# AOZ8212BCI-05

## Two-line Bi-directional TVS Diode

## General Description

The AOZ8212BCI-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 (± 15 kV air, ± 8 kV contact discharge).

The small SOT-23 package makes the AOZ8212BCI-05 ideal for applications where PCB space is a premium. The small size and high ESD protection is ideal for protecting voltage sensitive electronics from high transient conditions and ESD.

## Features

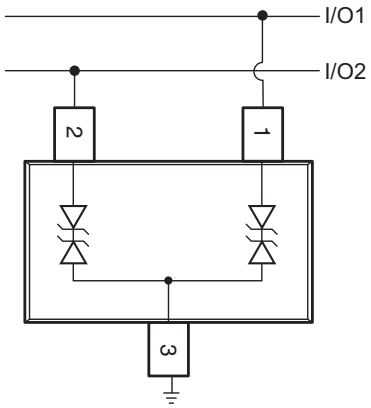
- ESD protection for high-speed data lines:
  - Exceeds: IEC 61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)
  - Human Body Model (HBM) ± 30 kV
  - IEC 61000-4-5 (Lightning) 9 A (8/20 µs)
- Small package saves board space
- IEC 61000-4-4 (EFT) ± 40 A
- Low insertion loss
- Low clamping voltage
- Low operating voltages: 5 V

## Applications

- Portable handheld devices
- Keypads, data lines, buttons
- Notebook computers
- Digital cameras
- Portable GPS

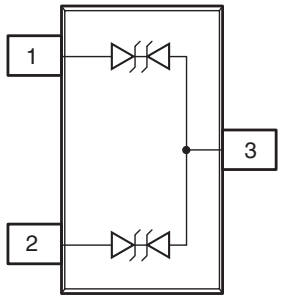
Green Product

## Typical Application




**Bidirection Protection of Two Lines**

## Pin Configuration




**SOT-23**
**(Top View)**

## Ordering Information

| Part Number | Package | Environmental |
|---|---|---|
| AOZ8212BCI-05 | 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 | AOZ8212BCI-05 |
|---|---|
| Peak Pulse Current, $t_P$ = 8/20 µs | 9 A |
| Peak Pulse Power, $t_P$ = 8/20 µs | 125 W |
| Storage Temperature ($T_S$) | -65°C to +150°C |
| ESD Rating per IEC61000-4-2, Contact(1) | ± 30 kV |
| ESD Rating per IEC61000-4-2, Air(1) | ± 30 kV |
| ESD Rating per Human Body Model(2) | ± 30 kV |

**Notes:**
1. IEC 61000-4-2 discharge with $C_{Discharge}$ = 150 pF, $R_{Discharge}$ = 330 Ω.
2. Human Body Discharge per MIL-STD-883, Method 3015 $C_{Discharge}$ = 100 pF, $R_{Discharge}$ = 1.5 kΩ.

## Maximum Operating Ratings

| Parameter | Rating |
|---|---|
| Junction Temperature ($T_J$) | -40°C to +150°C |

## Electrical Characteristics

$T_A$ = 25°C unless otherwise specified.

| Symbol | Parameter | | Symbol | Parameter |
|---|---|---|---|---|
| $I_{PP}$ | Maximum Reverse Peak Pulse Current | | $I_F$ | Forward Current |
| $V_{CL}$ | Clamping Voltage @ $I_{PP}$ | | $V_F$ | Forward Voltage |
| $V_{RWM}$ | Working Peak Reverse Voltage | | $P_{pk}$ | Peak Power Dissipation |
| $I_R$ | Maximum Reverse Leakage Current | | $C_J$ | Max. Capacitance @ $V_R$ = 0 and f = 1 MHz |
| $V_{BR}$ | Breakdown Voltage | | | |

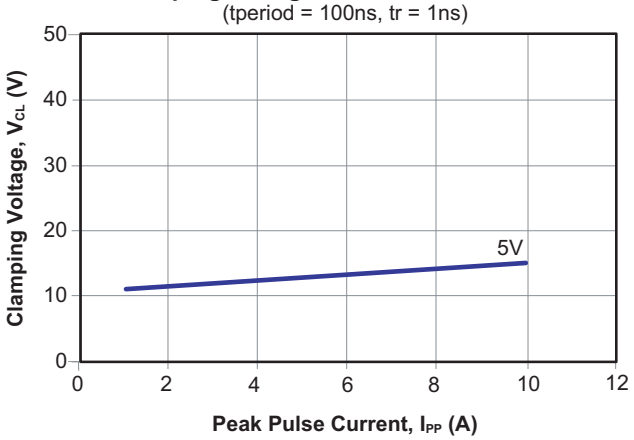
## Electrical Characteristics

$T_A$ = 25°C unless otherwise noted.

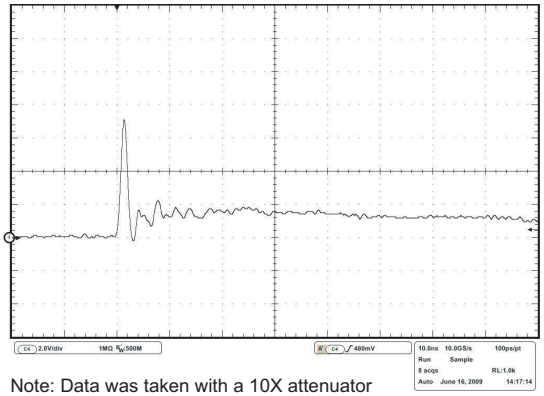
| Device | Device Marking | $V_{RWM}$ (V) Max. | $V_{BR}$ (V) Min @ 5mA | $I_R$ (µA) Max. | $V_{CL}$ Max. | | $C_J$ (pF) Typ. | $C_J$ (pF) Max. |
|---|---|---|---|---|---|---|---|---|
| | | | | | $I_{PP}$ = 1 A | $I_{PP}$ = 10 A | | |
| AOZ8212BCI-05 | CC5 | 5.0 | 7.0 | 1.0 | 11.0 | 15.0 | 3.5 | 5.0 |

## Typical Performance Characteristics

**Clamping Voltage vs. Peak Pulse Current**
(tperiod = 100ns, tr = 1ns)




**ESD Clamping**
**8kV Contact per IEC61000-4-2**



Note: Data was taken with a 10X attenuator

## LEGAL DISCLAIMER

Applications or uses as critical components in life support devices or systems are not authorized. Alpha and Omega Semiconductor does not assume any liability arising out of such applications or uses of its products. AOS reserves the right to make changes to product specifications without notice. It is the responsibility of the customer to evaluate suitability of the product for their intended application. Customer shall comply with applicable legal requirements, including all applicable export control rules, regulations and limitations.

AOS' products are provided subject to AOS' terms and conditions of sale which are set forth at:
http://www.aosmd.com/terms_and_conditions_of_sale

## LIFE SUPPORT POLICY

ALPHA AND OMEGA SEMICONDUCTOR PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.

2. A critical component in any component of a life support, device, or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

单击下面可查看定价，库存，交付和生命周期等信息

>>AOS(万代)