AOZ8212ACI-05

Two-line Bi-directional TVS Diode

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 (±15kV air, ±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

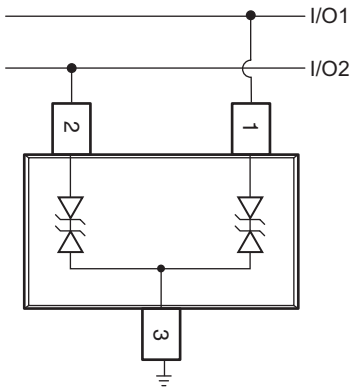
- ESD protection for high-speed data lines:
  - Exceeds: IEC 61000-4-2 (ESD) ±15kV (air), ±15kV (contact)
  - Human Body Model (HBM) ±30kV
  - IEC 61000-4-5 (Lightning) 6A (8/20µs)
- IEC 61000-4-4 (EFT) ±40A
- Low clamping voltage
- Low operating voltages: 5.0V

Applications

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

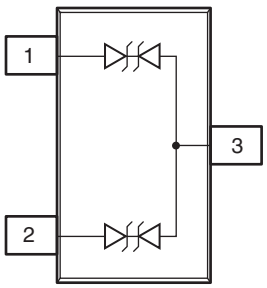
Green Product

Typical Application



Bidirection Protection of Two Lines

Pin Configuration



SOT-23
(Top View)

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_{PP}), t_P = 8/20µs	6A
Peak Power Dissipation (TBD @ 25°C)	110W
Storage Temperature (T_S)	-65°C to +150°C
IEC 61000-4-4 (EFT)	±40A
ESD Rating per IEC61000-4-2, Contact(1)	±15kV
ESD Rating per IEC61000-4-2, Air(1)	±15kV
ESD Rating per Human Body Model(2)	±30kV

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

Maximum Operating Ratings

Parameter	Rating
Junction Temperature (T_J)	-40°C to +125°C

Electrical Characteristics

T_A = 25°C unless otherwise specified.

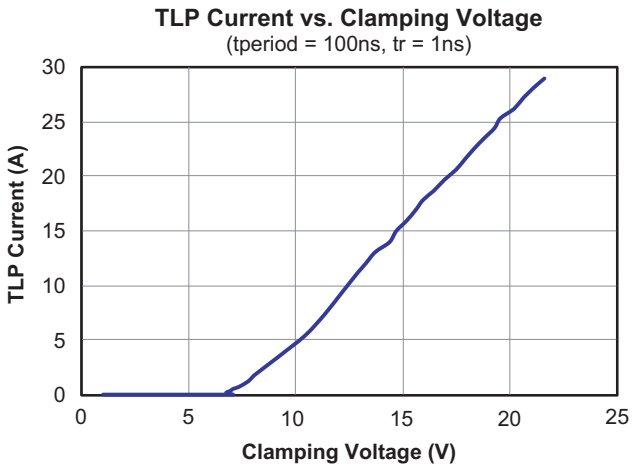
Symbol	Parameter		Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current		I_F	Forward Current
V_{CL}	Clamping Voltage @ I_{PP}		V_F	Forward Voltage
V_{RWM}	Working Peak Reverse Voltage		P_{pk}	Peak Power Dissipation
I_R	Maximum Reverse Leakage Current		C_J	Max. Capacitance @ V_R = 0 and f = 1MHz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

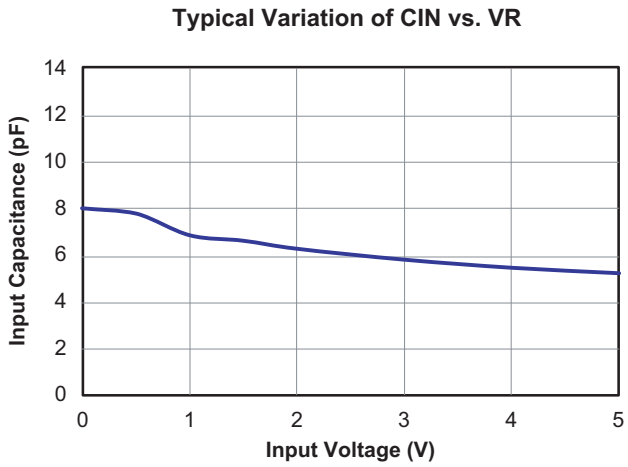
Electrical Characteristics

T_A = 25°C unless otherwise noted.

Device	Device Marking	V_{RWM} (V) Max.	V_{BR} (V) Min @ 1mA	I_R (µA) Max.	V_{CL} Max.		C_J (pF) Typ.	C_J (pF) Max.
					I_{PP} = 1A	I_{PP} = 10A		
AOZ8212ACI-05	BX	5.0	5.5	0.1	10.0	16.0	11.0	14.0

Typical Performance Characteristics





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