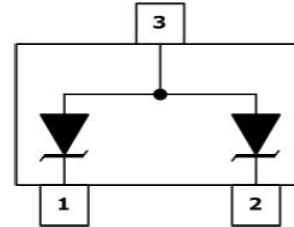


## Features

- Unidirectional ESD protection of two lines
- Low diode capacitance:  $C_d = 17 \text{ pF}$
- Max. peak pulse power:  $P_{PP} = 160 \text{ W}$
- Low clamping voltage:  $V_{CL} = 55 \text{ V}$
- Ultra low leakage current:  $I_{RM} \leq 1 \mu\text{A}$
- ESD protection up to 30 kV
- IEC 61000-4-2; level 4 (ESD)
- IEC 61000-4-5 (surge);  $I_{PP} = 2.5 \text{ A}$
- AEC-Q101 qualified



## Applications

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Subscriber Identity Module (SIM) card protection
- Portable electronics
- Communication systems
- 10/100 Mbit/s Ethernet

## MACHANICAL DATA

- SOT-23 package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: 260°C/10S
- MSL 1

## Quick reference data

$T_{amb} = 25 \text{ °C}$  unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Per diode</b>						
$V_{RWM}$	reverse standoff voltage		-	-	36	V
$C_d$	diode capacitance	$f = 1 \text{ MHz}; V_R = 0 \text{ V}$	-	17	35	pF

### Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Min	Max	Unit
<b>Per diode</b>					
$P_{PP}$	peak pulse power	$t_p = 8/20 \mu s$	[1][2] -	160	W
$I_{PP}$	peak pulse current	$t_p = 8/20 \mu s$	[1][2] -	2.5	A
<b>Per device</b>					
$T_j$	junction temperature		-	150	°C
$T_{amb}$	ambient temperature		-55	+150	°C
$T_{stg}$	storage temperature		-65	+150	°C

[1] Non-repetitive current pulse 8/20  $\mu s$  exponential decay waveform according to IEC 61000-4-5.

[2] Measured from pin 1 or 2 to pin 3.

### ESD maximum ratings

$T_{amb} = 25 \text{ °C}$  unless otherwise specified.

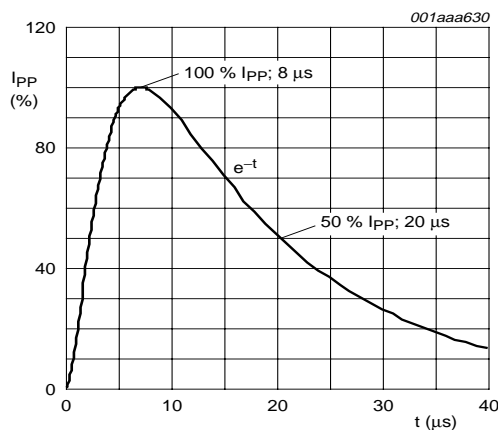
Symbol	Parameter	Conditions	Min	Max	Unit
<b>Per diode</b>					
$V_{ESD}$	electrostatic discharge voltage	IEC 61000-4-2 (contact discharge)	[1][2] -	30	kV
		machine model	[2] -	400	V
		MIL-STD-883 (human body model)	-	8	kV

[1] Device stressed with ten non-repetitive ESD pulses.

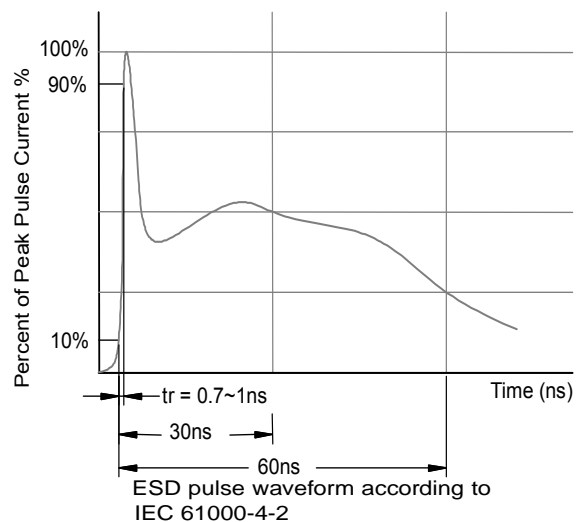
[2] Measured from pin 1 to pin 2.

### ESD standards compliance

Standard	Conditions
<b>Per diode</b>	
IEC 61000-4-2; level 4 (ESD)	> 15 kV (air); > 8 kV (contact)
MIL-STD-883; class 3 (human body model)	> 4 kV



8/20  $\mu s$  pulse waveform according to IEC 61000-4-5



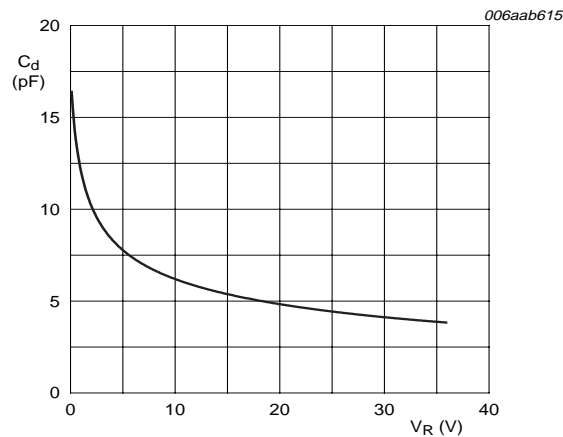
## Characteristics

T<sub>amb</sub> = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Per diode</b>						
V <sub>RWM</sub>	reverse standoff voltage		-	-	36	V
I <sub>RM</sub>	reverse leakage current	V <sub>RWM</sub> = 30 V	-	< 0.02	1	μA
V <sub>BR</sub>	breakdown voltage	I <sub>R</sub> = 5 mA	40	44	-	V
C <sub>d</sub>	diode capacitance	f = 1 MHz; V <sub>R</sub> = 0 V	[1]	17	35	pF
V <sub>CL</sub>	clamping voltage	I <sub>PP</sub> = 1 A	[1][2]	55	60	V
r <sub>dif</sub>	differential resistance	I <sub>R</sub> = 0.5 mA	-	-	300	Ω

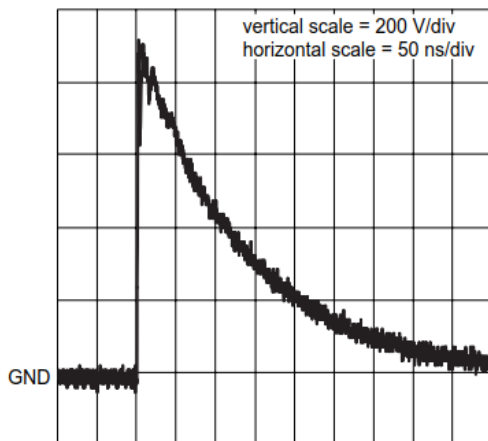
[1] Measured from pin 1 or 2 to pin 3.

[2] Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC 61000-4-5.

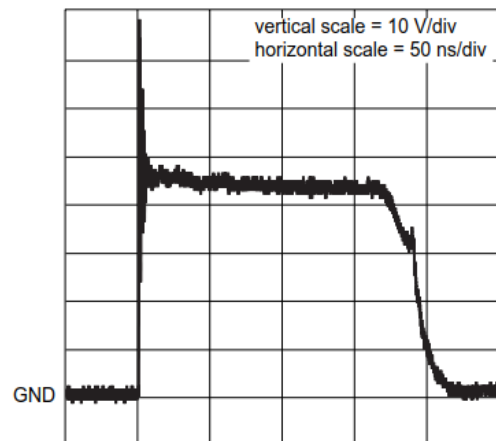


f = 1 MHz; T<sub>amb</sub> = 25 °C

**Diode capacitance as a function of reverse voltage; typical values**

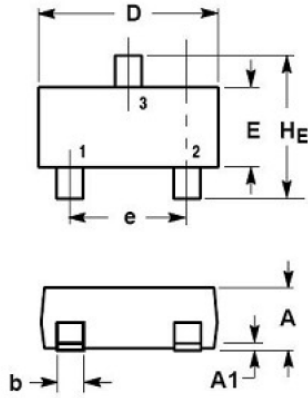


unclamped +1 kV ESD voltage waveform  
(IEC61000-4-2 network)



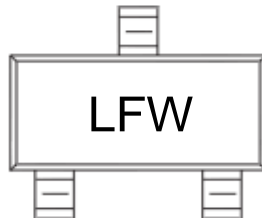
clamped +1 kV ESD voltage waveform  
(IEC61000-4-2 network)

**SOT-23 PACKAGE OUTLINE DIMENSIONS**



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104

**Marking**



**Ordering information**

Order code	Package	Baseqty	Deliverymode
PESD36VS2UT	SOT-23	3000	Tape and reel