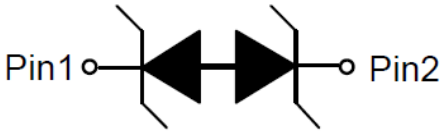
Description

The XE2XUC5VB is an ultra-low capacitance ESD protection diode designed to protect sensitive electronic components which are connected to high speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE2XUC5VB may be used to provide ESD protection up to ±20kV (contact) and ±20KV（air）discharge according to IEC61000-4-2, and withstand peak pulse current up to 5A (8/20μs) according to IEC61000-4-5.
The XE2XUC5VB is available in DFN0603-2L package. Standard products are Pb-free and Halogen-free.

http//:www.xihangsemi.com

DFN0603-2L（Bottom View）



Circuit Diagram

Marking（Top View）

Features

- Working voltage: 5V
- DFN0603-2L Package
- Ultra Low Capacitance：0.35pF
- Transient protection for data lines to
  IEC 61000-4-2 (ESD) ±20kV (air),
  ±20kV (contact)
  IEC 61000-4-5 (Surge) 5A (8/20us)
  IEC61000-4-4（EFT）50A（5/50ns）
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

Order Information

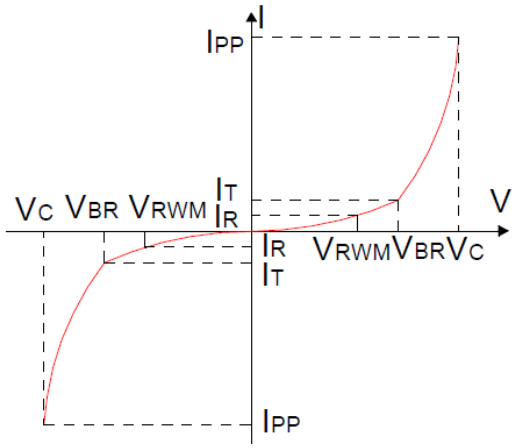
Device	Package	Shipping
XE2XUC5VB	DFN0603-2L	12000/Tape&Reel

Applications

- USB2.0 and USB3.0
- HDMI1.3 and HDMI1.4
- SATA and eSATA
- DVI
- IEEE1394
- PCI Express
- Portable Electronics
- Notebook

Definitions of electrical characteristics

Symbol	Parameter
V_{RWM}	Reverse Stand-off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_{BR}	Reverse Breakdown Current
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_T	Test current



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_P = 8/20μS)	P_{PK}	135	W
Peak Pulse Currentr (t_P = 8/20μS)	I_{pp}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±20	kV
ESD according to IEC61000-4-2 contact discharge		±20	kV
Lead Soldering Temperature	T_L	260 (10 sec)	℃
Operating Temperature	T_{OP}	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

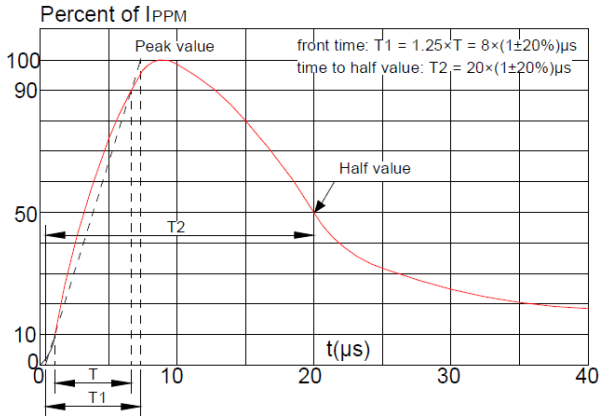
Electrical Characteristics (Ta=25℃, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				±5.0	V
Reverse Leakage Current	I_R	V_{RWM} =±5V			100	nA
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	7.0	9.0	10.0	V
Clamping Voltage[1)]	V_{CL}	I_{PP}=1A t_P = 8/20μs		10	12.5	V
		I_{PP}=2.5A t_P = 8/20μs		13	15	V
		I_{PP}=5A t_P = 8/20μs		24	27	V
Junction Capacitance	C_j	V_R=0V f = 1MHz		0.35	0.5	pF

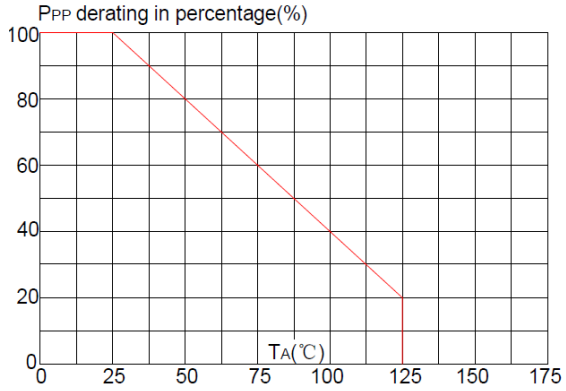
Notes:

1)Non-repetitive current pulse, according to IEC61000-4-5.

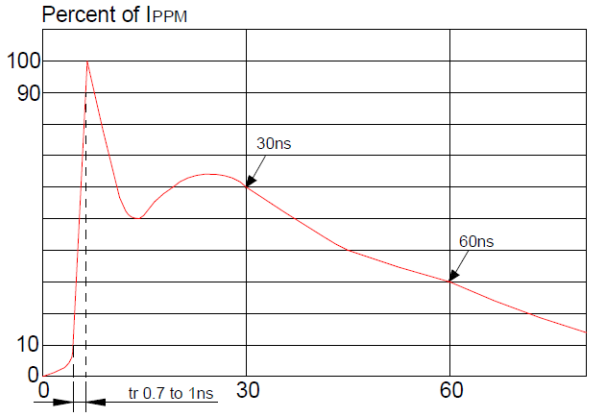
Typical Characteristics (Ta=25℃, unless otherwise noted)



Pulse Waveform (8/20us)



Pulse Derating Curve



ESD Clamping(8kV Contact Discharge)

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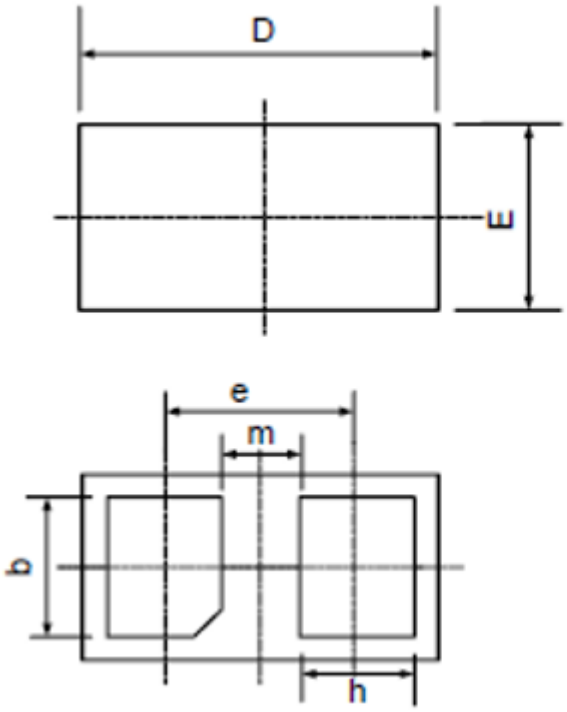
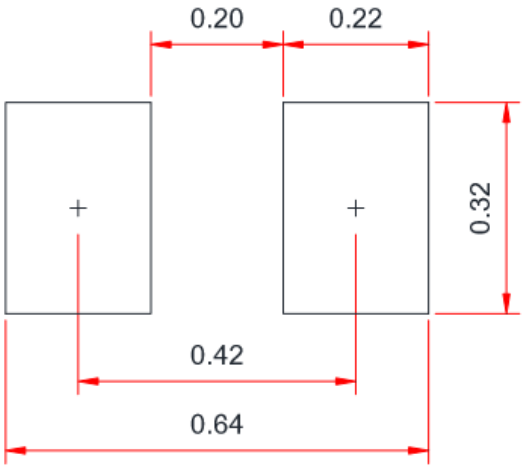
Package Outline Dimensions (DFN0603-2L）



Symbol	Millimeter	
	Min.	Max.
A	0.28	0.32
D	0.55	0.65
E	0.25	0.35
b	0.20	0.30
e	0.350	
m	0.165	
h	0.14	0.24

Recommend Land Pattern (Unit: mm)



Note:
This recommended land pattern is for reference purpose only.

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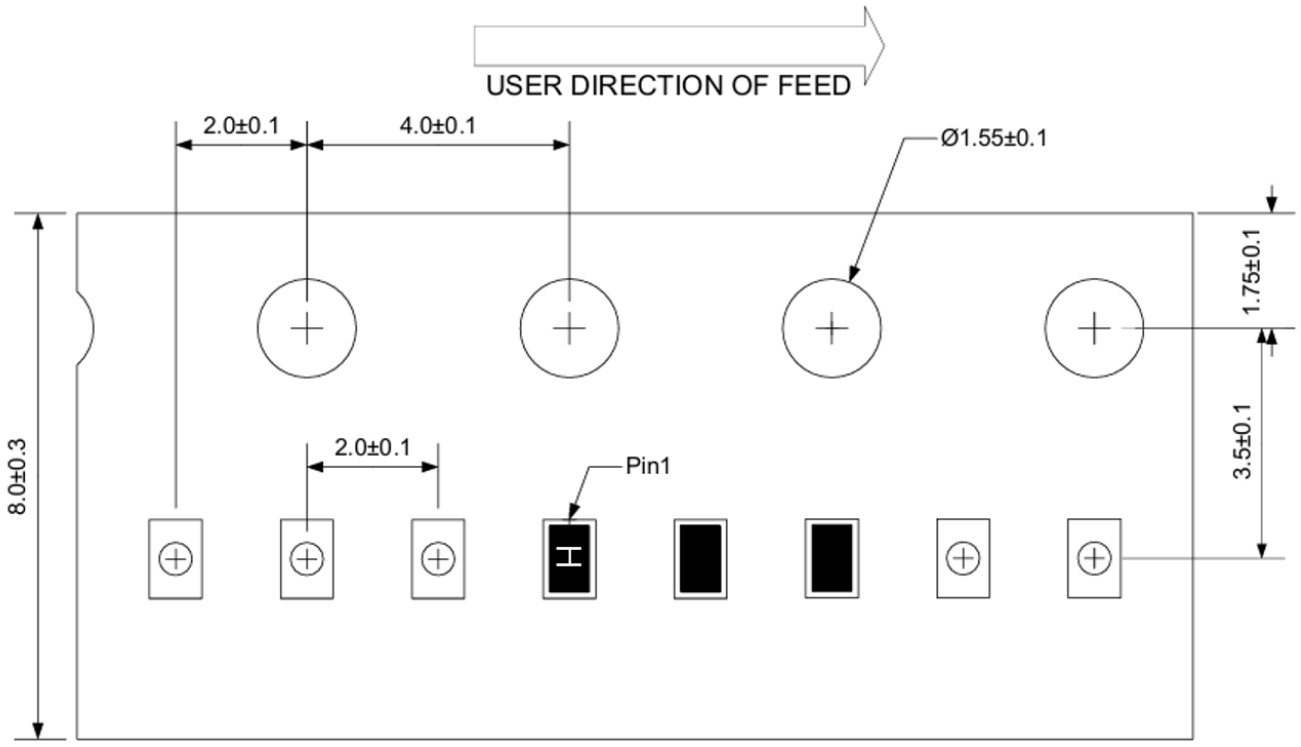

Unit:mm

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