

Description

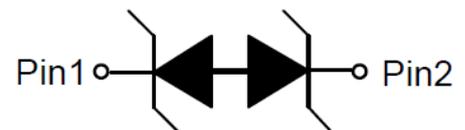
The XE2F5VBS is a bi-directional ESD protection diode designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE2F5VBS may be used to provide ESD protection up to $\pm 30\text{kV}$ (contact and air discharge) according to IEC61000-4-2, and withstand peak pulse current up to 5.5A (8/20 μs) according to IEC61000-4-5.

The XE2F5VBS is available in DFN1006-2L package. Standard products are Pb-free and Halogen-free.

<http://www.xihangsemi.com>



DFN1006-2L (Bottom View)



Circuit Diagram

Features

- ◆ Working voltage: 5V
- ◆ DFN1006-2L Package
- ◆ Transient protection for data lines to IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
IEC 61000-4-5 (Surge) 5.5A (8/20 μs)
- ◆ Low leakage current
- ◆ Low clamping voltage
- ◆ Solid-state silicon-avalanche technology

Applications

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



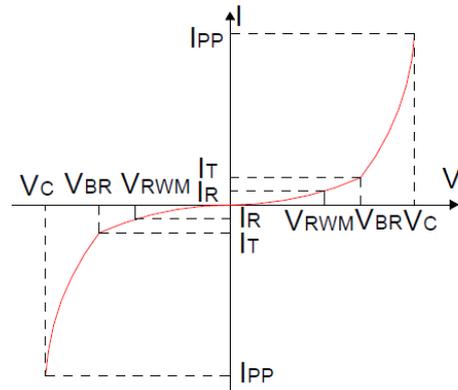
Marking (Top View)

Order Information

Device	Package	Shipping
XE2F5VBS	DFN1006-2L	10000/Tape&Reel

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 ($t_P = 8/20\mu S$)	P_{PK}	66	W
Peak Pulse Current ($t_P = 8/20\mu S$)	I_{pp}	5.5	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)	$^{\circ}C$
Operating Temperature	T_{OP}	-55 to +125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

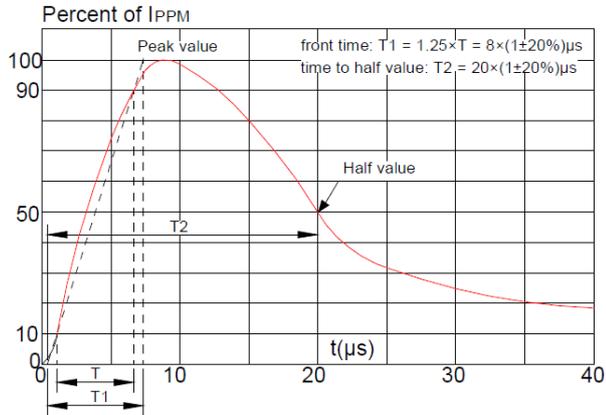
Electrical Characteristics (Ta=25 $^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				± 5	V
Reverse Leakage Current	I_R	$V_{RWM} = \pm 5V$			100	nA
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.6			V
Clamping Voltage ¹⁾	V_C	$I_{PP} = 1A$ $t_P = 8/20\mu s$		8	9.5	V
		$I_{PP} = 5.5A$ $t_P = 8/20\mu s$		10	12	V
Junction Capacitance	C_j	$V_R = 0V$ $f = 1MHz$		12		pF

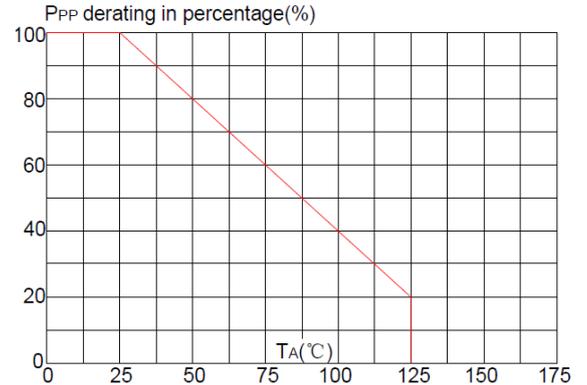
Notes:

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

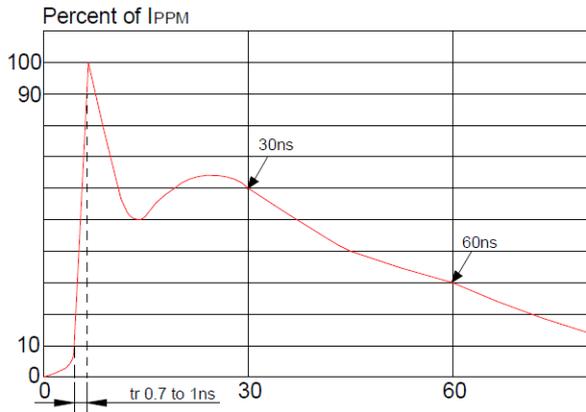
Typical Characteristics (Ta=25°C, unless otherwise noted)



Pulse Waveform (8/20us)

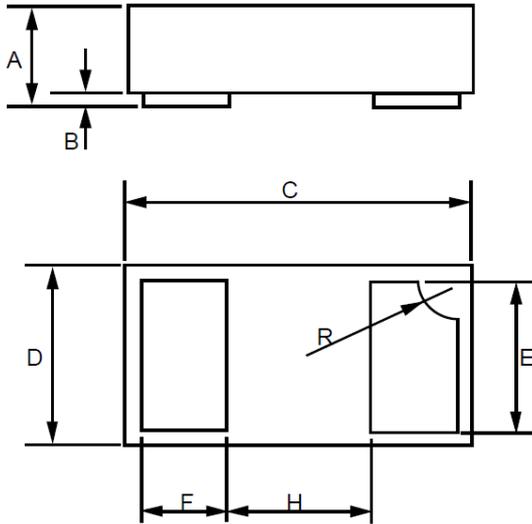


Pulse Derating Curve



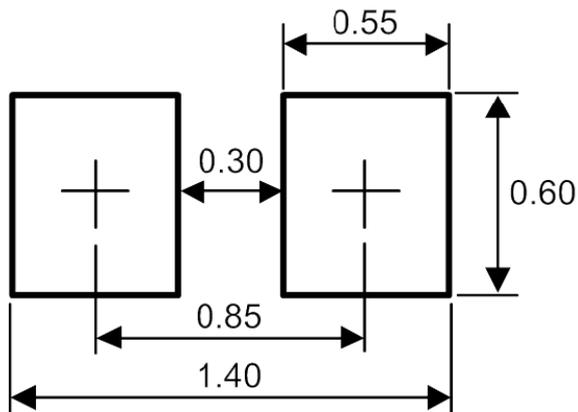
ESD Clamping(8kV Contact Discharge)

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

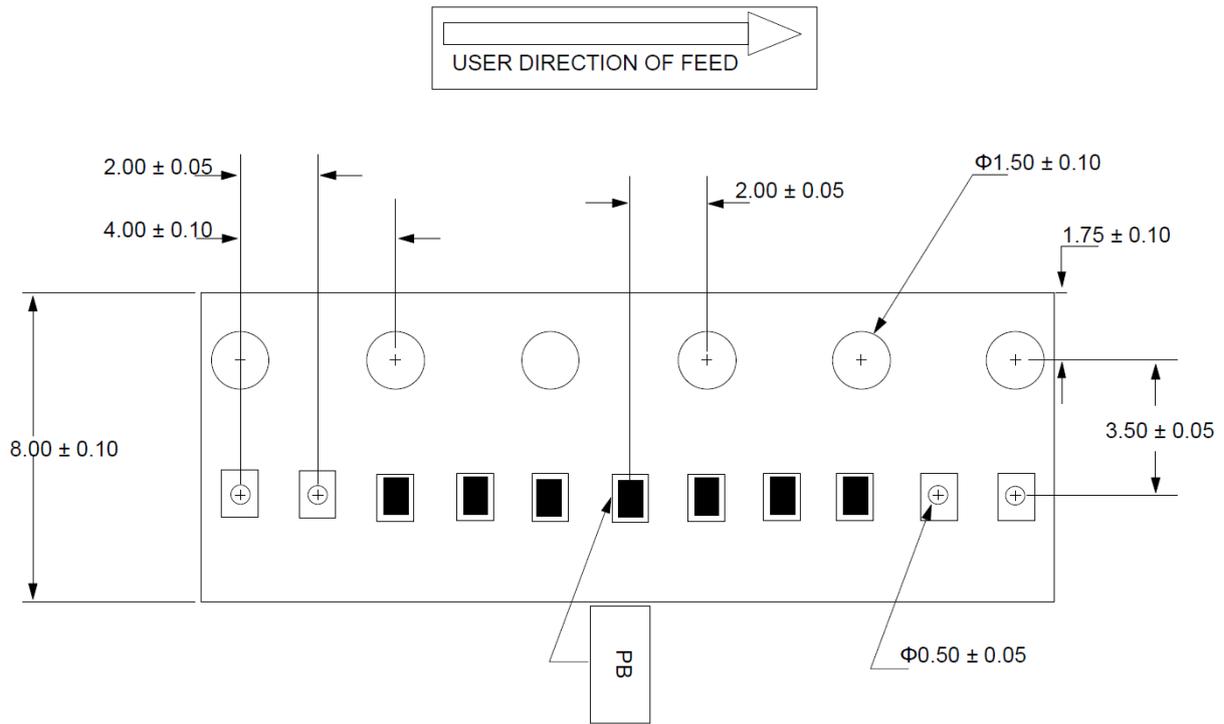
Recommend Land Pattern (Unit: mm)



Note:

This recommended land pattern is for reference purpose only.

Load with information



Unit: mm

NOTICE

XIHANG's products are not authorized for use as components in any life support device or systems.

XIHANG reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. XIHANG does not assume any liability arising out of the application or use of any product described herein.