

## Features

- ◆ 500W peak pulse power(8/20 $\mu$ s)
- ◆ Protects one bi-directional or two uni-directional lines
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 5V
- ◆ 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)
  - IEC61000-4-5 (Lightning) 27A (8/20 $\mu$ s)
- ◆ RoHS Compliant

## Ordering Information

Part Number	Qty per Reel	Reel Size
PSOT05C	3000	7"

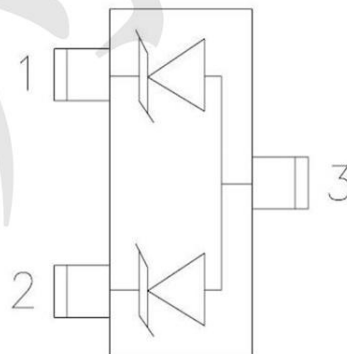
## Mechanical Characteristics

- ◆ 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



**Marking: S05**

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

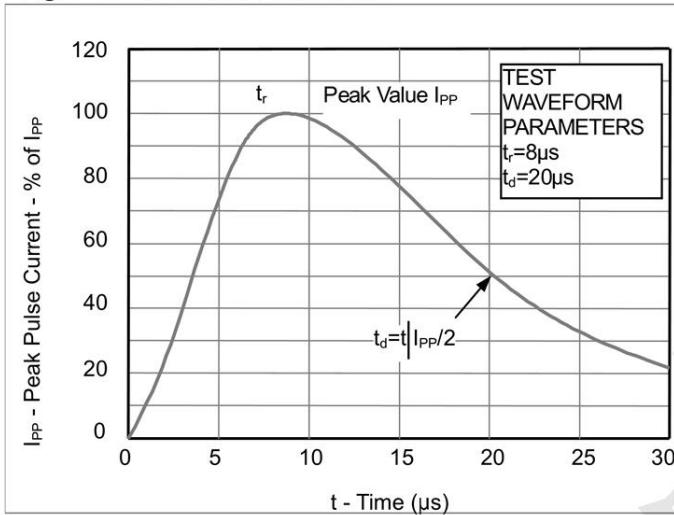
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	500	W
Peak Pulse Current (8/20μs)	IPP	27	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

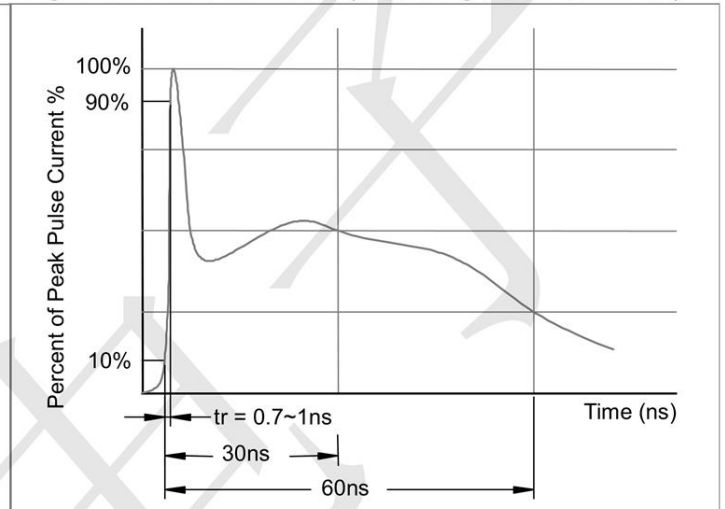
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6			V	IT = 1mA
Reverse Leakage Current	IR			0.1	μA	VRWM = 5V
Forward Voltage	VF		0.8	1.2	V	IF = 10mA
Clamping Voltage	VC		7		V	IPP = 1A (8 x 20μs pulse)
Clamping Voltage	VC			20	V	IPP = 27A (8 x 20μs pulse)
Junction Capacitance	CJ			200	pF	VR=0, f=1MHz, Pin 1 to Pin 3 or Pin 2 to Pin 3
Junction Capacitance	CJ		90		pF	VR=0, f=1MHz, Pin 1 to Pin 2

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

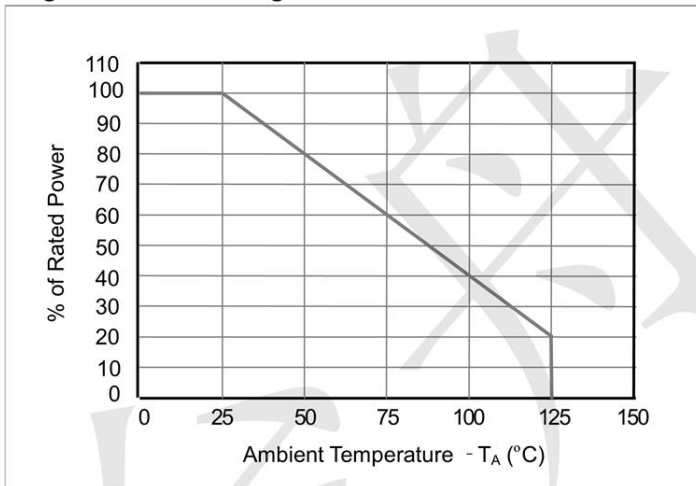
**Fig1. 8/20μs Pulse Waveform**



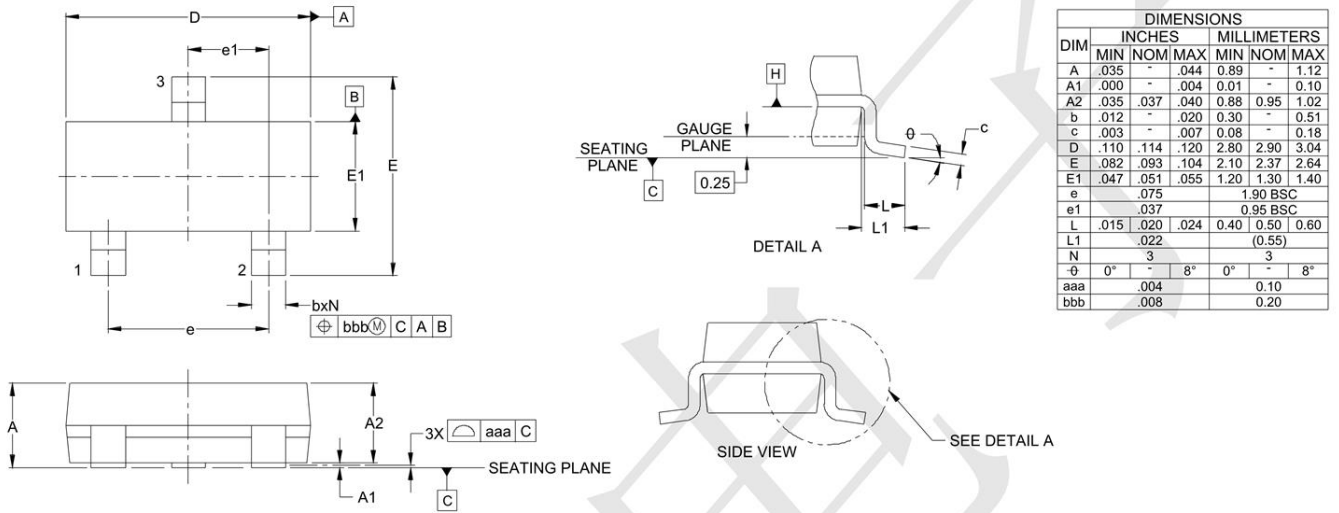
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



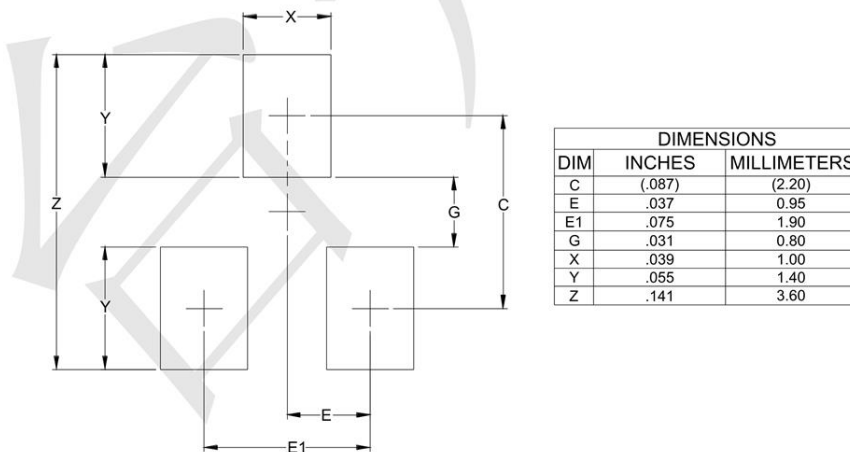
**Fig3. Power Derating Curve**



**Outline Drawing - SOT23**



**Land Pattern - SOT23**



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