Ordering Information

Part Number	Ambient Temperature Range	Package	Environmental
AOZ8235DI-05	-40 °C to +85 °C	DFN 1.45 x 1.0	Green Product RoHS Compliant

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
VP – VN	5 V
Peak Pulse Current (I_{PP}), t_P = 8/20 µs	4 A
Storage Temperature (T_S)	-65 °C to +150 °C
ESD Rating per IEC61000-4-2, Contact(1)	±18 kV
ESD Rating per IEC61000-4-2, Air(1)	±18 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 +125 °C

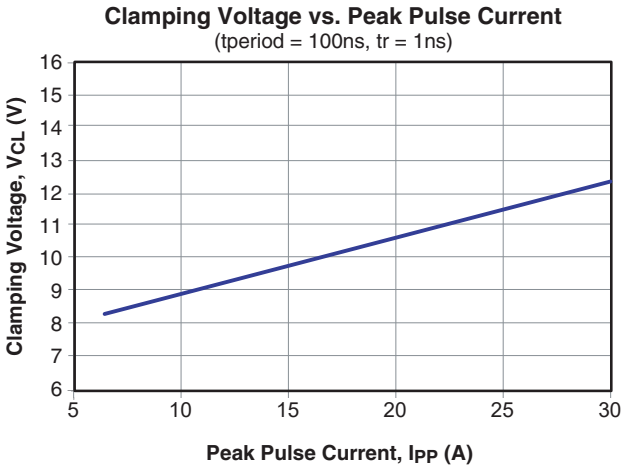
Electrical Characteristics

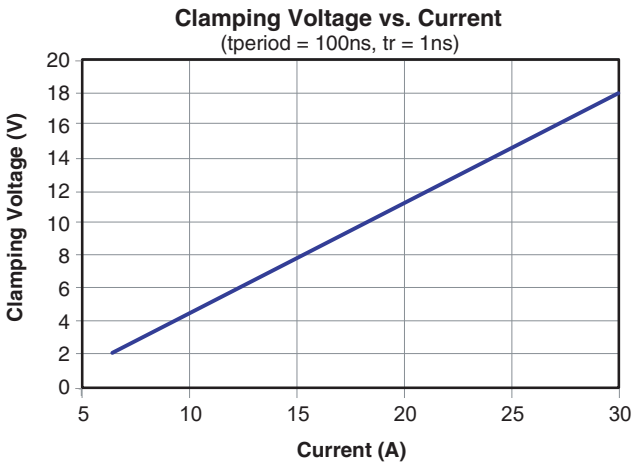
T_A = 25°C unless otherwise specified.

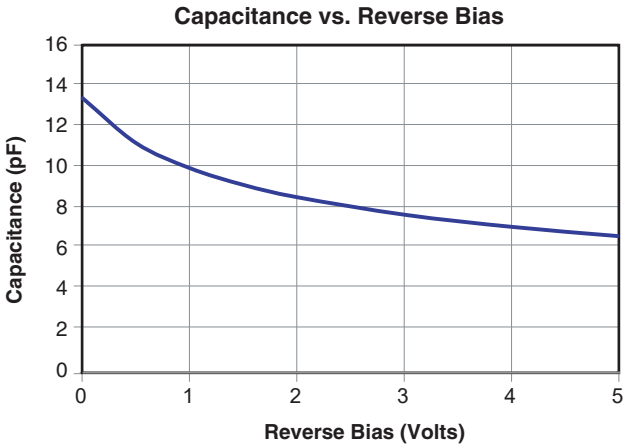
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_{RWM}	Reverse Working Voltage	Between pin 5 and 2(3)			5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1 mA, between pins 5 and 2(4)	6.0			V
I_R	Reverse Leakage Current	V_{RWM} = 5 V, any I/O pin to Ground			0.1	µA
V_F	Diode Forward Voltage	I_F = 10 mA, any I/O pin to Ground		0.7		V
V_{CL}	Channel Clamp Voltage Positive Transients Negative Transient	I_{PP} = 15 A, tp = 100 ns, any I/O pin to Ground			 12.0 -10.0	 V V
	Channel Clamp Voltage Positive Transients Negative Transient	I_{PP} = 25 A, tp = 100 ns, any I/O pin to Ground			 15.0 -18.0	 V V
C_j	Junction Capacitance	V_R = 0 V, f = 1 MHz, any I/O pin to Ground		13.5	16.0	pF

Notes:
3. The working peak reverse voltage, V_{RWM}, should be equal to or greater than the DC or continuous peak operating voltage level.
4. V_{BR} is measured at the pulse test current I_T.

Typical Performance Characteristics





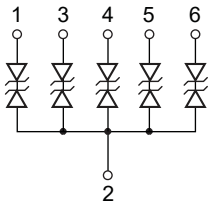


Applications Information

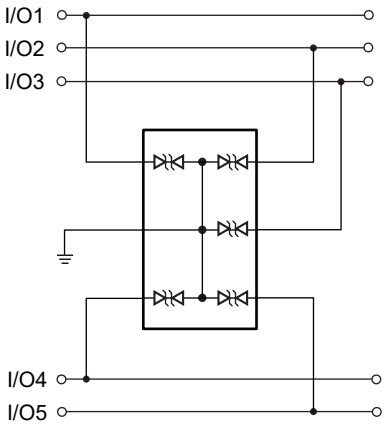
Device Connection for Protection of Five Unidirectional Data Lines

These devices are designed to protect up to five unidirectional data lines. The device is connected as follows.

1. Unidirectional protection of five I/O lines is achieved by connecting pins 1, 3, 4, 5 and 6 to the data lines. Connect pin 2 to ground. The ground connection should be made directly to the ground plane for best results. The path length is kept as short as possible to reduce the effects of parasitic inductance in the board traces.



Circuit Diagram

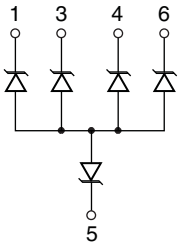


Protection of Five Unidirectional Lines

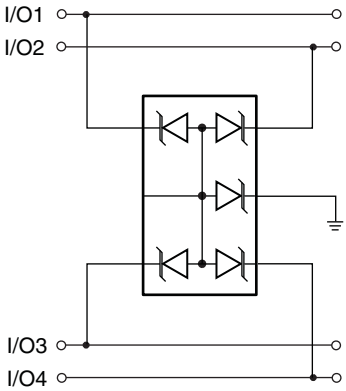
Device Connection for Protection of Four Bidirectional Data Lines

These devices are designed to protect up to four bidirectional data lines. The device is connected as follows.

1. Bidirectional protection of four I/O lines is achieved by connecting pins 1, 3, 4, and 6 to the data lines. Connect pin 5 to ground. The ground connection should be made directly to the ground plane for best results. The path length is kept as short as possible to reduce the effects of parasitic inductance in the board traces.



Circuit Diagram



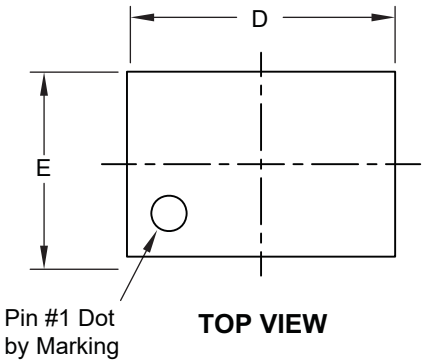
Protection of Four Bidirectional Lines

Circuit Board Layout Recommendations for Suppression of ESD

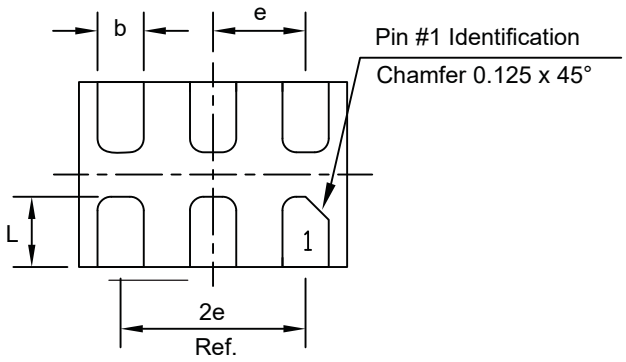
Good circuit board layout is critical for the suppression of ESD induced transients. The following guidelines are recommended:

- Place the TVS near the input terminals or connectors to restrict transient coupling.
- Minimize the path length between the TVS and the protected line.
- Minimize all conductive loops including power and ground loops.
- The ESD transient return path to ground should be kept as short as possible.
- Never run critical signals near board edges.
- Use ground planes whenever possible.

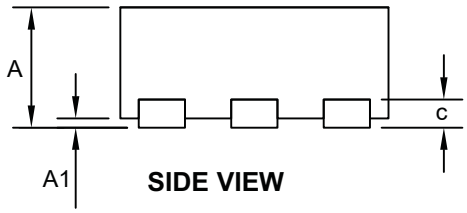
Package Dimensions, DFN 1.45 x 1.0, 6L



TOP VIEW



BOTTOM VIEW



SIDE VIEW

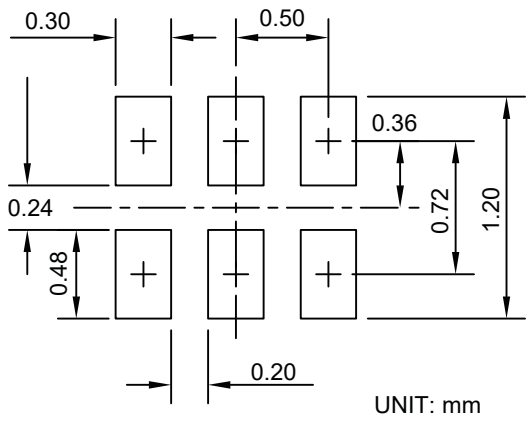
Dimensions in millimeters

Symbols	Min.	Nom.	Max.
A	0.50	0.55	0.60
A1	0.00	—	0.05
b	0.20	0.25	0.30
c		0.152 Ref.	
D	1.40	1.45	1.50
E	0.95	1.00	1.05
e		0.50 BSC	
L	0.33	0.38	0.43

Dimensions in inches

Symbols	Min.	Nom.	Max.
A	0.020	0.022	0.024
A1	0.000	—	0.002
b	0.008	0.010	0.012
c		0.006 Ref.	
D	0.055	0.057	0.059
E	0.038	0.040	0.042
e		0.020 BSC	
L	0.013	0.015	0.017

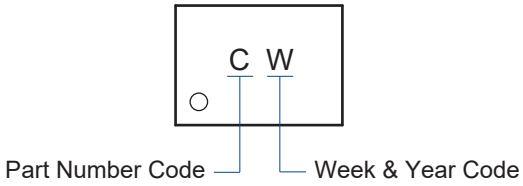
RECOMMENDED LAND PATTERN



UNIT: mm

Part Marking

AOZ8235DI-05
(DFN 1.45 x 1.0)



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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.