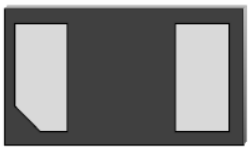
Description

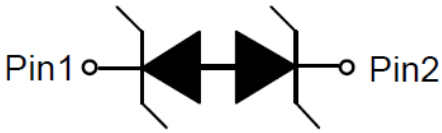
The XE2F3V3B is a bi-directional ESD protection diode designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE2F3V3B may be used to provide ESD protection up to ±30kV (contact and air discharge) according to IEC61000-4-2, and withstand peak pulse current up to 10A (8/20μs) according to IEC61000-4-5.

The XE2F3V3B is available in DFN1006-2L package. Standard products are Pb-free and Halogen-free.

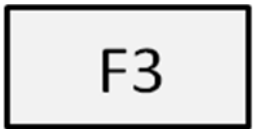
http//:www.xihangsemi.com



DFN1006-2L（Bottom View）



Circuit Diagram



Marking（Top View）

Features

- Working voltage: 3.3V
- DFN1006-2L Package
- Transient protection for data lines to
  IEC 61000-4-2 (ESD) ±30kV (air),
  ±30kV (contact)
  IEC 61000-4-5 (Surge) 10A (8/20us)
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

Order Information

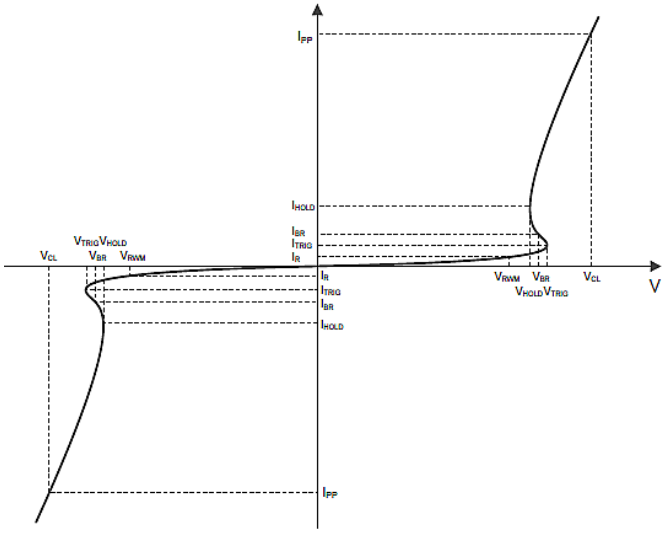
Device	Package	Shipping
XE2F3V3B	DFN1006-2L	10000/Tape&Reel

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_{BR}	Reverse Breakdown Current
I_{PP}	Reverse Peak Pulse Current
V_{CL}	Clamping Voltage @ I_{PP}
V_{TRIG}	Reverse Trigger Voltage
I_{TRIG}	Reverse Trigger Current
V_{HOLD}	Reverse Holding Voltage
I_{HOLD}	Reverse Holding Current



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_P = 8/20μS)	P_{PK}	85	W
Peak Pulse Currentr (t_P = 8/20μS)	I_{pp}	10	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	℃

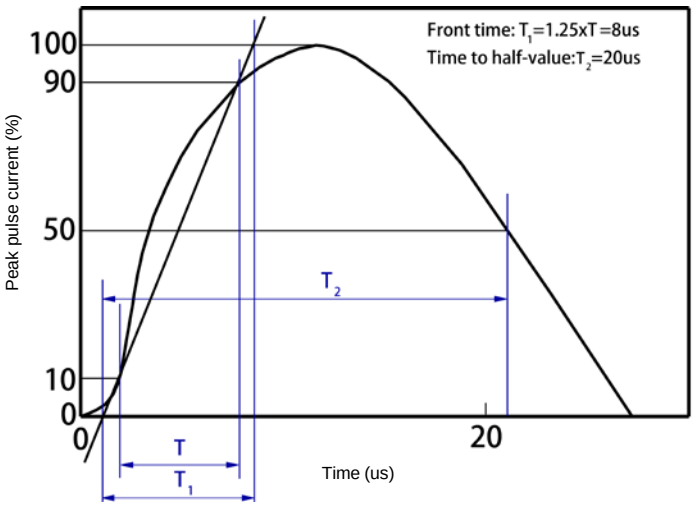
Electrical Characteristics (Ta=25℃, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				±3.3	V
Reverse Leakage Current	I_R	V_{RWM} =3.3V			100	nA
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	3.5	4.1	4.5	V
Reverse Holding Voltage	V_{Hold}	I_{Hold}=50mA	3.5	4.1	4.5	V
Clamping Voltage[1)]	V_{CL}	I_{PP}=5A t_P = 8/20μs			6	V
		I_{PP}=10A t_P = 8/20μs			8.5	V
Junction Capacitance	C_j	V_R=0V f = 1MHz		13	15	pF

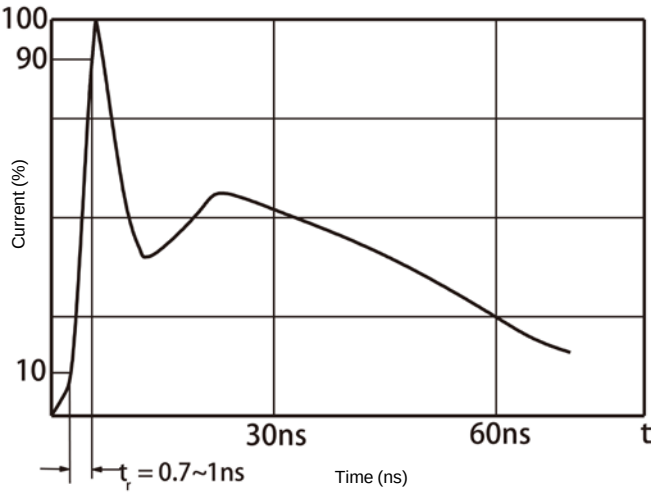
Notes:

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

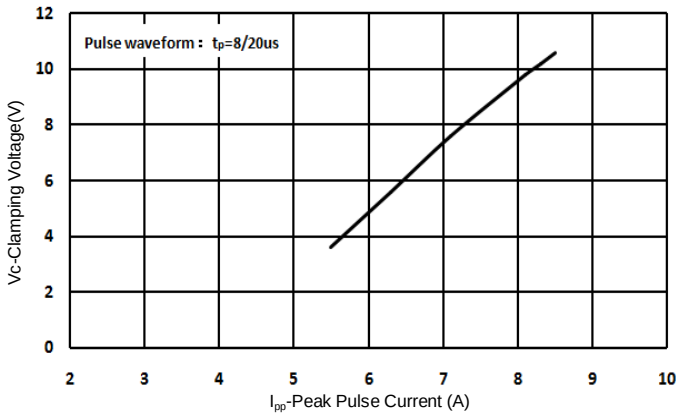
Typical Characteristics (Ta=25℃, unless otherwise noted)



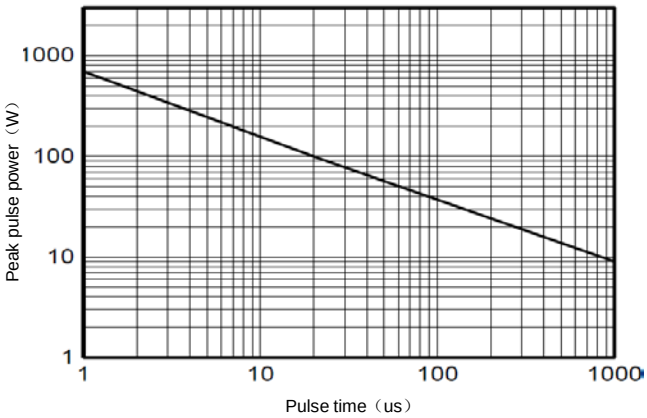
8/20 us waveform per IEC61000-4-5



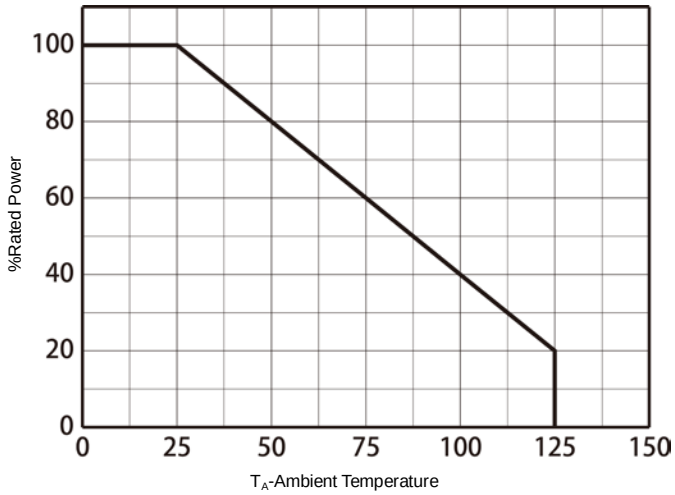
Contact discharge current waveform per IEC61000-4-2



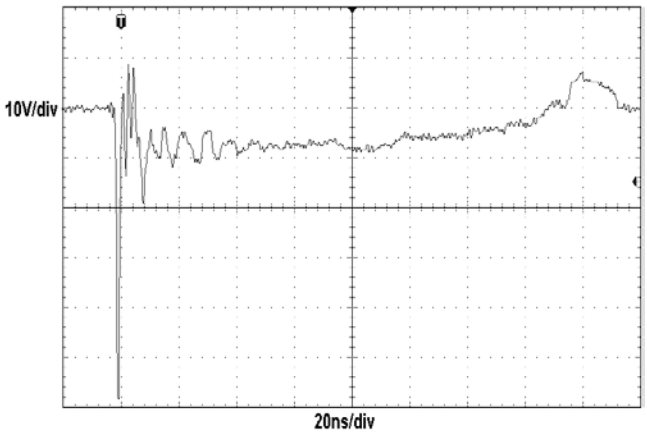
Clamping voltage vs. Peak pulse current



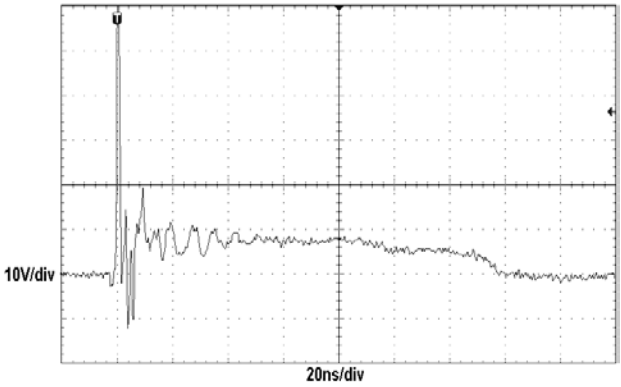
Non-repetiitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

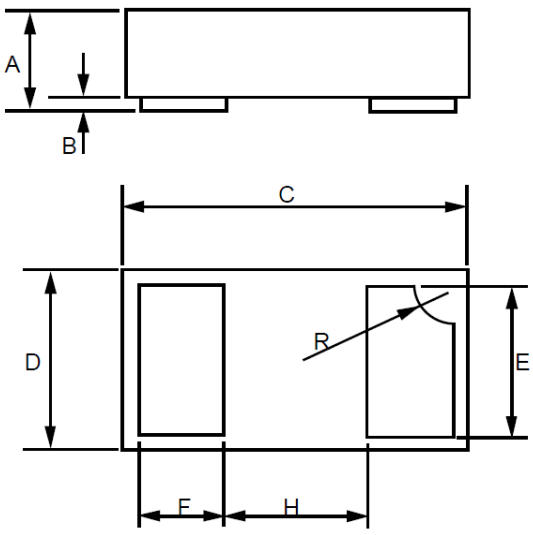


ESD Clamping(+8kV Contact Discharge)



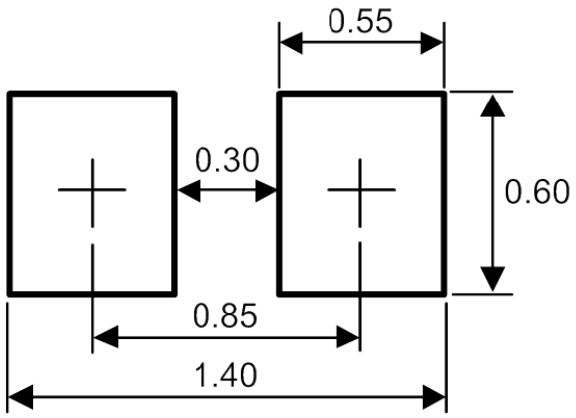
ESD Clamping(-8kV Contact Discharge)

Package Outline Dimensions (DFN1006-2L）



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.018	0.020	0.46	0.51
B	0.000	0.002	0	0.05
C	0.037	0.041	0.95	1.05
D	0.022	0.025	0.55	0.65
E	0.017	0.021	0.45	0.55
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ	
R	0.001	0.005	0.05	0.15

Recommend Land Pattern (Unit: mm)



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

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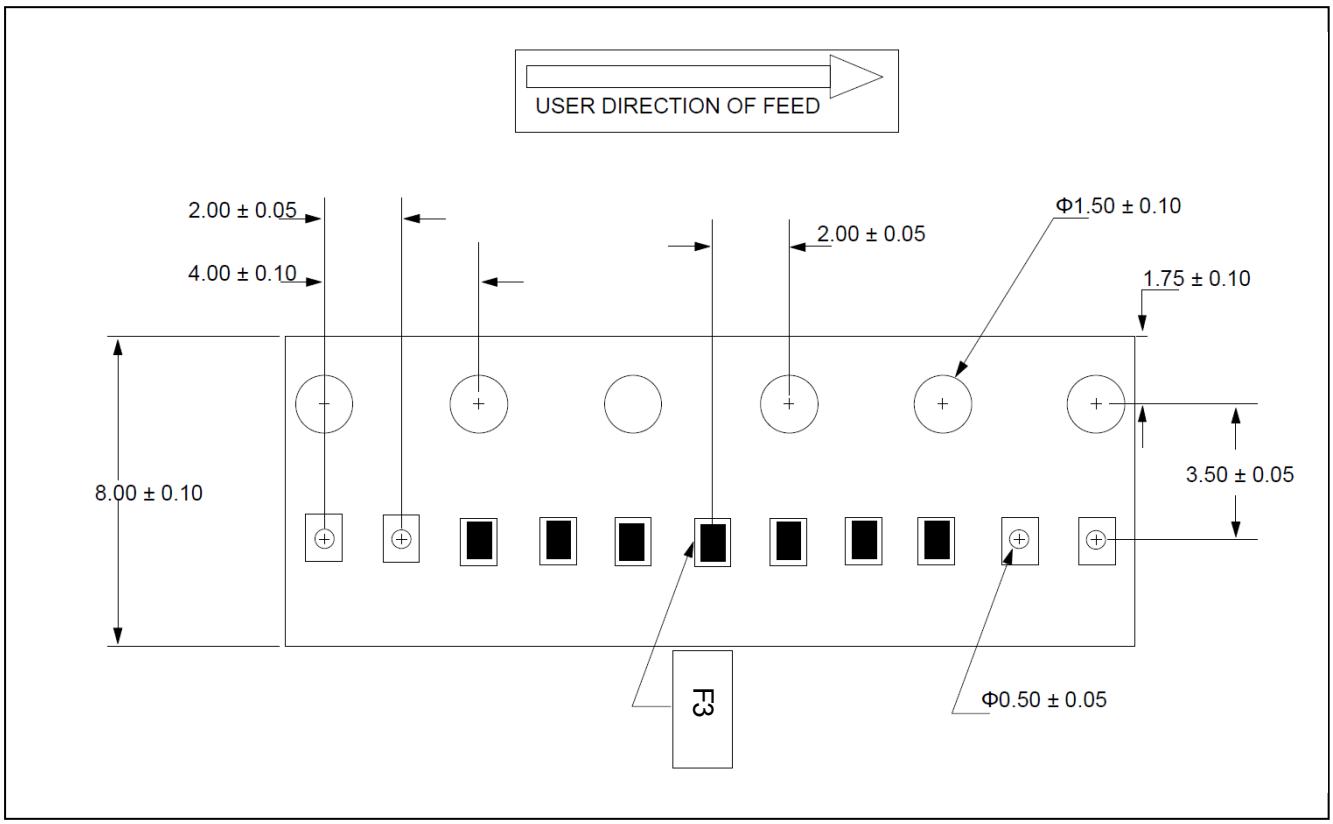

Unit：mm