

## SuperESD - PESDxxL1BA,115-ES

### 1. Description

The PESDxxL1BA,115-ES is Transient Voltage Suppressor that designed to protect components which are connected to data and transmission lines against electrostatic discharge (ESD), electrical fast transient (EFT), and lightning. All pins are rated to withstand 20kV ESD pulses using the IEC61000-4-2 air discharge method.

### 2. Features

- IEC 61000-4-2 Level 4 ESD Protection
  - ±20kV Contact Discharge
  - ±20kV Air Discharge
- 400W Peak pulse Power (8/20us)
- Low clamping voltage
- Low leakage current
- RoHS compliant
- Protecting one bi-directional lines
- Working voltage: 3.3/5/8/12/15/24V

### 3. Applications

- Portable electronic
- Control & monitoring systems
- Servers, notebooks, and desktop PCs
- Set-top box
- Communications systems
- Cellular handsets and accessories

### 4. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
PESDxxL1BA,115-ES	SOD-323	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches
Marking for the PESDxxL1BA,115-ES series						
$V_{RWM}$	3.3V	5V	8V	12V	15V	24V
Marking	AB	AC	2C	AD	AE	AF

Table-1 Ordering information

### 5. Pin Configuration and Functions

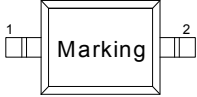
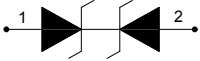
Pin	Name	Description	Outline	Circuit Diagram
1	IO1	Connect to IO		
2	IO2	Connect to IO		

Table-2 Pin configuration

## 6. Specification

### 6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P <sub>pk</sub>	-	400	W
Peak pulse current (tp=8/20us)@25°C	I <sub>PP</sub>		Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25°C	V <sub>ESD</sub>	-	±20	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V <sub>ESD</sub>	-	±20	kV
Junction temperature	T <sub>J</sub>	-	150	°C
Operating temperature	T <sub>OP</sub>	-40	125	°C
Storage temperature	T <sub>STG</sub>	-55	150	°C
Lead temperature	T <sub>L</sub>	-	260	°C

Table-3 Absolute Maximum rating

### 6.2. Electrical Characteristics

Symbol	Description
$V_{RWM}$	Rated reverse stand-off voltage
$V_{BR}$	Minimum breakdown voltage @ $I_T = 1\text{mA}$
$V_{CL}$	Typical Clamping voltage
$I_{PP}$	Maximum peak pulse current
$I_R$	Reverse leakage current @ $V_{RWM}$
$C_O$	Typical line capacitance ( $V_{IO}=0\text{V}$ , $V_{P-P} = 30\text{mV}$ , $f = 1\text{MHz}$ )

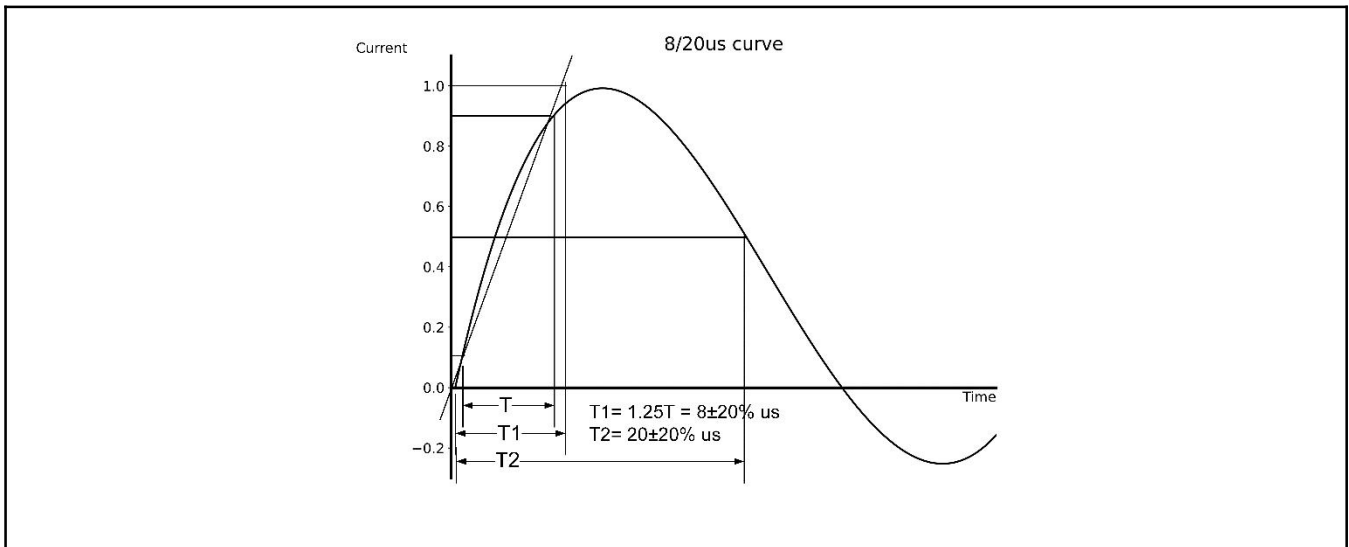
Table-4 Parameters Description

 At  $T_A = 25^\circ\text{C}$  unless otherwise noted

Part Number	$V_{RWM}$ (Max.)	$V_{BR}$ (Min.)	$V_{CL}@I=1\text{A}$ (Typ.)	$I_{PP}$ (Max.)	$V_{CL}@I=I_{PP}$ (Typ.)	$I_R$ (Max.)	$C_O$ (Typ.)
	(V)	(V)	(V)	(A)	(V)	( $\mu\text{A}$ )	(pF)
PESD3V3L1BA,115-ES	3.3	4.5	8.5	12.0	13.0	1.0	60
PESD5V0L1BA,115-ES	5.0	6.5	9.5	12.0	13.0	1.0	60
PESD8V0L1BA,115-ES	8.0	8.5	11.0	10	22.0	1.0	40
PESD12VL1BA,115-ES	12.0	13.3	18.0	7.0	26.0	1.0	20
PESD15VL1BA,115-ES	15.0	16.5	22.0	6.0	30.0	1.0	15
PESD24VL1BA,115-ES	24.0	26.0	35.0	4.0	45.0	1.0	10

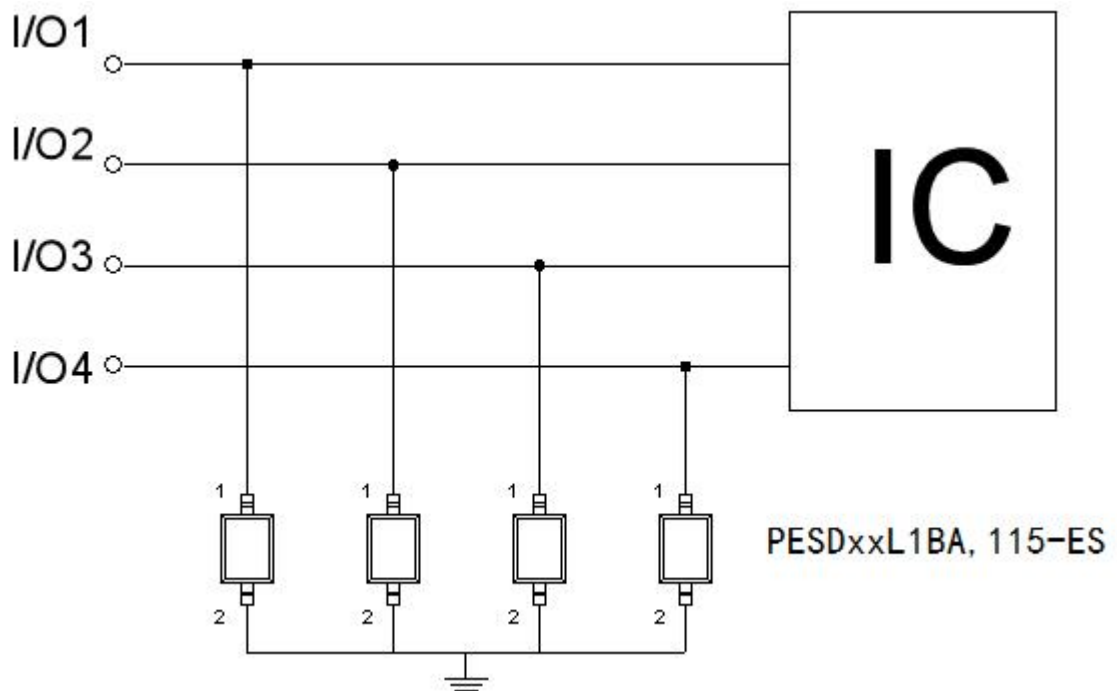
Table-5 Electrical Characteristics for All Series

7. Typical Characteristic



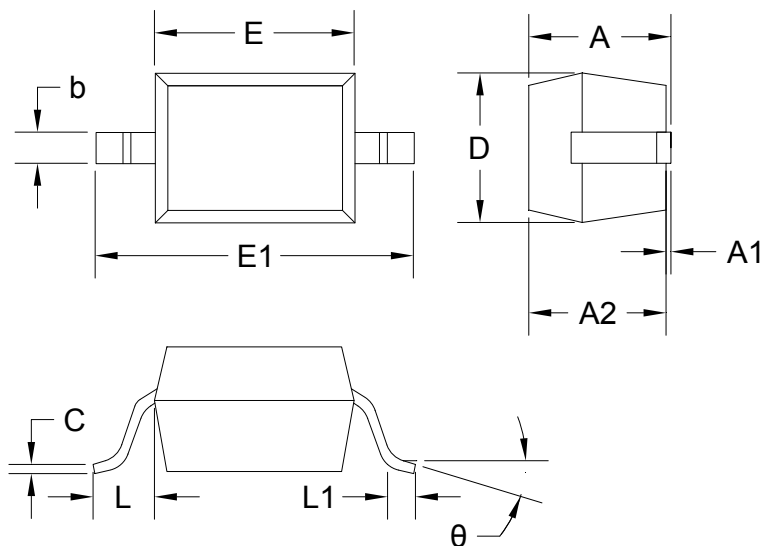
8. Typical

Application



Typical Interface Application

9. Dimension (SOD-323)



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	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

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