

## Features

- ◆ 150W peak pulse power(8/20μs)
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 7V or 12V
- ◆ Low clamping voltage
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge: ±30kV  
Contact discharge: ±30kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 7A (8/20μs)
- ◆ RoHS Compliant

## 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
- ◆ Terminal Connections: See Diagram Below

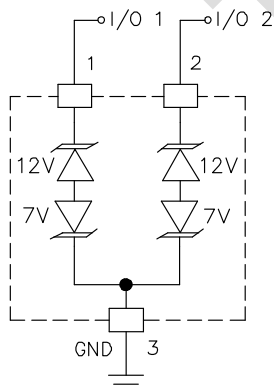
## Applications

- ◆ Wireless System
- ◆ Networks
- ◆ Portable Instrumentation
- ◆ RS485 Ports

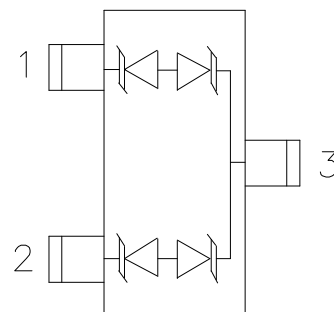
## Ordering Information

Part Number	Qty per Reel	Reel Size
TPCDSOT23-SM712	3000	7"

## Circuit Diagram



## Pin Configuration



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

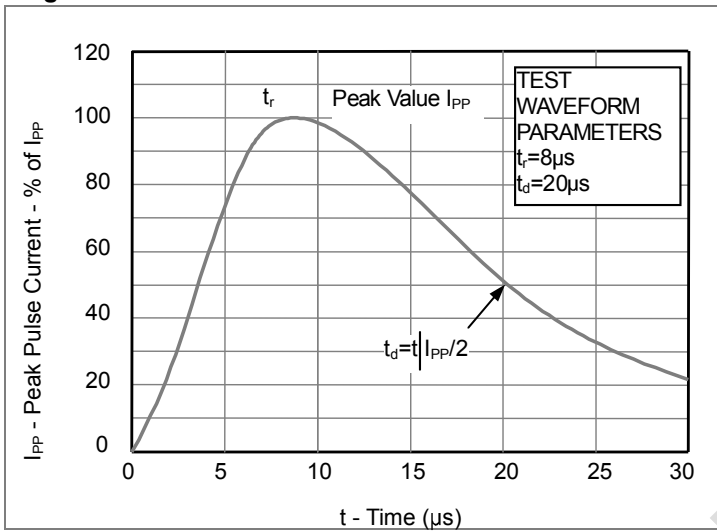
Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20μs)	Ppk	150	W
Peak Pulse Current(8/20μs)	IPP	7	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

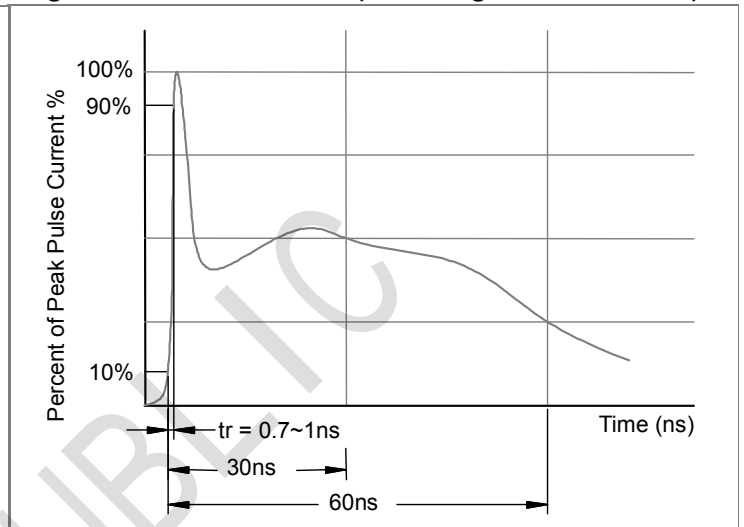
Parameter	Symbol	Pin 1 to 3 and 2 to 3(12V TVS)			Pin 3to 1 and 3 to 2(7V TVS)			Unit	Test Condition
		Min	Typ	Max	Min	Typ	Max		
Reverse Working Voltage	VRWM			12			7	V	
Breakdown Voltage	VBR	13.3			7.5			V	IT = 1mA
Reverse Leakage Current	IR		0.01	0.5		0.01	0.5	μA	VR = VRWM
Clamping Voltage	VC			19			11	V	IPP = 1A (8 x 20μs pulse)
Clamping Voltage	VC			25			15	V	IPP = 7A (8 x 20μs pulse)
Junction Capacitance	CJ			75			75	pF	VR=0, f=1MHz
Junction Capacitance	CJ		45			45		pF	VR=VRWM, f=1MHz

**PROTECTION PRODUCTS**  
Typical characteristics

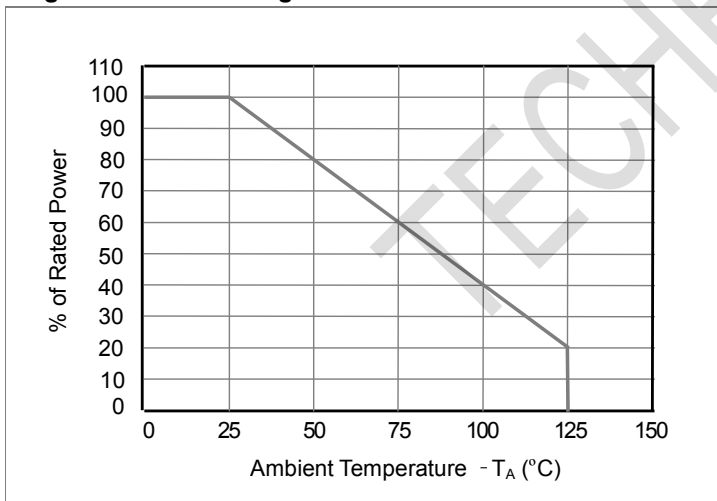
**Fig1. 8/20 $\mu$ s Pulse Waveform**



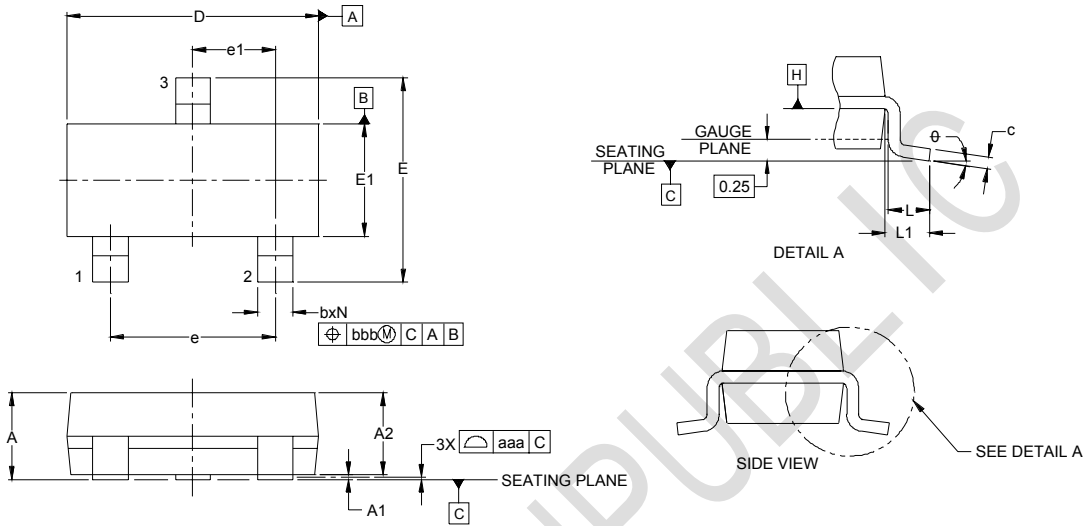
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



### Outline Drawing - SOT23



### Land Pattern - SOT23

