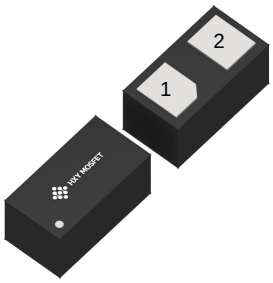
DESD3V3Z1BCSFQ-7
ESD PROTECTION DIODE

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

Features

- ★ Ultra small SMD package
- ★ Bidirectional ESD protection of one line
- ★ Femtofarad capacitance: CJ=0.55pF (Typ)
- ★ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±8KV, Contact discharge: ±15KV
- ★ 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)
DESD3V3Z1BCSFQ-7	DFN0603-2L	15000

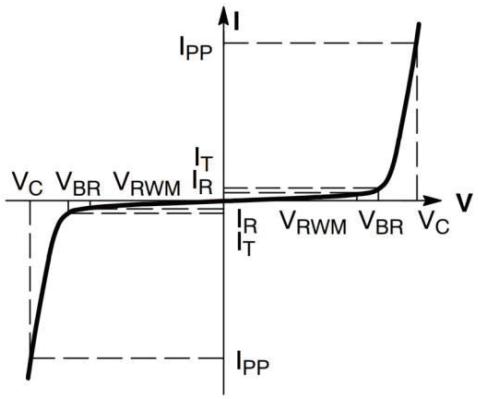
Absolute Ratings(Tamb = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PK}	96	W
Peak Pulse Current(tp = 8/20μs)	I_{PPM}	4.0	A
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Temperature Range	T_{OP}	-40 to +125	°C
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	8	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	15	kV

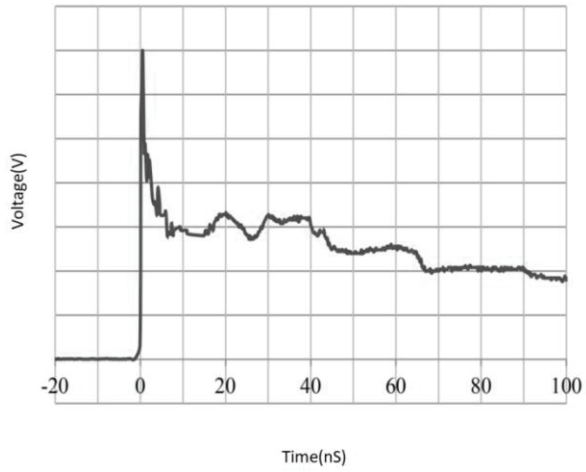
Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	3.3	V	
Breakdown Voltage	V_{BR}	4.2	--	--	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	1.0	uA	V_{RWM}=5V
Clamping Voltage	V_C	--	--	12	V	I_{PP}=1A,Tp=8/20μs
Clamping Voltage	V_C	--	--	24	V	I_{PP}=4.5A,Tp=8/20μs
Junction Capacitance	C_J	--	0.55	0.7	pF	V_R=0V, f=1MHz

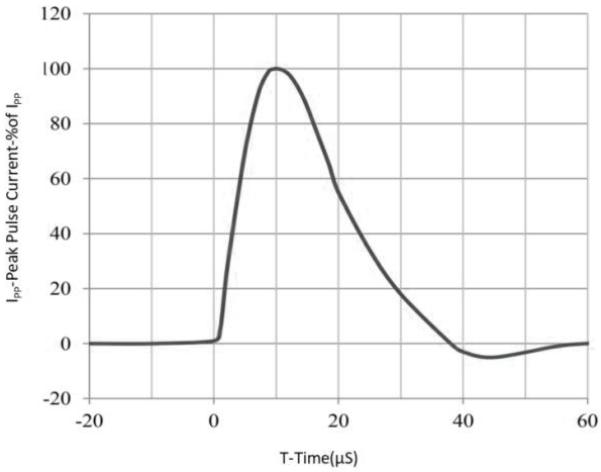
Symbol	Parameter
I_{PPM}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



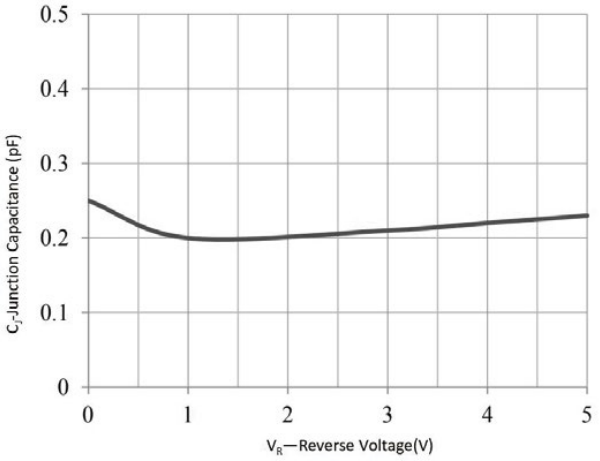
Typical Characteristics



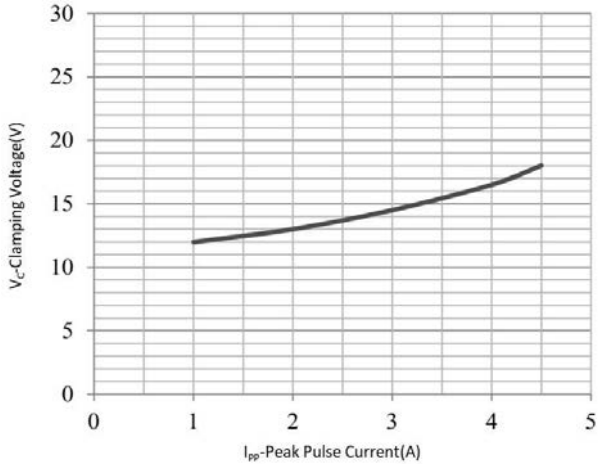
IEC61000−4−2 Pulse Waveform



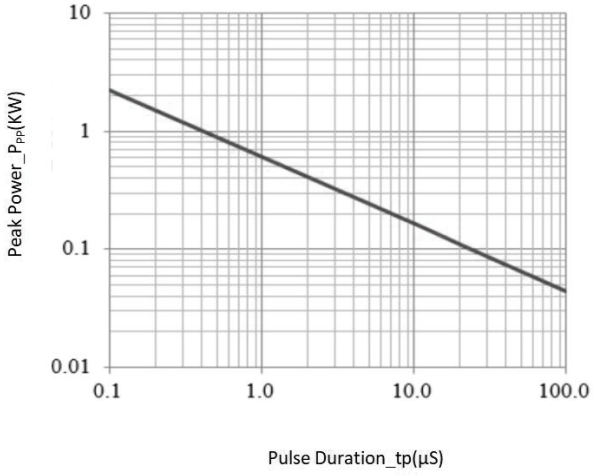
EC61000-4-5 Waveform(8/20μs pulse)



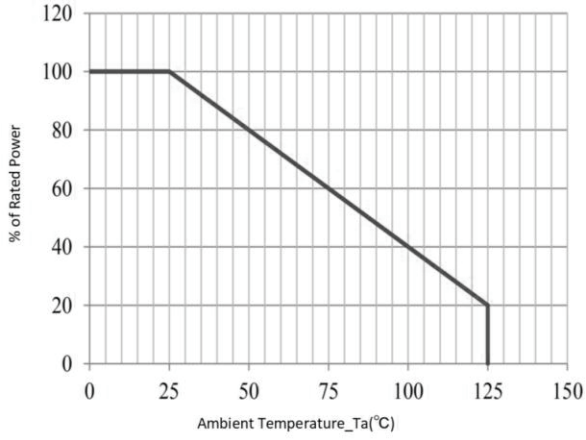
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

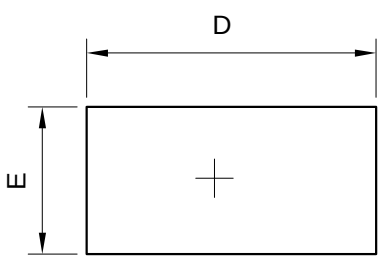


Peak Pulse Power vs. Pulse Time

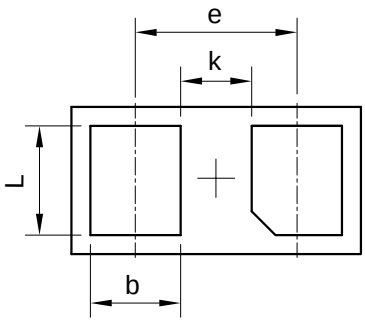


Power Derating Curve

Outline And Dimensions



TOP VIEW



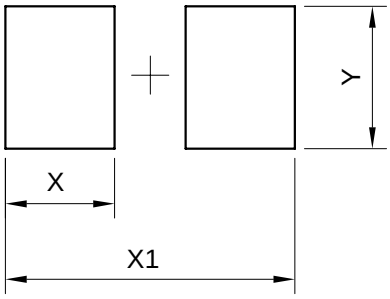
BOTTOM VVIEW

DFN0603-2L			
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.

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

HXY MOSFET:

MMBT3904T TPSMB28A-VR BZT52C13 HXY2300MI IRLML6246PBF P6SMB200A P6SMB33CA HESDNC5VB1AF-B HXY2101EI BZT52C3V3S DTC143ZE HOPA2340UA SQJA04EP-T1_BE3 HAD8542ARZ P6SMB36CA SD15C SS10100 SS1045 SS5150B US2M HC4D20120A HT7150 HT7540-1 HXY8205ES MAX487ESA HMCP602-I/SN PESD5V0S1BB SS510C TPSMB100CA-VR HC3D10170A