

## Features

- ◆ 300W peak pulse power(8/20 $\mu$ s)
- ◆ Protects two bi-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 12V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30$ kV  
Contact discharge:  $\pm 30$ kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ RoHS Compliant

## Ordering Information

Part Number	Qty per Reel	Reel Size
PESD12VL2BT-TP	3000	7"

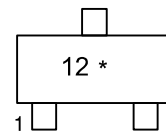
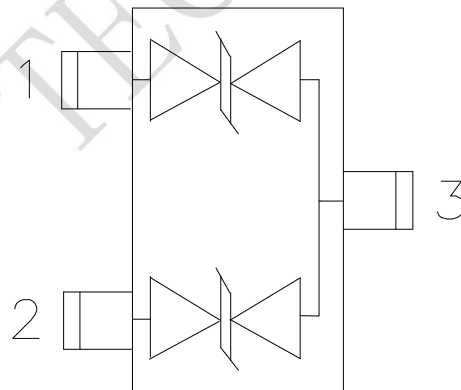
## Mechanical Characteristics

- ◆ Package: SOT-23
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound.
- ◆ UL Flammability Classification Rating 94V-0
- ◆ Moisture Sensitivity: Level 3 per J STD 020

## Applications

- ◆ Cellular Handsets and Accessories
- ◆ Notebooks and Handhelds
- ◆ Portable Instrumentation
- ◆ Set Top Box
- ◆ Industrial Controls

## Dimensions and Pin Configuration



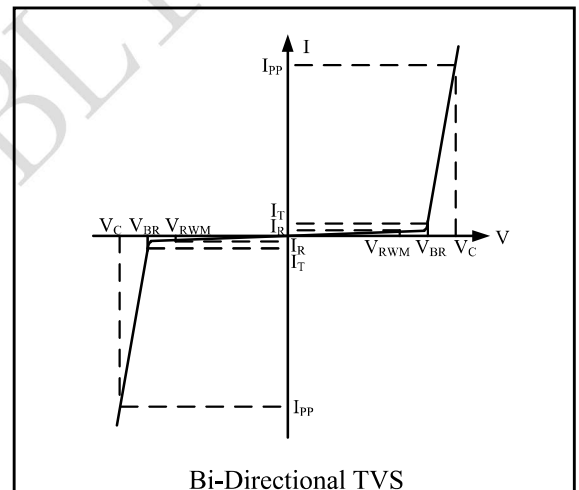
12=Specific Device Code  
\* = Wafer tracking no

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20μs)	Ppk	300	W
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

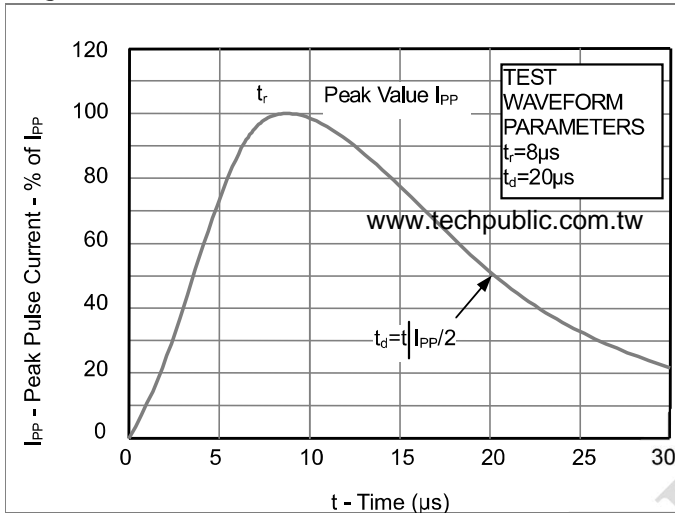
Symbol	Parameter
$V_{RWM}$	Nominal Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Reverse Breakdown Voltage @ $I_T$
$I_T$	Test Current for Reverse Breakdown
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Maximum Peak Pulse Current
$C_{ESD}$	Parasitic Capacitance
$V_R$	Reverse Voltage
f	Small Signal Frequency



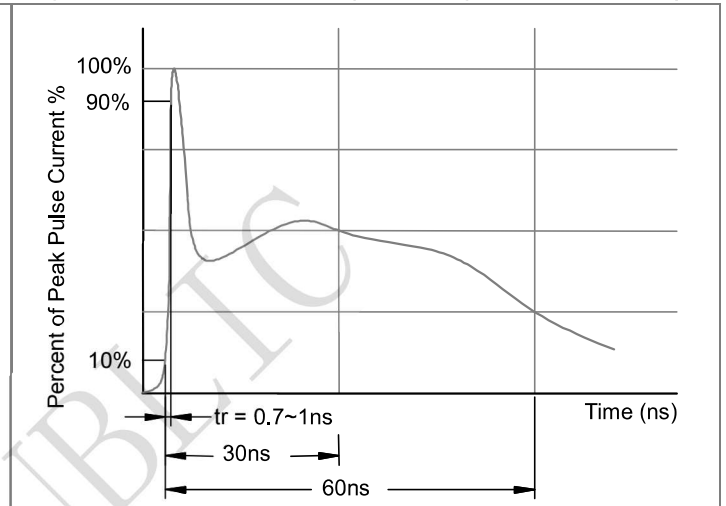
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	$V_{RWM}$			12	V	
Breakdown Voltage	$V_{BR}$	13.3			V	$I_T = 1\text{mA}$
Reverse Leakage Current	$I_R$		0.01	0.1	μA	$V_{RWM} = 12\text{V}$
Clamping Voltage	$V_C$		15		V	$I_{PP} = 1\text{A}$ (8 x 20μs pulse)
Clamping Voltage	$V_C$		24		V	$I_{PP} = 10\text{A}$ (8 x 20μs pulse)
Peak Pulse Current	$I_{PP}$			10	A	$t_p=8/20\mu\text{s}$
Junction Capacitance	$C_J$			24	pF	$V_R=0$ , $f=1\text{MHz}$ , Pin 1 to Pin 3 or Pin 2 to Pin 3

**Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)**

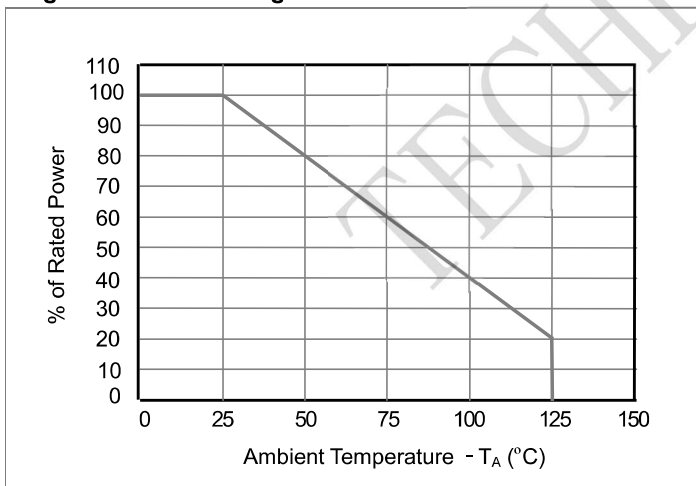
**Fig1. 8/20μs Pulse Waveform**



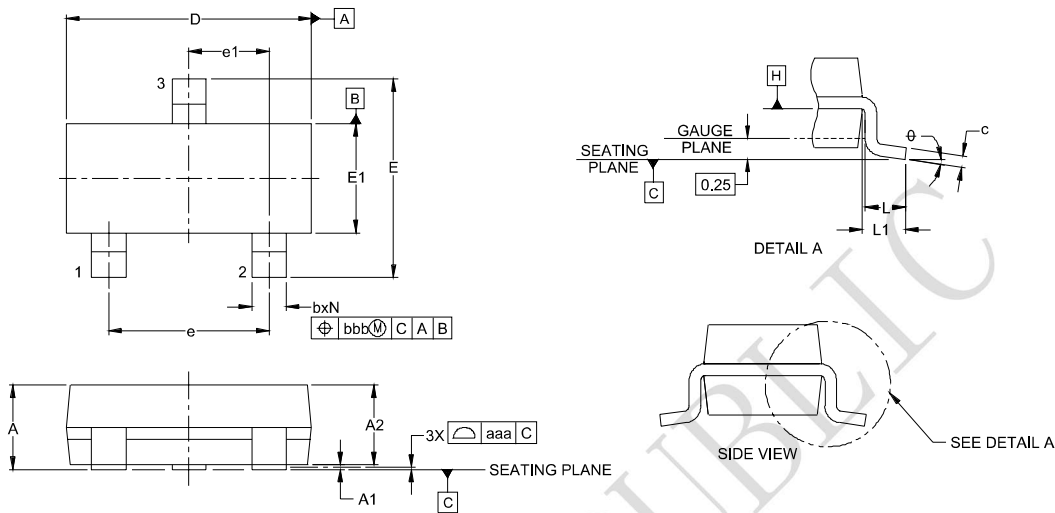
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**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		
$\phi$	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.008			0.20		

### Land Pattern - SOT23

