

## Features

- ◆ 350W peak pulse power(8/20 $\mu$ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 36V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30$ kV  
Contact discharge:  $\pm 30$ kV
  - IEC61000-4-5 (Lightning) 5A (8/20 $\mu$ s)
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ RoHS Compliant

## Mechanical Characteristics

- ◆ Package: SOT23
- ◆ Lead Finish: Matte Tin
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant

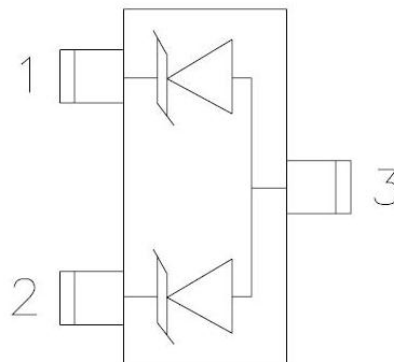
## Applications

- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I<sup>2</sup>C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPPESD36VS2UT	3000	7"

## Dimensions and Pin Configuration



**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

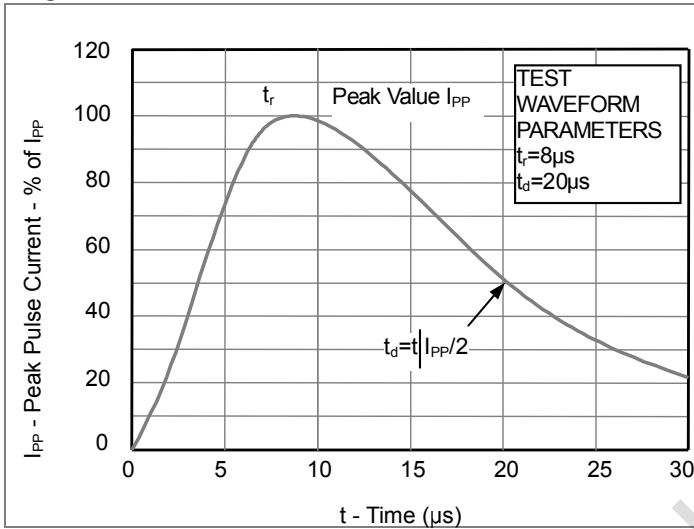
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	350	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	Ipp	5	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

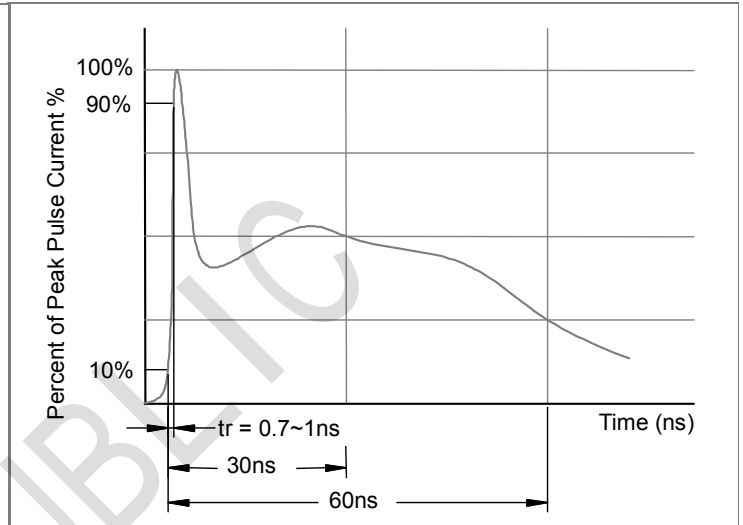
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	38	42	48	V	IT = 1mA
Reverse Leakage Current	IR			0.1	$\mu\text{A}$	VRWM = 36V
Clamping Voltage	VC			50	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC			70	V	Ipp=5A(8x 20us pulse)
Junction Capacitance	CJ		30		pF	VR = 0V, f = 1MHz

**PROTECTION PRODUCTS**  
Typical characteristics

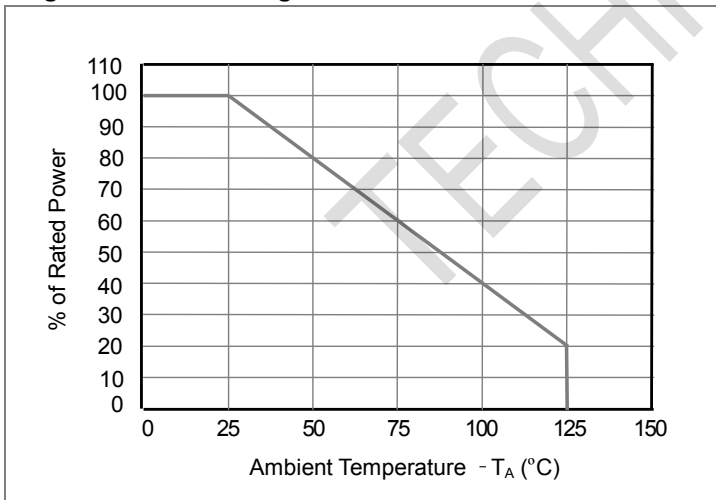
**Fig1. 8/20 $\mu$ s Pulse Waveform**



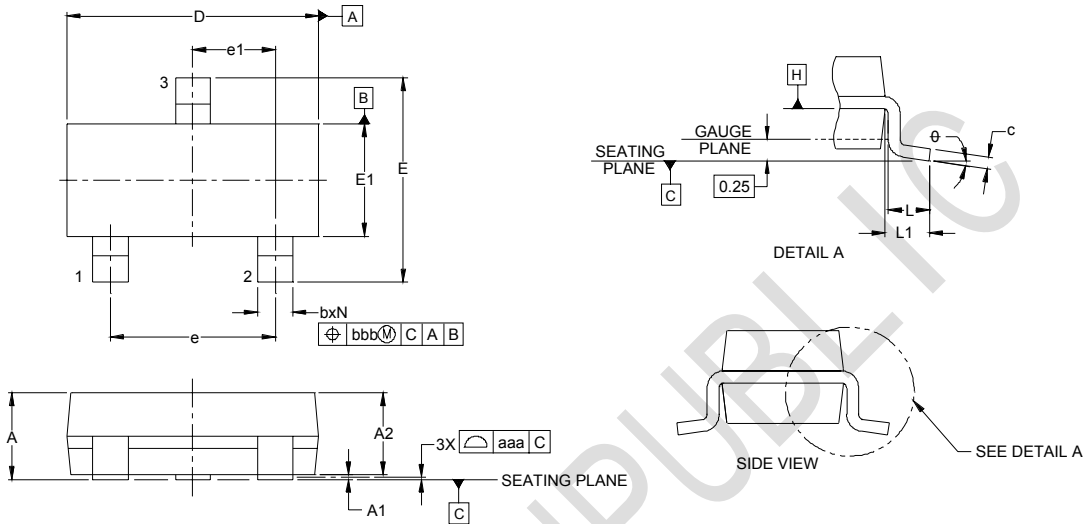
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

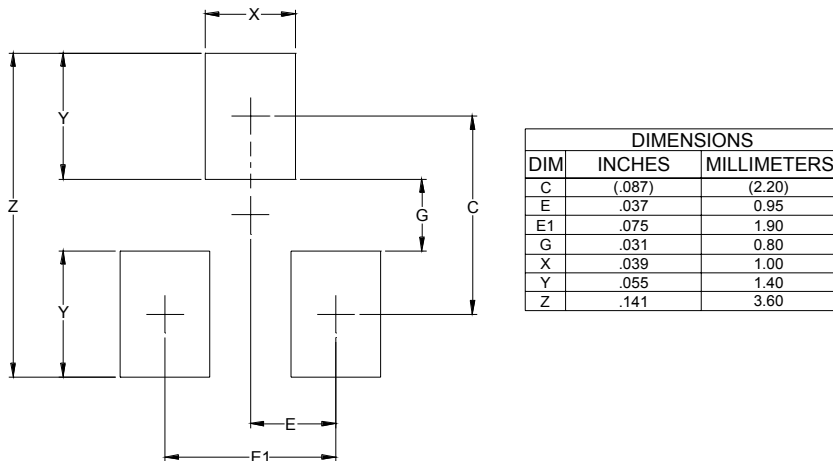


**Outline Drawing - SOT23**



DIM	INCHES		MILLIMETERS	
	MIN	NOM/MAX	MIN	NOM/MAX
A	.035	-.044	0.89	- 1.12
A1	.000	-.004	0.01	- 0.10
A2	.035	.037 .040	0.88	0.95 1.02
b	.012	-.020	0.30	- 0.51
c	.003	-.007	0.08	- 0.18
D	.110	.114 .120	2.80	2.90 3.04
E	.082	.093 .104	2.10	2.37 2.64
E1	.047	.051 .055	1.20	1.30 1.40
e	.075		1.90 BSC	
e1	.037		0.95 BSC	
L	.015	.020 .024	0.40	0.50 0.60
L1	.022		(0.55)	
N	3		3	
$\theta$	0°	- 8°	0°	- 8°
aaa	.004		0.10	
bbb	.008		0.20	

**Land Pattern - SOT23**



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.087)	(2.20)
E	.037	0.95
E1	.075	1.90
G	.031	0.80
X	.039	1.00
Y	.055	1.40
Z	.141	3.60

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