

Description

The XE9DHC5VU is a ESD protection diode which provide a very high level protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD).It is designed to replace multilayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

The XE9DHC5VU 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 7.5A (8/20 μs) according to IEC61000-4-5.

The XE9DHC5VU is available in SOD923 package. Standard products are Pb-free and Halogen-free.

Features

- ◆ Working voltage: 5V
- ◆ SOD923 Package
- ◆ IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air),
 $\pm 30\text{kV}$ (contact)
- ◆ IEC 61000-4-5 (Surge) 7.5A (8/20us)
- ◆ Low leakage current
- ◆ Low clamping voltage
- ◆ Solid-state silicon-avalanche technology

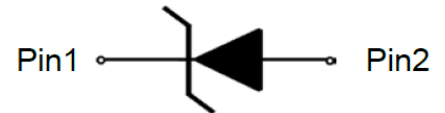
Applications

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

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SOD923



Circuit Diagram



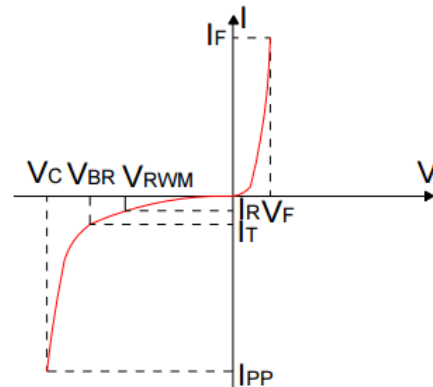
Marking (Top View)

Order Information

Device	Package	Shipping
XE9DHC5VU	SOD923	8000/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}
V_F	Forward Voltage



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu S$)	P_{PK}	92	W
Peak Pulse Current ($t_p = 8/20\mu S$)	I_{pp}	7.5	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}	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

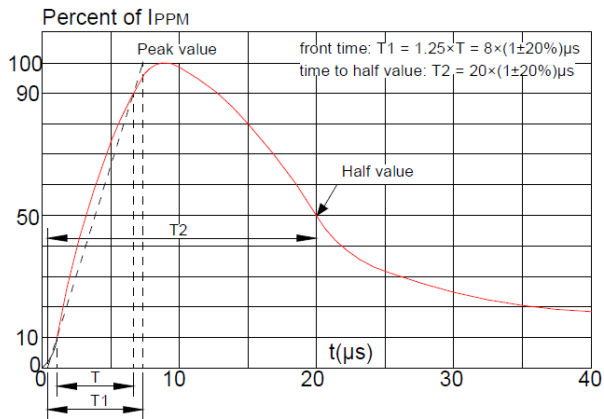
Electrical Characteristics ($T_a=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			1	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.2			V
Forward Voltage	V_F	$I_F = 10mA$			0.9	V
Clamping Voltage(1)	V_C	$I_{PP}=7.5A$ $t_p = 8/20\mu s$			12.3	V
Junction Capacitance	C_j	$V_R=0V$ $f = 1MHz$		40		pF

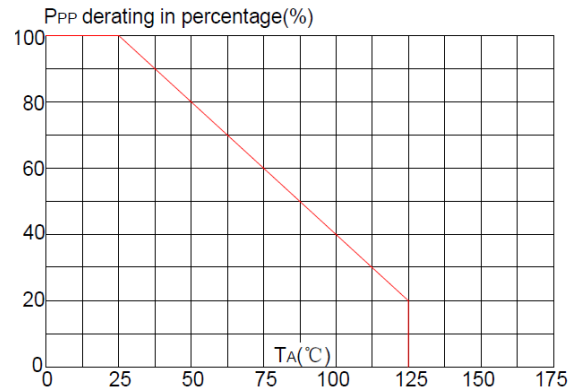
Notes:

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

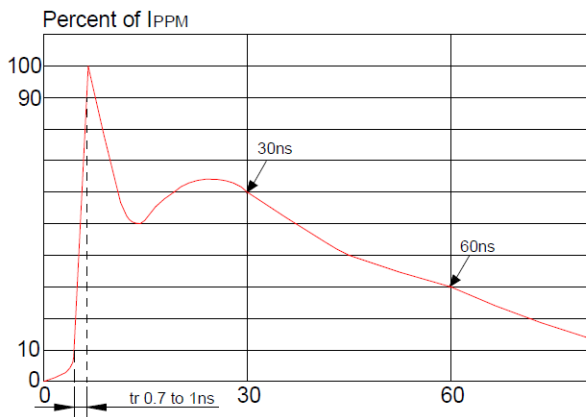
Typical Characteristics (Ta=25°C, unless otherwise noted)



Pulse Waveform (8/20us)

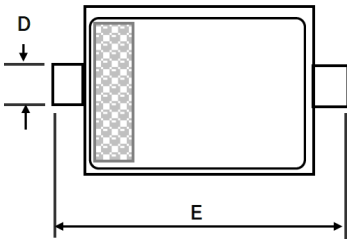
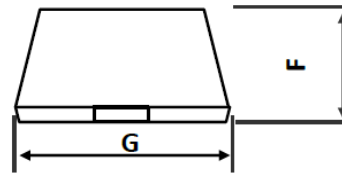
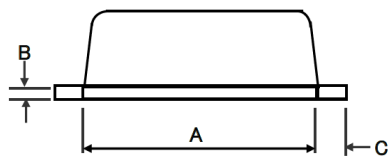


Pulse Derating Curve



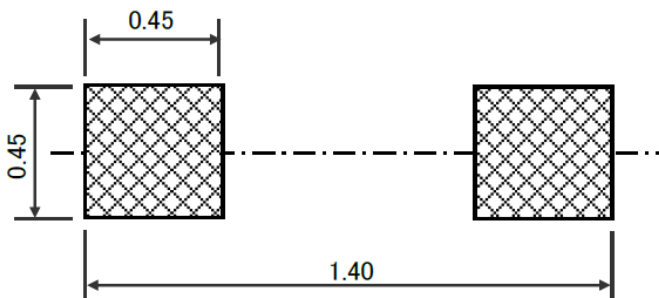
ESD Clamping(8kV Contact Discharge)

Package Outline Dimensions: (SOD923)



Unit	A	B	C	D	E	F	G
Max.	0.90	0.20	0.15	0.30	1.10	0.45	0.65
Min.	0.70	0.05	0.05	0.15	0.90	0.39	0.55

Land Pattern Recommendation



Note:

1. Halogen free, EMC
2. Pb free solder
3. Lead thickness includes solder plating
4. Lead frame: Cu
5. Other Tolerance: ± 0.05
6. Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
7. 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.

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