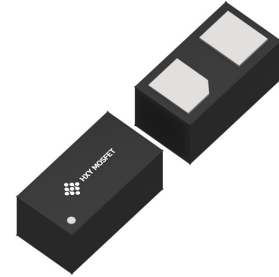




## Discription

Femtofarad bidirectional ElectroStatic Discharge (ESD) protection diode in a leadless ultra small DFN0603-2L Surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients. The combination of extremely low capacitance, high ESD maximum rating and ultra small package makes the device ideal for high-speed data line protection and antenna protection applications.



DFN0603-2L  
(DFN-2(0.3x0.6))

## Features

- ★ Ultra small SMD package
- ★ Bidirectional ESD protection of one line
- ★ Femtofarad capacitance:  $C_J = 3\text{pF}$  (Max)
- ★ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 20\text{KV}$ , Contact discharge:  $\pm 20\text{KV}$
- ★ RoHS Compliant



Circuit Diagram

## Applications

- ★ ultra high-speed datalines
  - ★ very sensitive interface lines
  - ★ generic interface lines
- in portable electronics, communication, consumer and computing devices.

## Ordering Information

Product ID	Pack	Qty(PCS)
AOZ8251BDI-05	DFN0603-2L(DFN-2(0.3x0.6))	15000



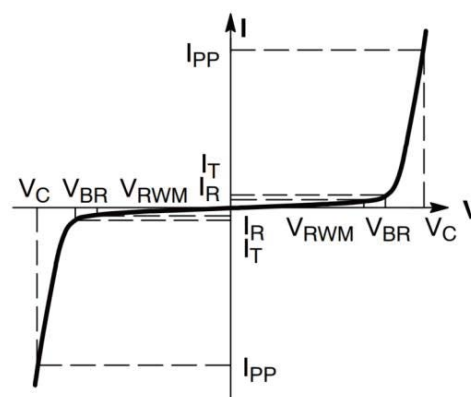
### Absolute Ratings( $T_{amb} = 25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PK}$	30	W
Maximum lead temperature for soldering during 10s	$T_L$	260	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$
Operating Temperature Range	$T_{OP}$	-40 to +125	$^{\circ}\text{C}$
ESD voltage IEC 61000-4-2 (air discharge)	$V_{ESD}$	20	kV
ESD voltage IEC 61000-4-2 (contact discharge)	$V_{ESD}$	20	kV

### Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	$V_{RWM}$	--	--	5.0	V	
Breakdown Voltage	$V_{BR}$	6.0	--		V	$I_T = 1\text{mA}$
Leakage Current $I_{Leak}$	$I_R$	--	--	1.0	$\mu\text{A}$	$V_{RWM} = 5\text{V}$
Clamping Voltage	$V_C$	--	8	--		$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$
Clamping Voltage	$V_C$	--	--	12	V	$I_{PP} = 4.5\text{A}, t_p = 8/20\mu\text{s}$
Junction Capacitance	$C_J$	--	--	3	pF	$V_R = 0\text{V}, f = 1\text{MHz}$

Symbol	Parameter
$I_{PPM}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$





## Typical Characteristics

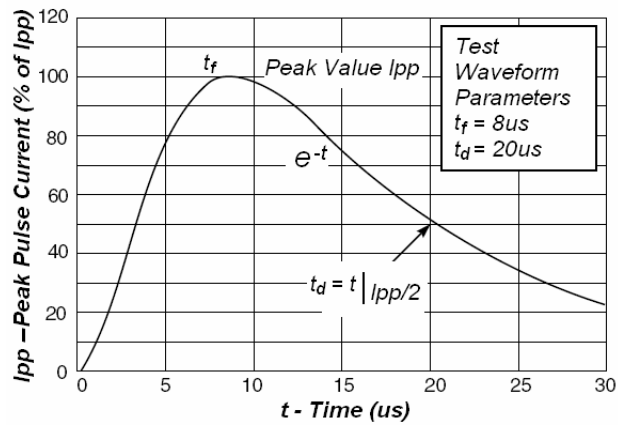


Fig1. Pulse Waveform

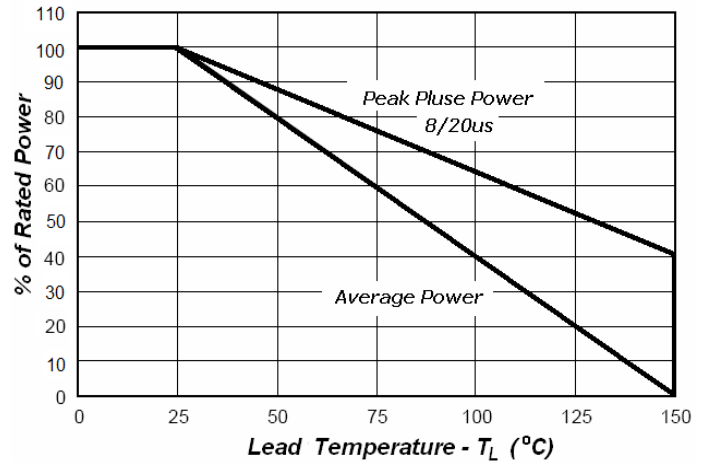


Fig2. Power Derating Curve

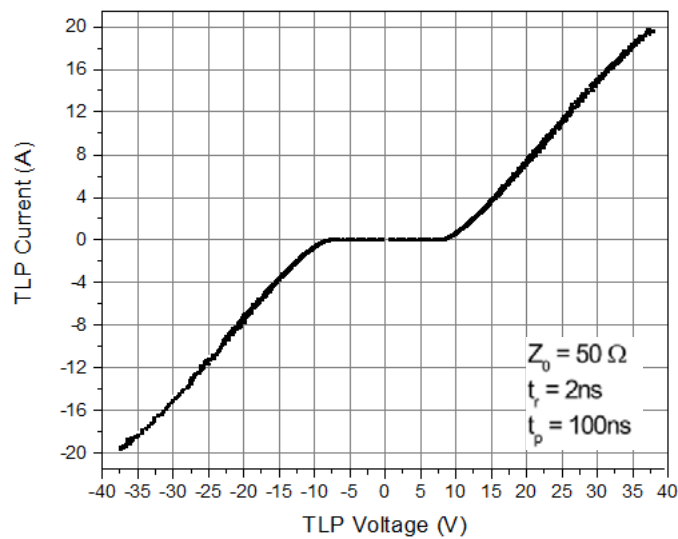
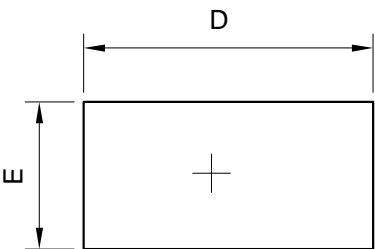


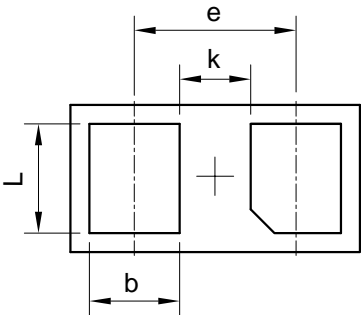
Fig3. TLP Measurement



Outline And Dimensions

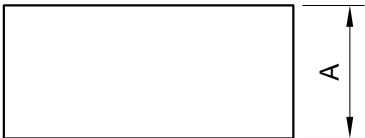


TOP VIEW



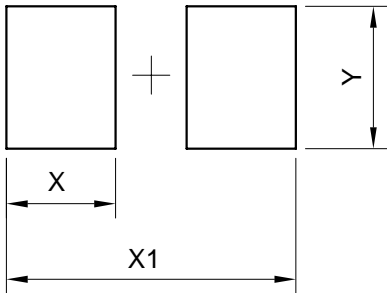
BOTTOM VIEW

DFN0603-2L(DFN-2(0.3x0.6))			
Dim	Min	Typ.	Max
D	0.58	0.61	0.64
E	0.28	0.31	0.34
e	-	0.34	-
L	0.20	0.23	0.26
b	0.16	0.19	0.22
A	0.25	0.28	0.31
k	0.12	0.15	0.18
All Dimensions in mm			



SSIDE VIEW

Soledering Footprint



DFN0603-2L	
DIM	(mm)
X	0.23
X1	0.61
Y	0.30



### **Attention**

- Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.
- HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.
- Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.