



### **General Description**

The AOZ8212ACI-05 is a two-line bi-directional transient voltage suppressor diode designed to protect voltage sensitive electronics from high transient conditions and ESD.

This device incorporates two TVS diodes in a small SOT-23 package. It may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 ( $\pm$ 15kV air,  $\pm$ 15kV contact discharge).

The AOZ8212ACI-05 comes in a SOT-23 package and is rated over a -40°C to +85°C ambient temperature range.

The small SOT-23 package makes it ideal for applications where PCB space is a premium. The small size and high ESD protection makes it ideal for protecting voltage sensitive electronics from high transient conditions and ESD.

#### Features

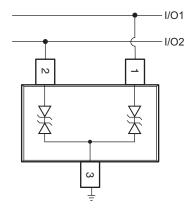
- ESD protection for high-speed data lines:
  - Exceeds: IEC 61000-4-2 (ESD) ±15kV (air), ±15kV (contact)
  - Human Body Model (HBM) ±30kV
  - IEC 61000-4-5 (Lightning) 6A (8/20µs)
- IEC 61000-4-4 (EFT) ±40A
- Low clamping voltage
- Low operating voltages: 5.0V

#### Applications

- Portable handheld devices
- Keypads, data lines, buttons
- Notebook computers
- Digital Cameras
- Portable GPS
- MP3 players

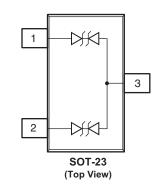


# **Typical Application**



**Bidirection Protection of Two Lines** 

### **Pin Configuration**





# **Ordering Information**

Part Number	Ambient Temperature Range	Package	Environmental	
AOZ8212ACI-05	-40°C to +85°C	SOT-23	Green Product	



AOS Green Products use reduced levels of Halogens, and are also RoHS compliant.

Please visit www.aosmd.com/media/AOSGreenPolicy.pdf for additional information.

### **Absolute Maximum Ratings**

Exceeding the Absolute Maximum ratings may damage the device.

Parameter	Rating		
Peak Pulse Current (I <sub>PP</sub> ), t <sub>P</sub> = 8/20µs	6A		
Peak Power Dissipation (TBD @ 25°C)	110W		
Storage Temperature (T <sub>S</sub> )	-65°C to +150°C		
IEC 61000-4-4 (EFT)	±40A		
ESD Rating per IEC61000-4-2, Contact <sup>(1)</sup>	±15kV		
ESD Rating per IEC61000-4-2, Air <sup>(1)</sup>	±15kV		
ESD Rating per Human Body Model <sup>(2)</sup>	±30kV		

Notes:

1. IEC 61000-4-2 discharge with C\_{Discharge} = 150pF, R\_Discharge = 330 $\Omega$ .

2. Human Body Discharge per MIL-STD-883, Method 3015  $C_{\text{Discharge}}$  = 100pF,  $R_{\text{Discharge}}$  = 1.5k $\Omega$ .

# Maximum Operating Ratings

Parameter	Rating
Junction Temperature (T <sub>J</sub> )	-40°C to +125°C

# **Electrical Characteristics**

 $T_A$  = 25°C unless otherwise specified.

Symbol	Parameter	Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current	١ <sub>F</sub>	Forward Current
V <sub>CL</sub>	Clamping Voltage @ I <sub>PP</sub>	V <sub>F</sub>	Forward Voltage
V <sub>RWM</sub>	Working Peak Reverse Voltage	P <sub>pk</sub>	Peak Power Dissipation
I <sub>R</sub>	Maximum Reverse Leakage Current	CJ	Max. Capacitance @ $V_R$ = 0 and f = 1MHz
V <sub>BR</sub>	Breakdown Voltage		

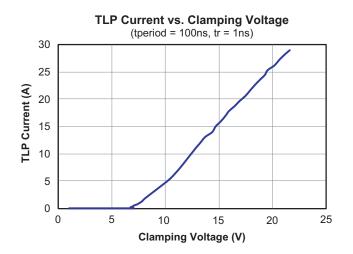
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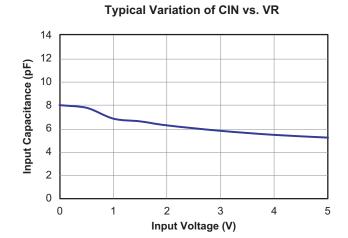
 $T_A = 25^{\circ}C$  unless otherwise noted.

	Device	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>R</sub> (μΑ)	V <sub>CL</sub> Max.		C <sub>J</sub> (pF)	C <sub>J</sub> (pF)
Device	Marking	Max.	Min @ 1mA	Max.	I <sub>PP</sub> = 1A	I <sub>PP</sub> = 10A	Typ.	Max.
AOZ8212ACI-05	BX	5.0	5.5	0.1	10.0	16.0	11.0	14.0

# **Typical Performance Characteristics**

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