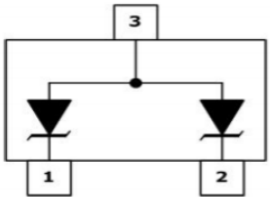
Description

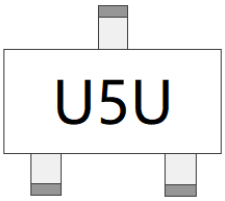
The XE23TUC5VU is a two low ultra low capacitance ESD protection array designed to protect sensitive electronic components which are connected to high speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The XE23TUC5VU may be used to provide ESD protection up to ±20kV （contact and air）discharge according to IEC61000-4-2, and withstand peak pulse current up to 5A (8/20μs) according to IEC61000-4-5.
The XE23TUC5VU is available in SOT-23 package. Standard products are Pb-free and Halogen-free.

http//:www.xihangsemi.com

SOT-23



Circuit Diagram



Marking（Top View）

Features

- Working voltage: 5V
- SOT-23 Package
- Transient protection for data lines to
  IEC61000-4-2 (ESD) ±20kV (air),
  ±20kV (contact)
  IEC61000-4-5 (Surge) 5A (8/20us)
  IEC61000-4-4(EFT)40A(5/50ns)
- Low leakage current
- Low clamping voltage
- Solid-state silicon-avalanche technology

Order Information

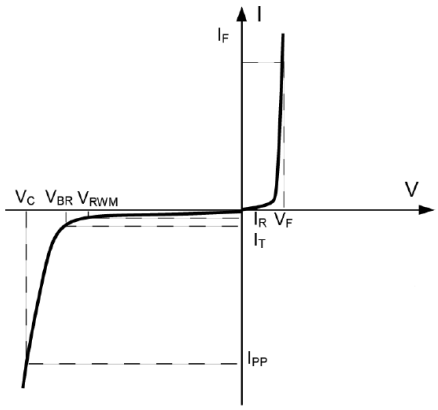
Device	Package	Shipping
XE23TUC5VU	SOT-23	3000/Tape&Reel

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}	75	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	℃

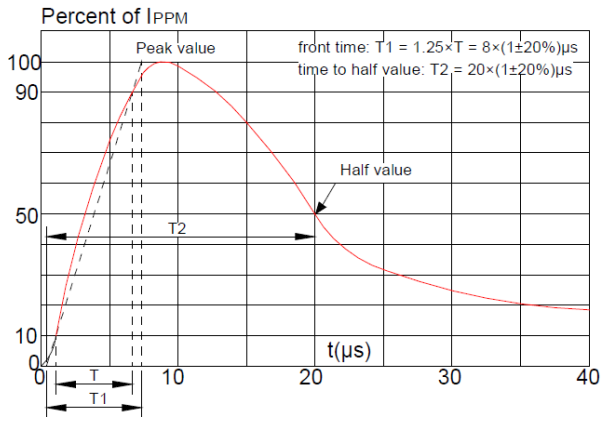
Electrical Characteristics (Ta=25℃, unless otherwise noted)

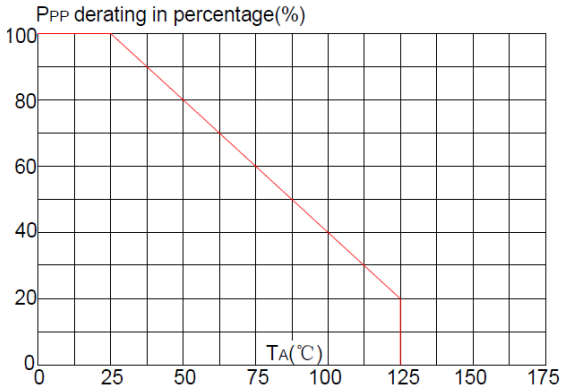
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Leakage Current	I_R	V_{RWM} =5V			100	nA
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	7.0	8.0	9.0	V
Clamping Voltage[1)]	V_C	I_{PP}=1A t_P = 8/20μs		8.5	10	V
		I_{PP}=5A t_P = 8/20μs		13	15	V
Junction Capacitance	C_j	V_R=0V f = 1MHz, Any I/O to GND		0.6	0.8	pF
		V_R=0V f = 1MHz, Between any I/O pin		0.3	0.4	pF

Notes:

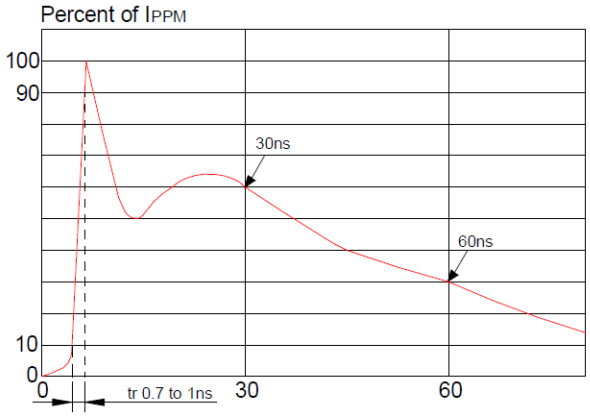
1)Non-repetitive current pulse, according to IEC61000-4-5.

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



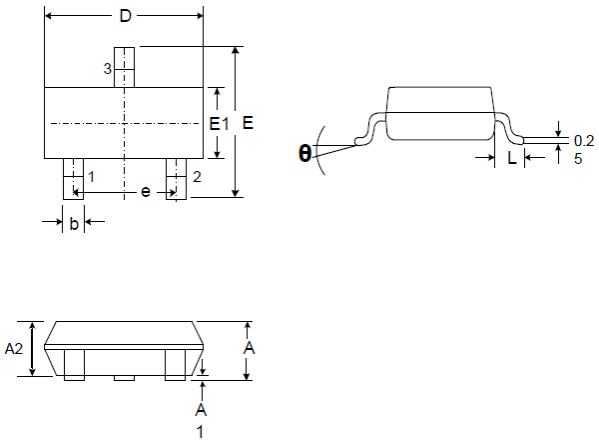


Pulse Derating Curve



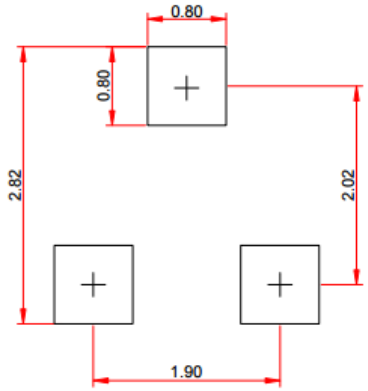
ESD Clamping(8kV Contact Discharge)

Package Outline Dimensions (SOT-23）



SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.89	1.12	0.035	0.044
A1	0.01	0.10	0.0006	0.00434
A2	0.88	1.02	0.035	0.040
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.082	0.104
E1	1.20	1.40	0.047	0.055
e	1.90BSC		0.75BSC	
L	0.40	0.60	0.015	0.024
Θ	0	8	0	8

Recommend Land Pattern (Unit: mm)



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

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.