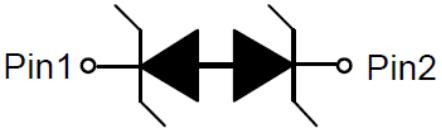
Description

The XE2X4V5B is a bi-directional ESD protection diode designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE2X4V5B may be used to provide ESD protection up to ±30kV (contact and air discharge) according to IEC61000-4-2, and withstand peak pulse current up to 9A (8/20μs) according to IEC61000-4-5.

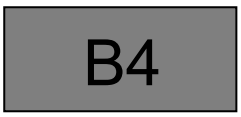
The XE2X4V5B is available in DFN0603-2L package. Standard products are Pb-free and Halogen-free.

http//:www.xihangsemi.com

DFN0603-2L（Bottom View）



Circuit Diagram



Marking（Top View）

Features

- Working voltage: 4.5V
- DFN0603-2L Package
- Transient protection for data lines to
  IEC 61000-4-2 (ESD) ±30kV (air),
  ±30kV (contact)
  IEC 61000-4-5 (Surge) 9A (8/20us)
  IEC61000-4-4（EFT）40A（5/50ns）
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

Order Information

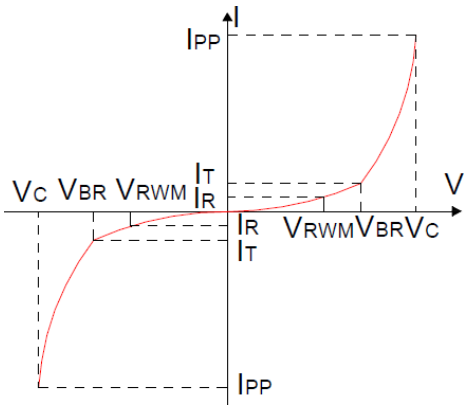
Device	Package	Shipping
XE2X4V5B	DFN0603-2L	10000/Tape&Reel

Applications

- Personal digital assistants (PDA's)
- Notebooks, Desktops, and Servers
- Cell phone Handsets and Accessories
- Portable Electronics
- Peripherals

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_R	Reverse Breakdown Current
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_P = 8/20μS)	P_{PK}	90	W
Peak Pulse Currentr (t_P = 8/20μS)	I_{pp}	9	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	kV
Lead Soldering Temperature	T_L	260 (10 sec)	℃
Operating Temperature	T_{OP}	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

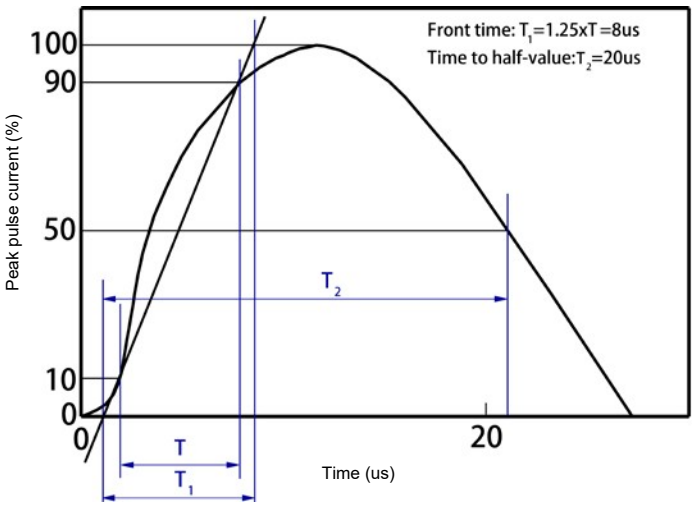
Electrical Characteristics (Ta=25℃, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				±4.5	V
Reverse Leakage Current	I_R	V_{RWM} =±3.3V			100	nA
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	4.8	5.3	6	V
Clamping Voltage[1)]	V_{CL}	I_{PP}=5A t_P = 8/20μs		7	8	V
		I_{PP}=9A t_P = 8/20μs		9	10	V
Junction Capacitance	C_j	V_R=0V f = 1MHz		13	15	pF

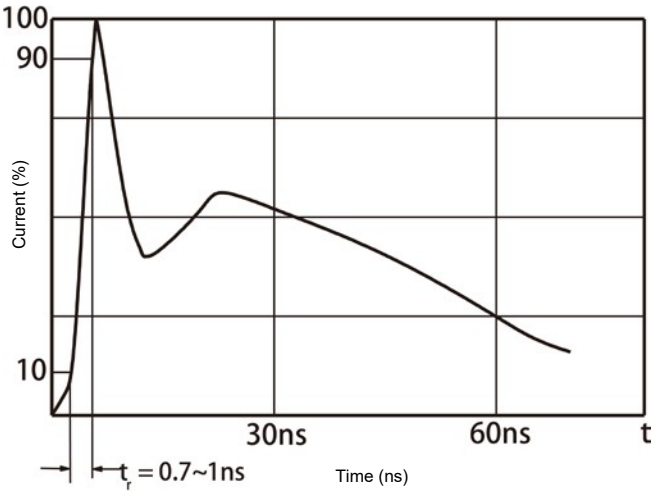
Notes:

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

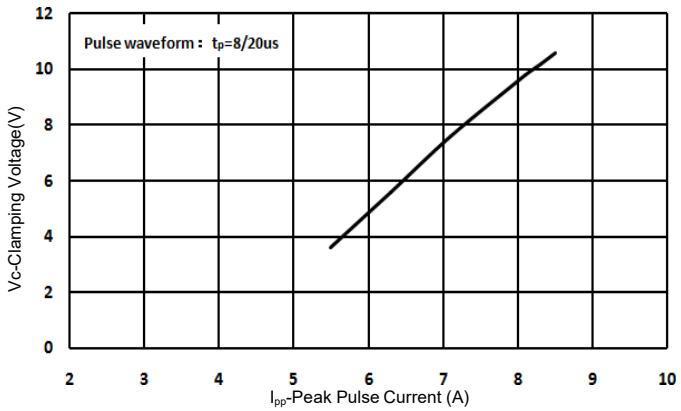
Typical Characteristics (Ta=25℃, unless otherwise noted)



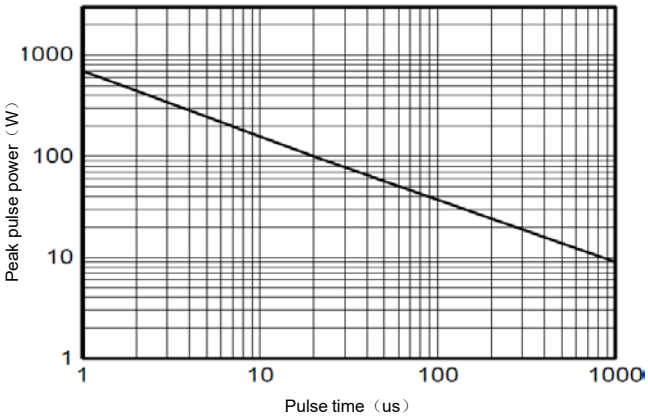
8/20 us waveform per IEC61000-4-5



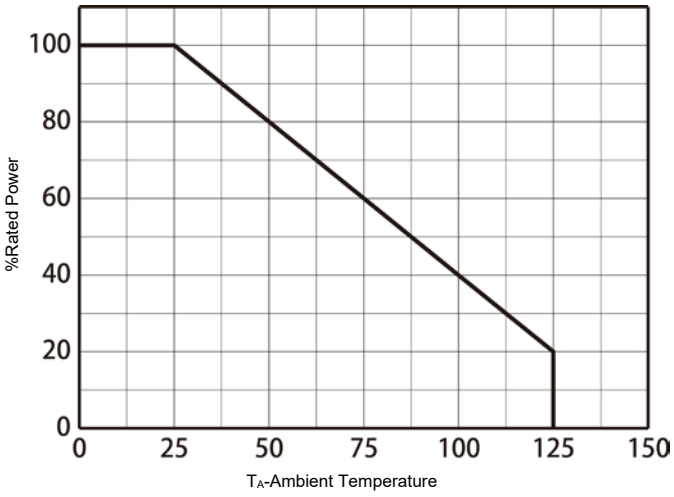
Contact discharge current waveform per IEC61000-4-2



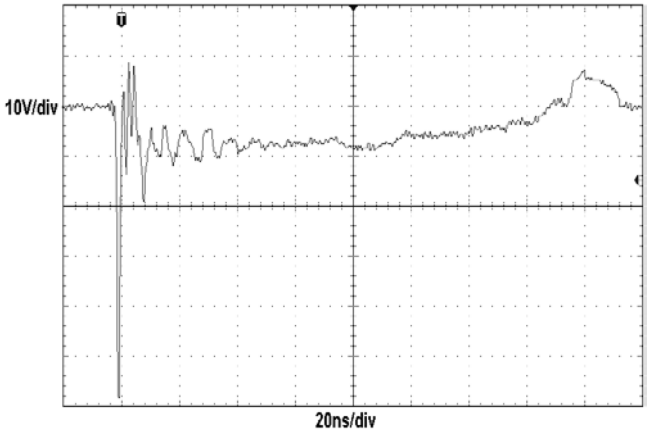
Clamping voltage vs. Peak pulse current



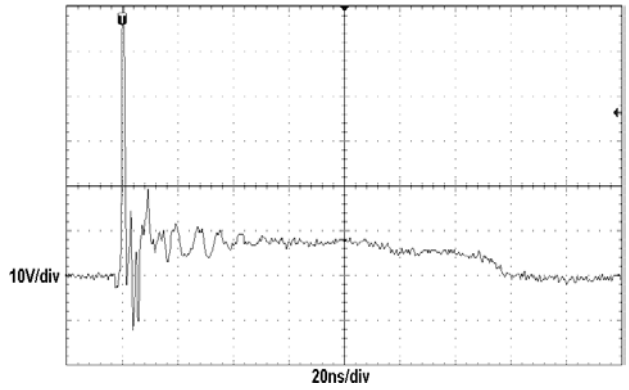
Non-repetiitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

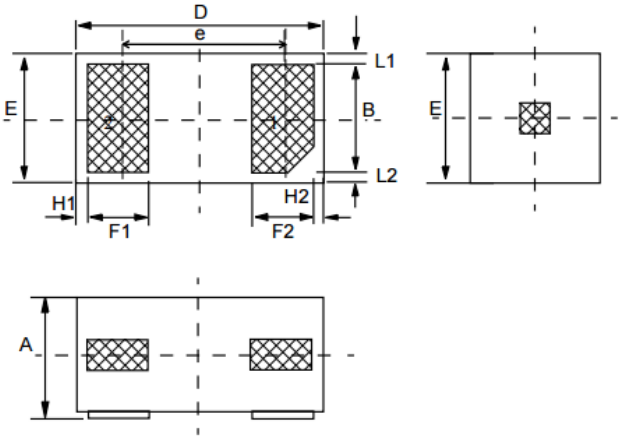


ESD Clamping(+8kV Contact Discharge)



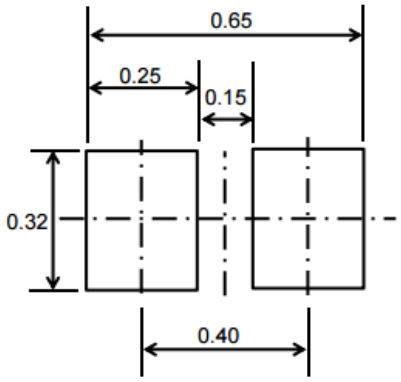
ESD Clamping(-8kV Contact Discharge)

Package Outline Dimensions (DFN0603-2L）



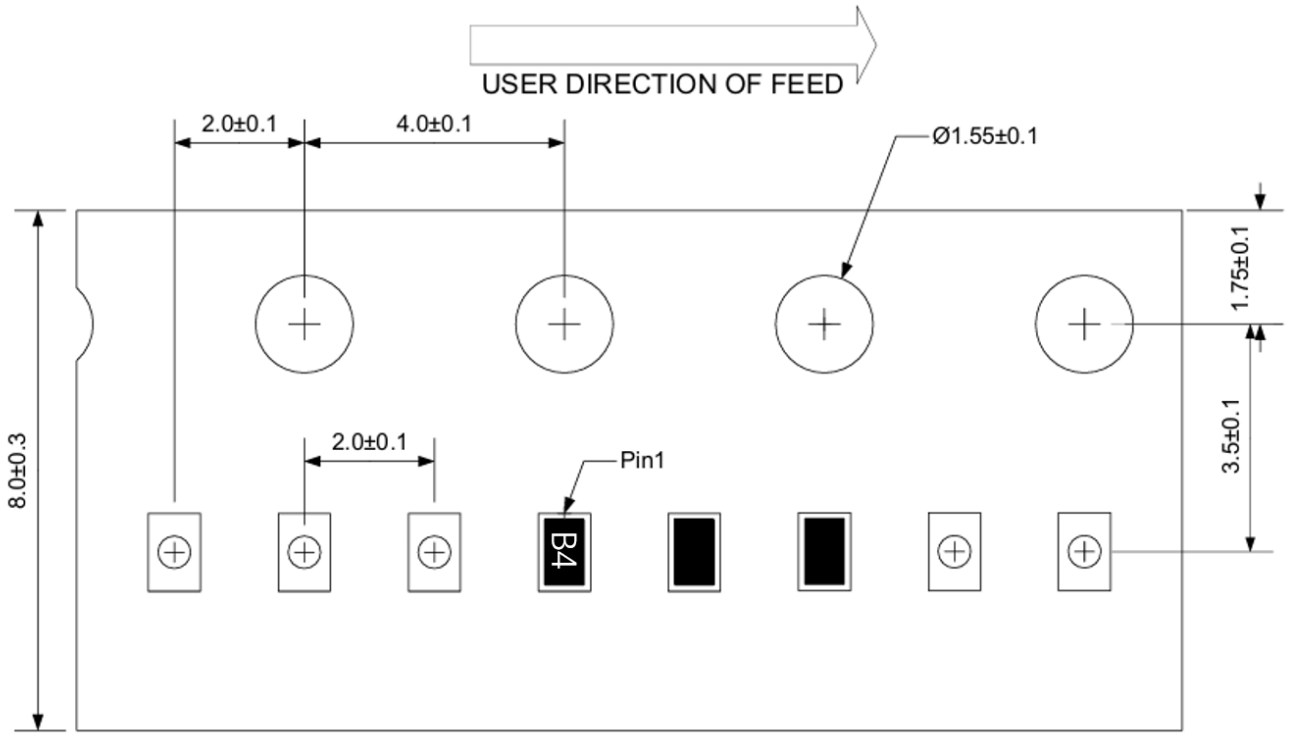
Dim	Millimeters		
	MIN	Typ.	MAX
A	0.270	0.300	0.340
B	0.200	0.250	0.300
D	0.550	0.600	0.650
E	0.250	0.300	0.350
e	-	0.350	-
F1	0.130	0.180	0.230
F2	0.130	0.180	0.230
L1	0.015	0.030	0.045
L2	0.015	0.030	0.045
H1	0.030	0.045	0.060
H2	0.030	0.045	0.060

Recommend Land Pattern (Unit: mm)



Note:

Load With Information



Unit:mm

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