

## DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multi-layer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

## FEATURES

- Bi-directional ESD protection of one line
- Low capacitance: 1pF
- Low reverse stand-off voltage: 15V
- Low reverse clamping voltage
- Low leakage current

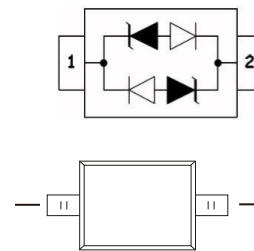
## APPLICATIONS

- Cellular phones
- Audio and video equipment
- Handheld-Wireless Systems
- PDAs
- Ethernet – 10/100/1000 Base

## PACKAGE OUTLINE



## PIN CONFIGURATION



Front side

- Excellent package: 1.7mm×1.3mm×1.0mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection
- Portable electronics
- USB Interface
- Other electronics equipments communication systems



**MAXIMUM RATINGS ( Ta=25°C unless otherwise noted )**

Parameter	Symbol	Value	Units
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±20	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Peak Pulse Power (8/20µs)	P <sub>PP</sub>	350	W
Operating Temperature	T <sub>OPT</sub>	-55/+150	°C
Storage Temperature	T <sub>STG</sub>	-55/+150	°C
Lead Soldering Temperature	T <sub>L</sub>	260	°C

**ESD standards compliance**

**IEC61000-4-2 Standard**

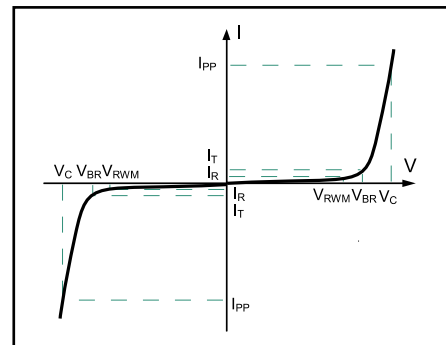
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

**JESD22-A114-B Standard**

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

**ELECTRICAL PARAMETER**

Symbol	Parameter
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Reverse Standoff Voltage



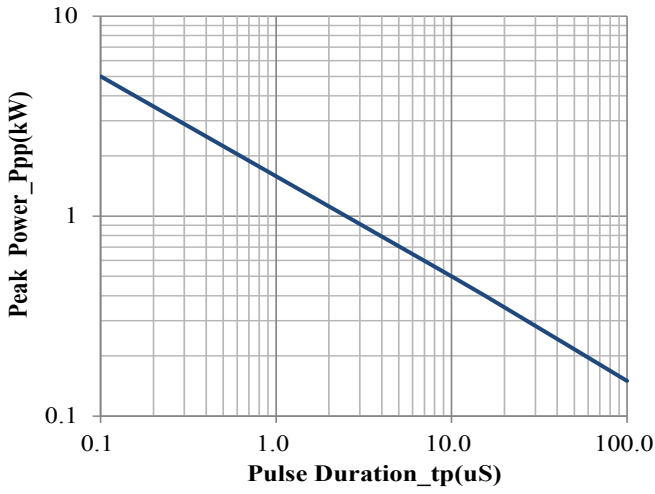
V-I characteristics for a Bi-directional TVS

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

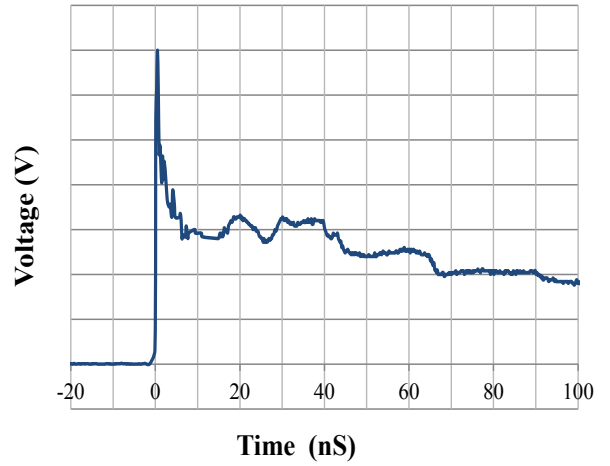
PART	DEVICE MARKING	$V_{RWM}$ (V) (max.)	$V_B$ (V) (min.)	$I_T$ (mA)	$V_C@1A$ (V) (max.)	$V_C$ (V) (max.) (@A)	$I_R$ (A) (max.)	C (pF) (typ)
<b>LXE323F15VB</b>	EC	15.0	16.7	1	24.0	40	6	1



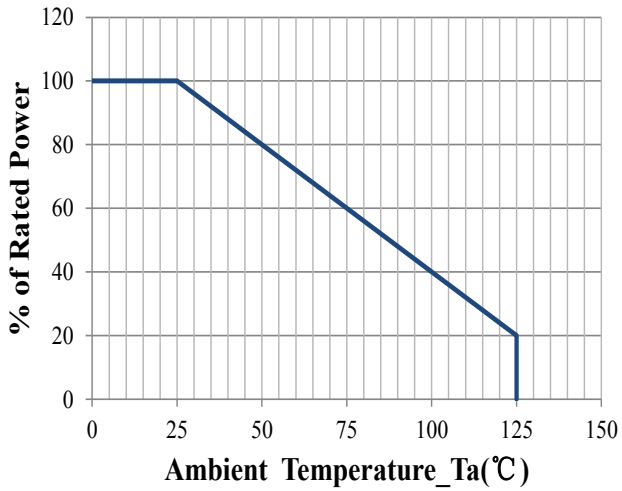
Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



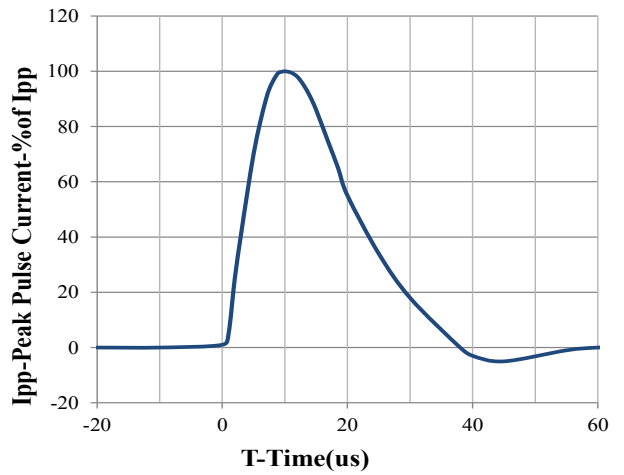
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



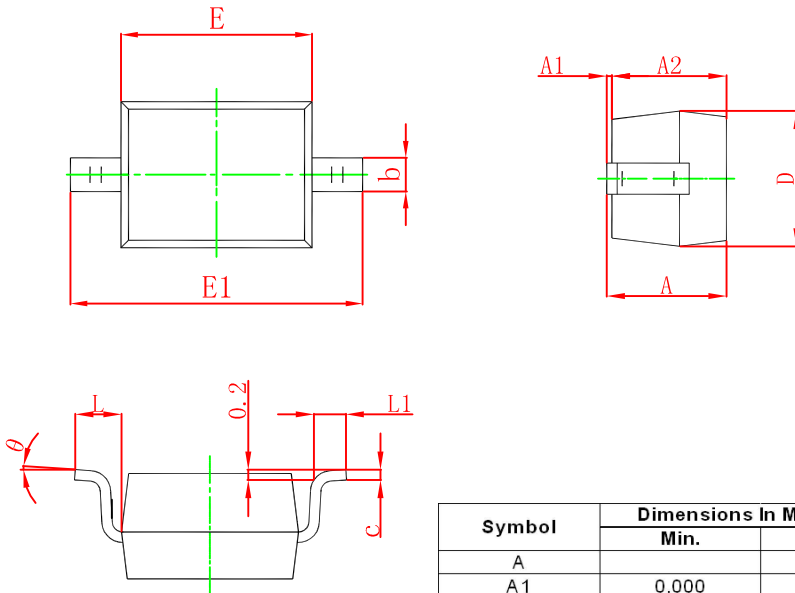
Power Derating Curve



8 X 20us Pulse Waveform

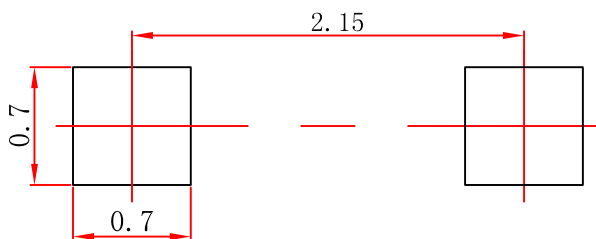
**PACKAGE OUTLINE AND PAD LAYOUT INFORMATION**

**SOD-323 Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°		8°	

**SOD-323 Suggested Pad Layout**



- Note:**
1. Controlling dimension: in millimeters.
  2. General tolerance: ± 0.05mm.
  3. The pad layout is for reference purposes only.