

Description

The XE2FHC5VU TVS diode is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebooks, and PDA's. It offers superior electrical characteristics such as low clamping voltage, low leakage current and high surge capability. It is designed to protect sensitive electronic components which are connected to power lines, from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning.

The XE2FHC5VU is in a DFN1006-2L package and will protect one uni-directional line. It 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 current up to 25A for 8/20 us according to IEC61000-4-5.

Features

- ◆ Working voltage: 5V
- ◆ DFN1006-2L Package
- ◆ Transient protection for data lines to IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-5 (Surge) 25A (8/20us)
- IEC61000-4-4(EFT)40A(5/50ns)
- ◆ Low leakage current
- ◆ Low clamping voltage
- ◆ Solid-state silicon-avalanche technology

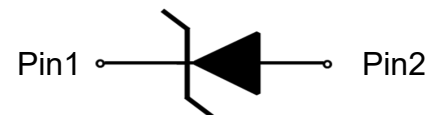
Applications

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

<http://www.xihangsemi.com>



DFN1006-2L (Bottom View)



Circuit Diagram



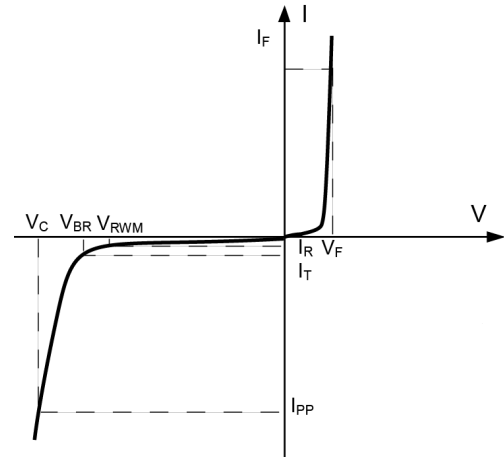
Marking (Top View)

Order Information

Device	Package	Shipping
XE2FHC5VU	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_{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 ($t_P = 8/20\mu S$)	P_{PK}	375	W
Peak Pulse Current ($t_P = 8/20\mu S$)	I_{pp}	25	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	$^{\circ}C$

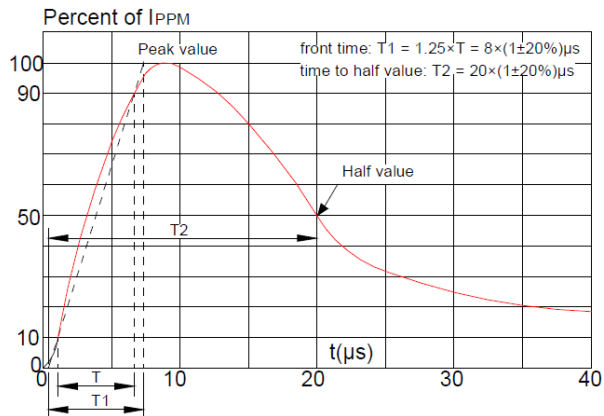
Electrical Characteristics ($T_a=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$			1	μA
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.8			V
Clamping Voltage ¹⁾	V_C	$I_{PP} = 5A$ $t_P = 8/20\mu s$			12	V
		$I_{PP} = 25A$ $t_P = 8/20\mu s$			15	V
Junction Capacitance	C_j	$V_R = 0V$ $f = 1MHz$			300	pF

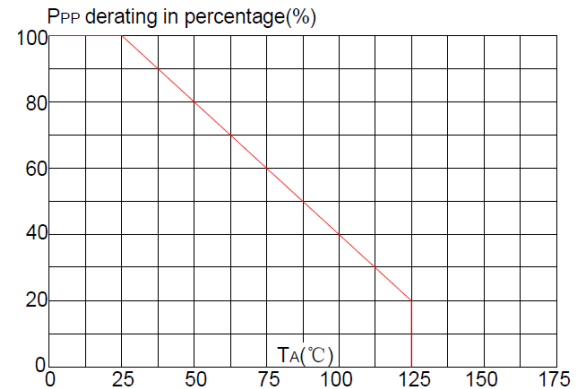
Notes:

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

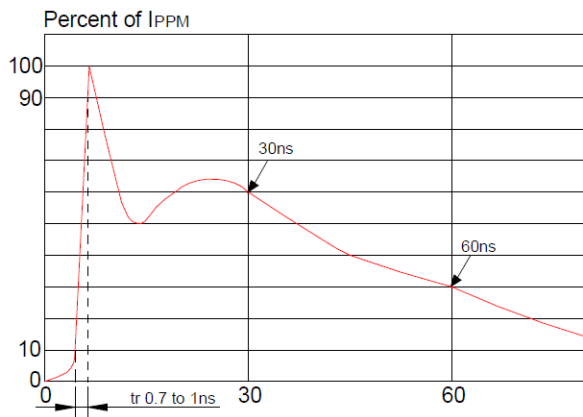
Typical Characteristics (Ta=25°C, unless otherwise noted)



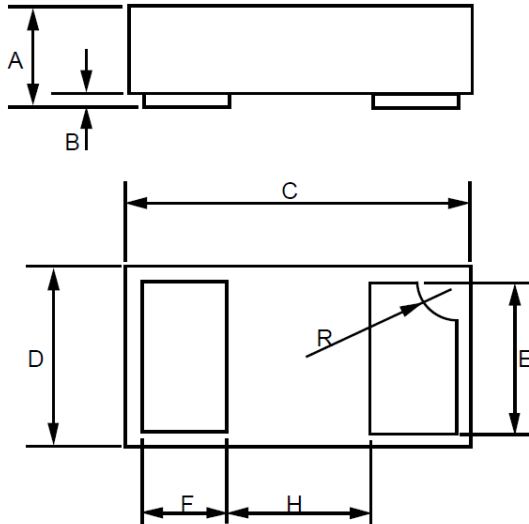
Pulse Waveform (8/20us)



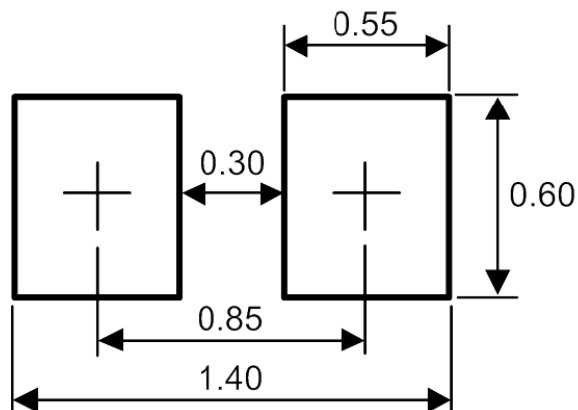
Pulse Derating Curve



ESD Clamping(8kV Contact Discharge)

Package Outline Dimensions (DFN1006-2L)


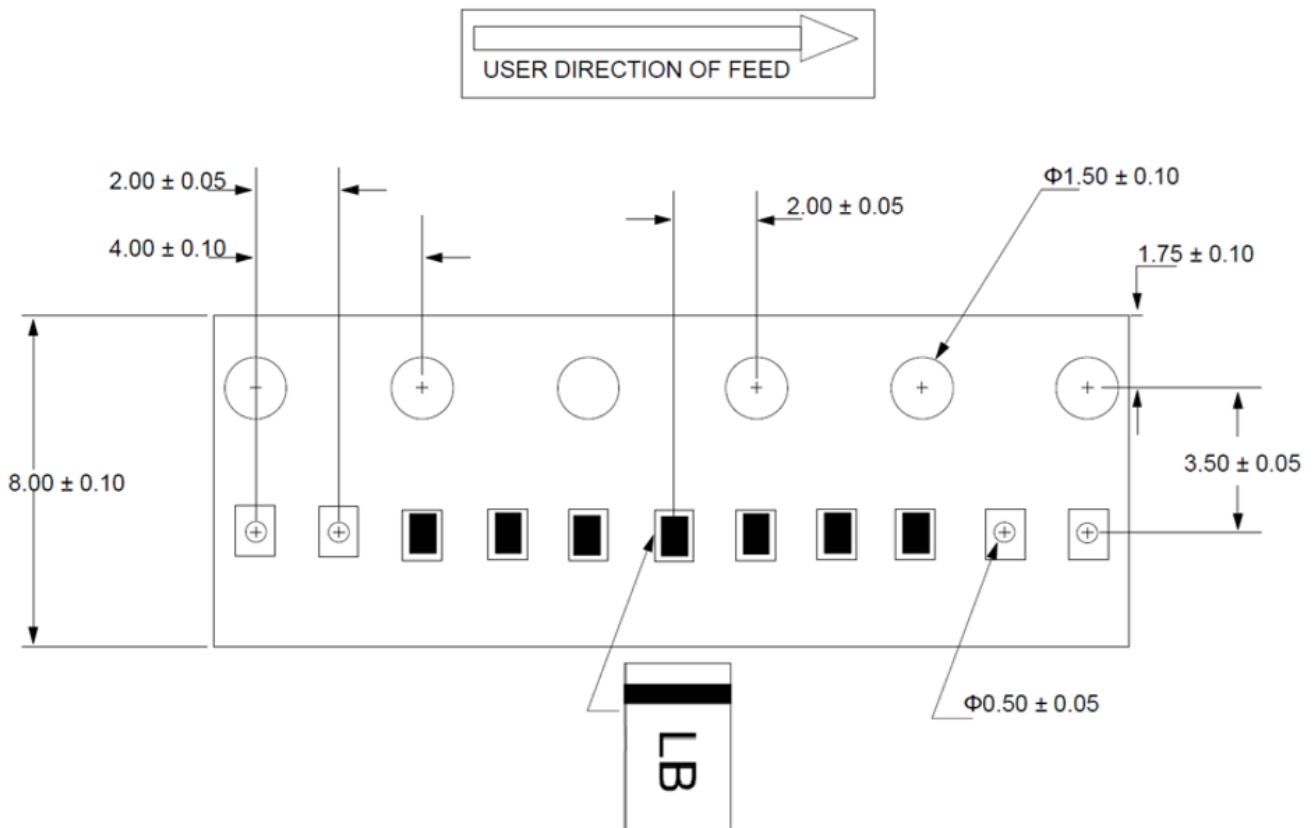
Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.018	0.020	0.46	0.51
B	0.000	0.002	0	0.05
C	0.037	0.041	0.95	1.05
D	0.022	0.025	0.55	0.65
E	0.017	0.021	0.45	0.55
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ	
R	0.001	0.005	0.05	0.15

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.

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