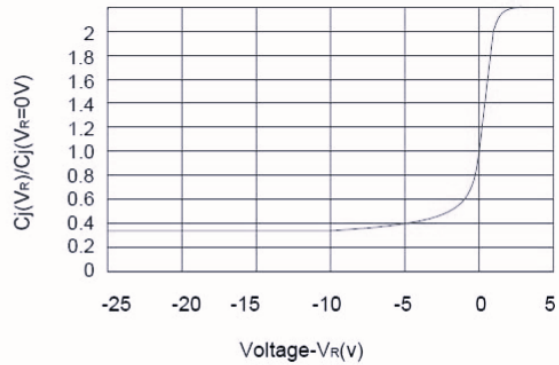
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

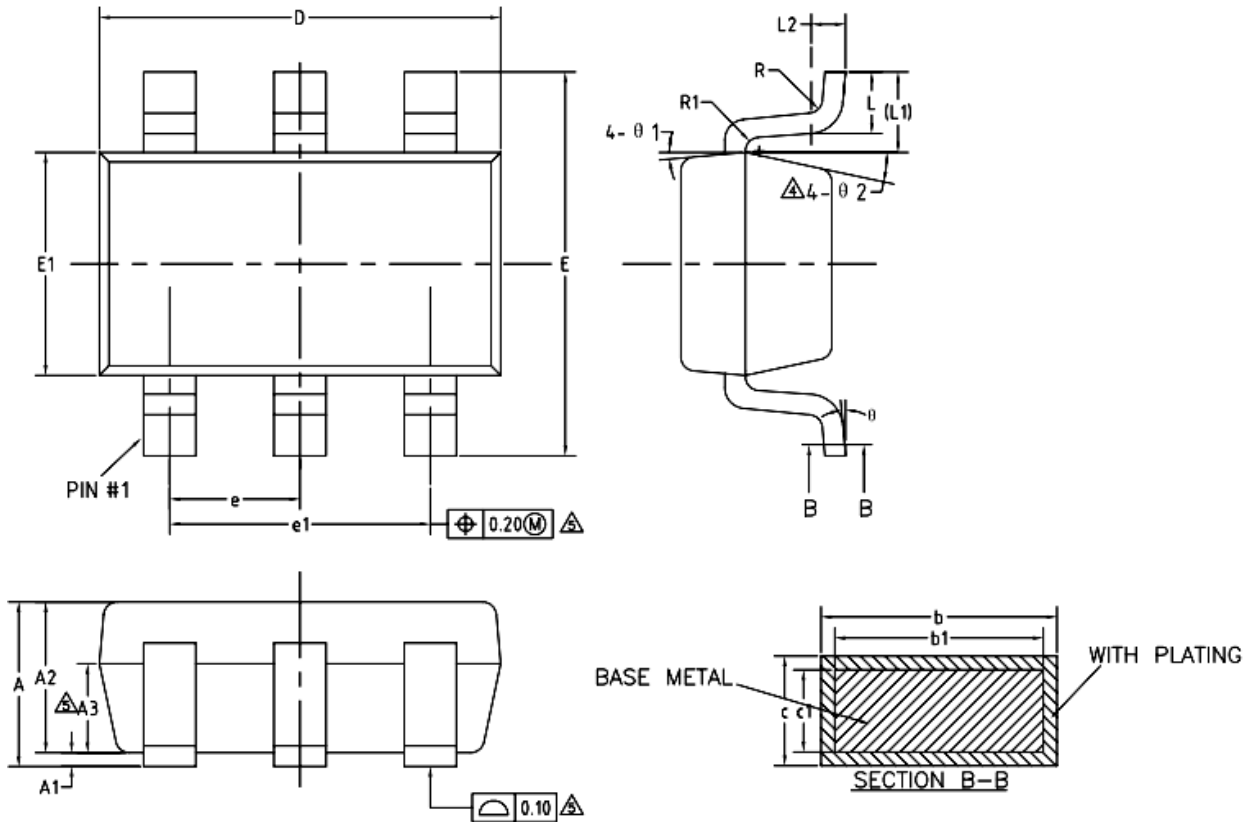


Power Derating Curve



Junction Capacitance vs. Reverse Voltage

SOT23-6



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	—	—	1.25
A1	0	—	0.15
A2	1.00	1.10	1.20
A3	0.60	0.65	0.70
b	0.36	—	0.50
b1	0.36	0.38	0.45
c	0.14	—	0.20
c1	0.14	0.15	0.16
D	2.826	2.926	3.026
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.59REF		
L2	0.25BSC		
R	0.10	—	—
R1	0.10	—	0.20
θ	0°	—	8°
θ 1	3°	5°	7°
θ 2	6°	—	14°

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
UMW AZC099-04S	SOT23-6	3000	Tape and reel