

## General Description

The AOZ8310ADI-04 is a single channel high power transient voltage suppressor designed to protect battery power lines from damaging surge and ESD events, with an operating voltage of 4.7V.

This device is with one unidirectional TVD diode in 1.6x1.0 mm DFN Package. It may be used to meet the IEC61000-4-5 Surge immunity and IEC61000-4-2 ESD immunity requirements.

The AOZ8310ADI-04 comes in a RoHS compliant and Halogen Free 1.6 mm x 1.0 mm x 0.5 mm package and is rated for -40°C to +125°C junction temperature range

## Features

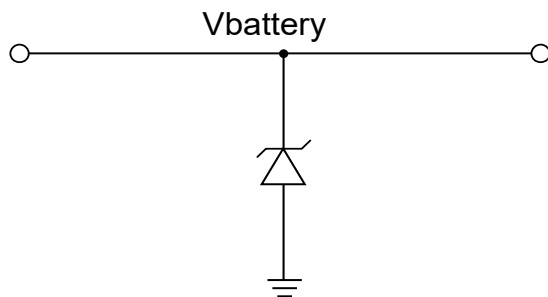
- IEC 61000-4-2, ESD immunity test:
  - Air discharge:  $\pm 30$  kV
  - Contact discharge:  $\pm 30$  kV
- IEC61000-4-5 (Lightning 8/20us) 190A
- Human Body Mode (HBM):  $\pm 8$ kV
- Capacitance: 600 pF
- Max. reverse working voltage: 4.7 V

## Applications

- VBAT
- Power lines
- Panel
- Mobile phone
- Notebook computers



## Typical Application



## Pin Configuration

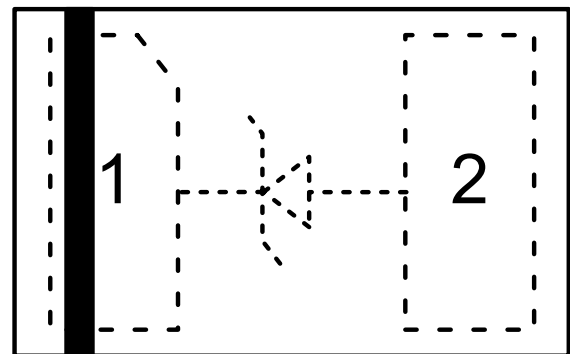


Figure 1. DFN1.6x1.0A-2L

## Ordering Information

Part Number	Ambient Temperature Range	Package	Environmental
AOZ8310ADI-04	-40°C to +125°C	DFN1.6x1.0A-2L	Green Product



AOS Green Products use reduced levels of Halogens, and are also RoHS compliant. Please visit [www.aosmd.com/media/AOSGreenPolicy.pdf](http://www.aosmd.com/media/AOSGreenPolicy.pdf) for additional information.

## Absolute Maximum Ratings

Exceeding the Absolute Maximum ratings may damage the device.

Parameter	Rating
V1-V2	4.7V
Peak Pulse Current ( $I_{PP}$ ), $t_P = 8/20\mu s$	190A
Peak Pulse Power ( $P_{PP}$ ), $t_P = 8/20\mu s$	1500W
Storage Temperature ( $T_S$ )	-65°C to +150°C
ESD Rating per IEC61000-4-2, Contact <sup>(1)</sup>	±30kV
ESD Rating per IEC61000-4-2, Air <sup>(1)</sup>	±30kV
ESD Rating per Human Body Model <sup>(2)</sup>	±8kV

### Notes:

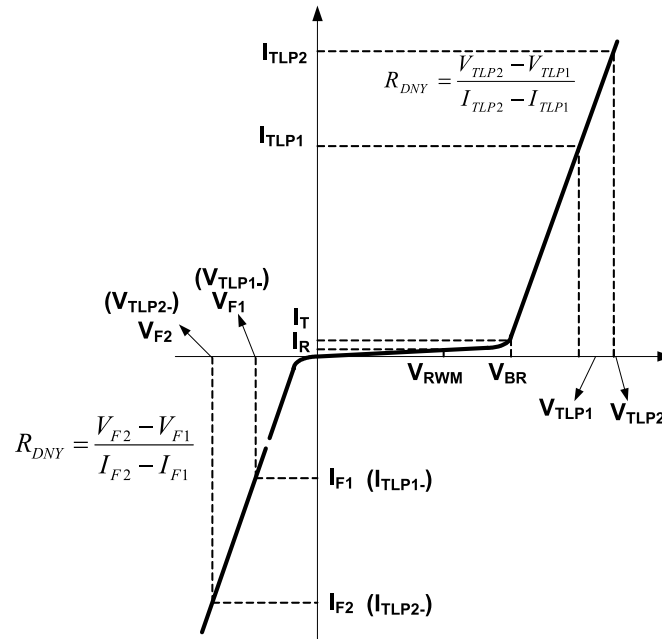
- IEC 61000-4-2 discharge with  $C_{Discharge} = 150pF$ ,  $R_{Discharge} = 330\Omega$
- Human Body Discharge per MIL-STD-883, Method 3015  $C_{Discharge} = 100 pF$ ,  $R_{Discharge} = 1.5\Omega$

## Maximum Operating Ratings

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

## Electrical Characteristics

TA = 25°C unless otherwise specified. Pin 1 to Pin 2.

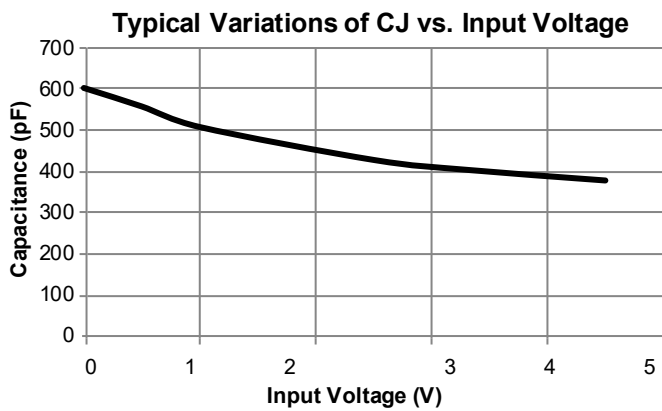
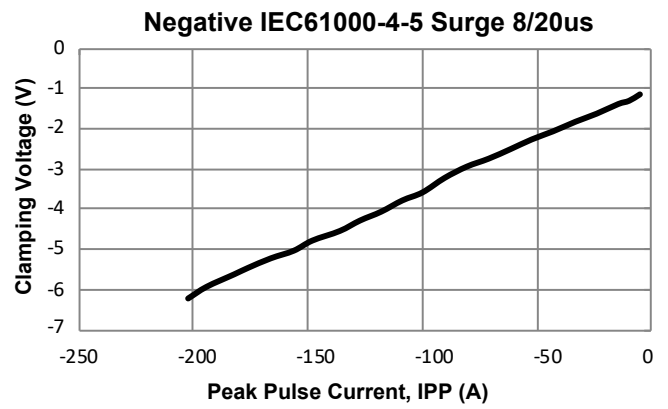
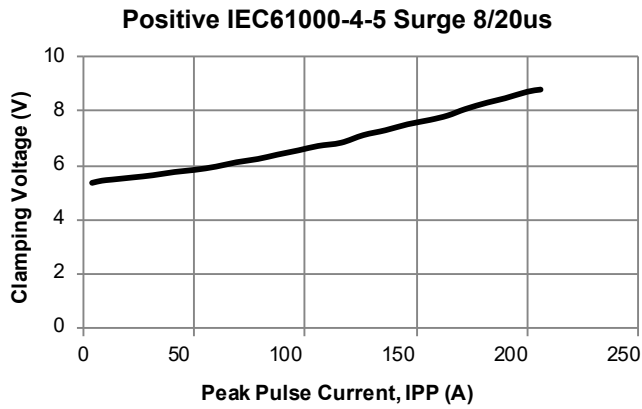
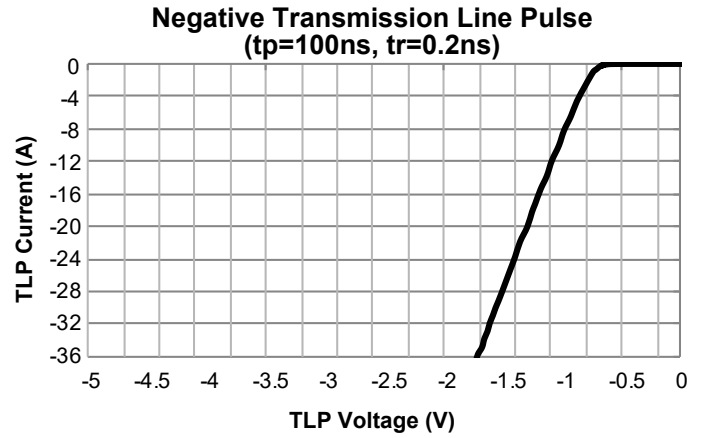
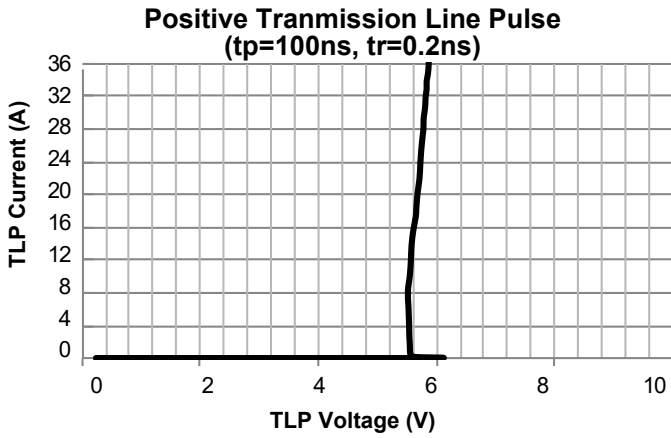


Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
$V_{RWM}$	Reverse Working Voltage				4.7	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	4.8	6	7	V
$I_R$	Reverse Leakage Current	Max. $V_{RWM}$			1	$\mu\text{A}$
$V_F$	Forward Bias Voltage	$V_F = 15\text{mA}$		0.85		V
$V_{CL}$	Clamping Voltage <sup>(3)</sup> (IEC61000-4-5 Surge 8/20 $\mu\text{s}$ )	$I_{PP} = 10\text{A}$ $I_{PP} = -10\text{A}$		5.5 -1.3		V
		$I_{PP} = 190\text{A}$ $I_{PP} = -190\text{A}$		8.5 -5.5		V
$C_J$	Junction Capacitance <sup>(3)</sup>	$V_{1-2} = 0\text{V}$ , $f = 1\text{MHz}$		600		pF

### Notes:

3. These specifications are guaranteed by design and characterization.

## Typical Characteristics



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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.