

## Features

- Protects one data or power line
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30\text{kV}$   
Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 22A (8/20 $\mu\text{s}$ )
- RoHS Compliant

## Mechanical Characteristics

- Package: SOD-523
- 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
- Marking Information: See Below

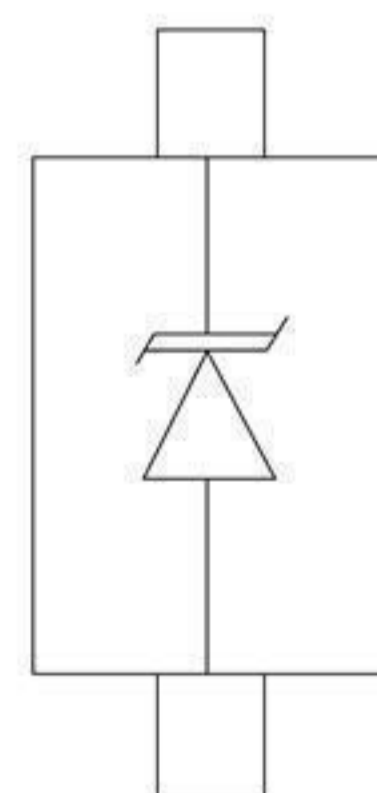
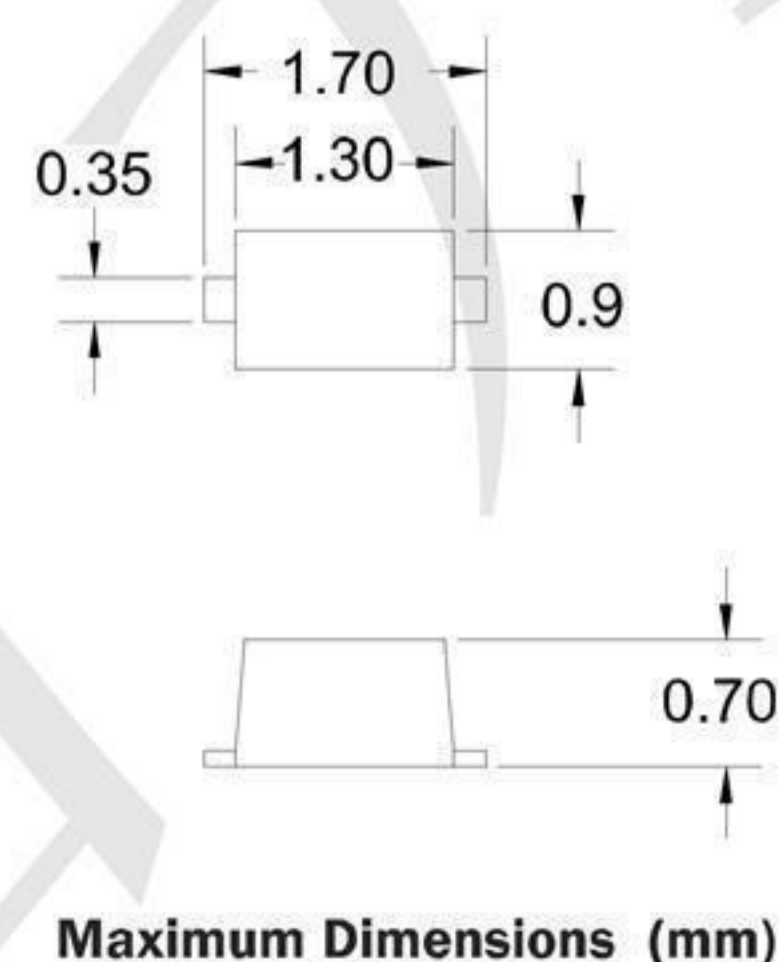
## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

## Ordering Information

Part Number	Qty per Reel	Reel Size
PESD5Z5.0	3000	7"

## Dimensions and Pin Configuration



SOD-523 (Top View)

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	Ppk	300	W
Peak Pulse Current (8/20µs)	Ipp	22	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			0.5	µA	VRWM = 5V
Forward Voltage	VF		1.0	1.2	V	IF = 10mA
Clamping Voltage	VC			8	V	I <sub>PP</sub> = 1A (8 x 20µs pulse)
Clamping Voltage	VC			14	V	I <sub>PP</sub> = 22A (8 x 20µs pulse)
Junction Capacitance	CJ		160		pF	VR = 0V, f = 1MHz

## Typical Performance Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

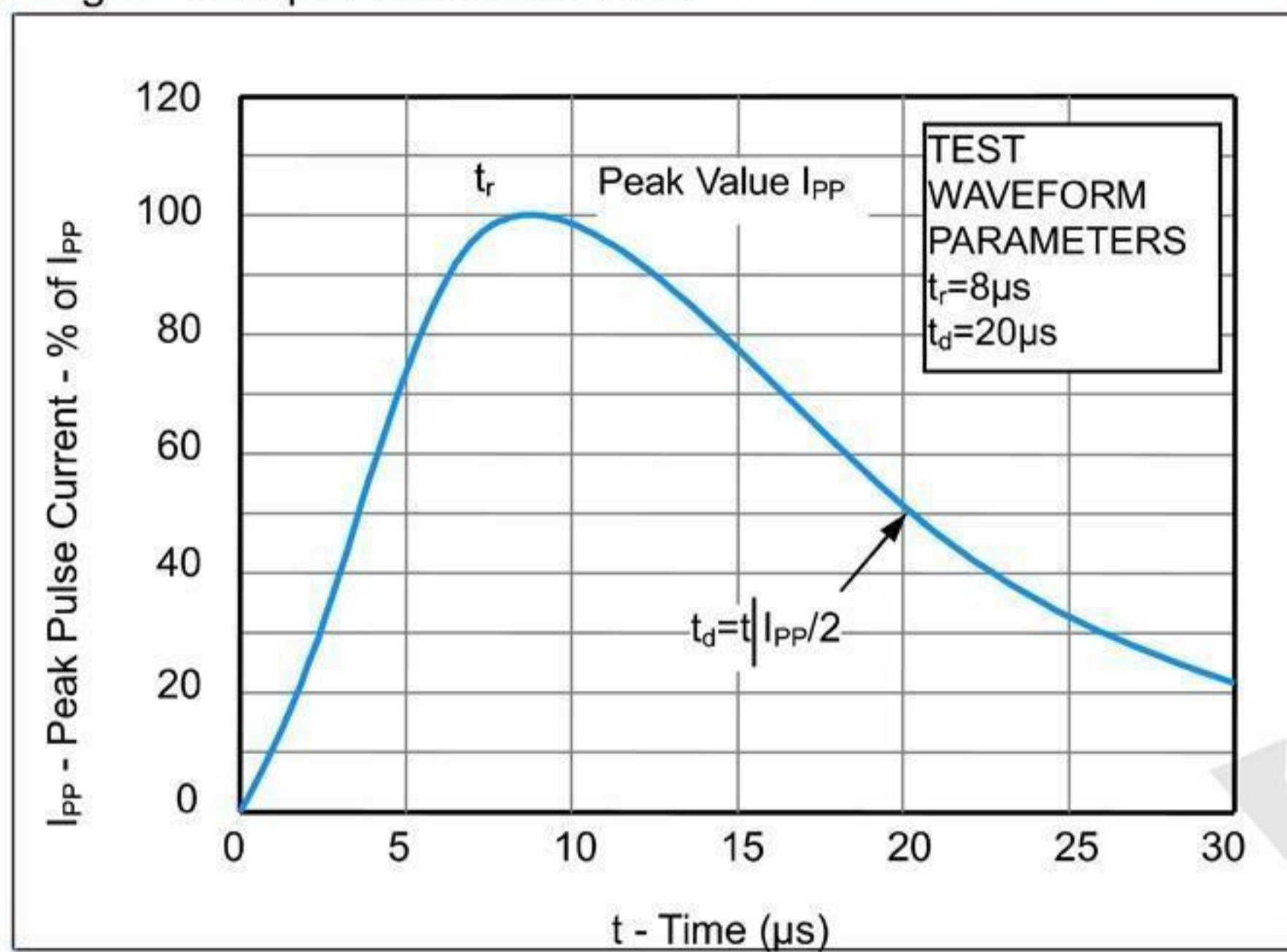


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

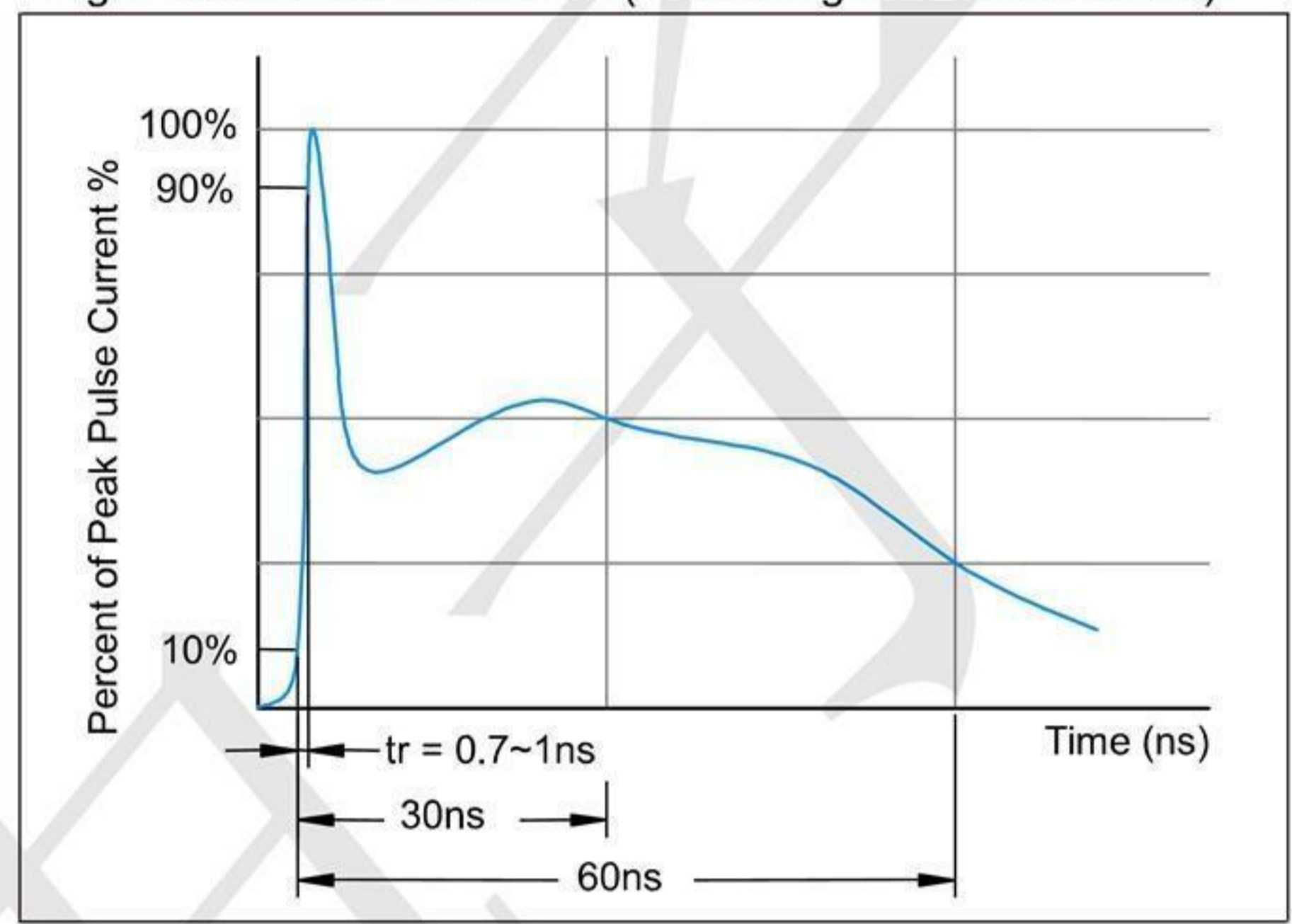
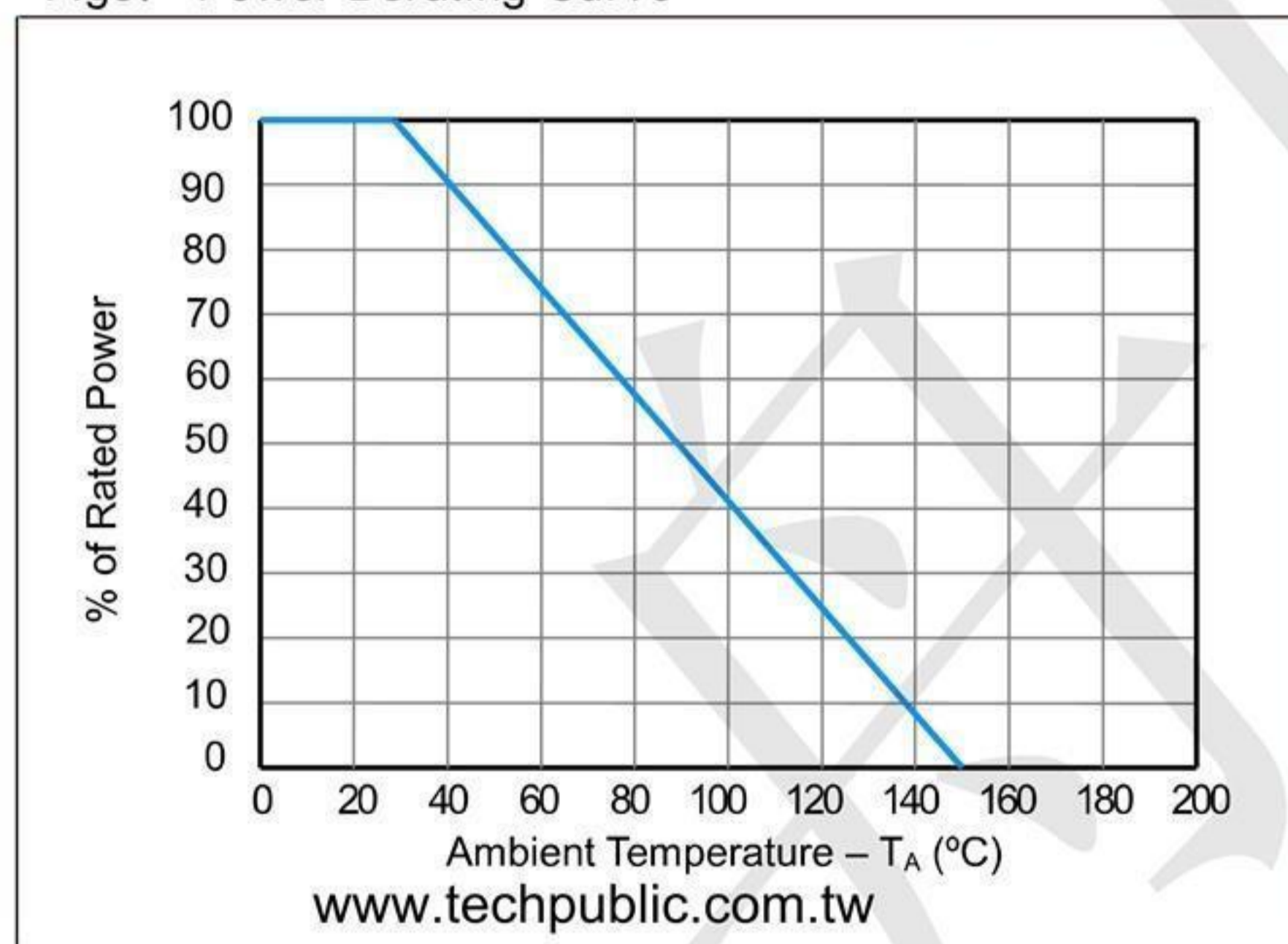
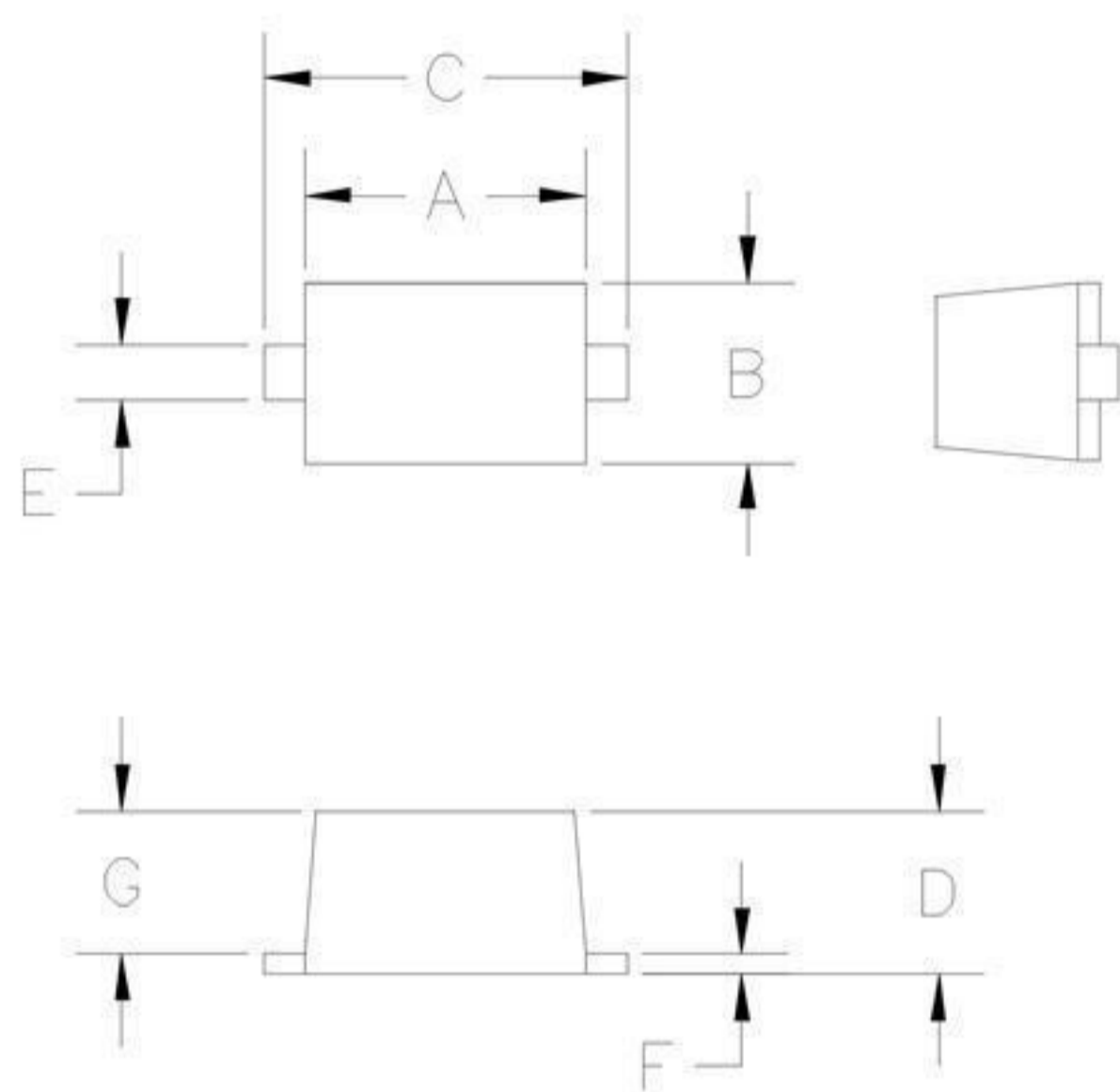


Fig3. Power Derating Curve



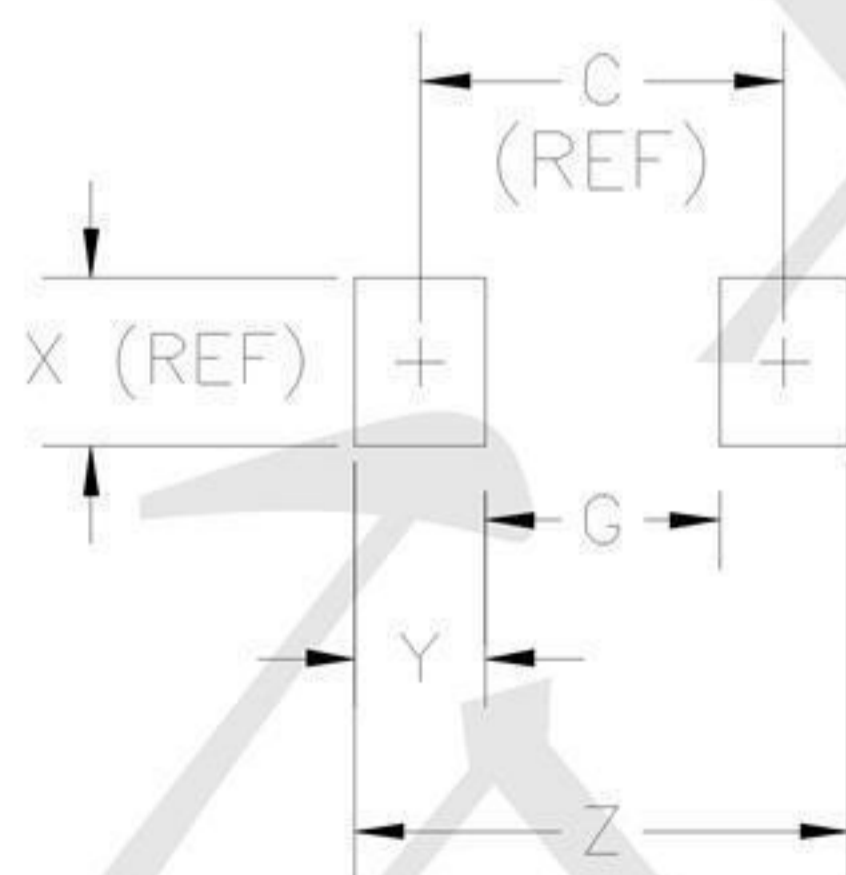
## SOD523 (0603) Package Outline Drawing



DIM <sup>N</sup>	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
A	.043	.051	1.10	1.30	—
B	.028	.035	0.70	0.90	—
C	.059	.067	1.50	1.70	—
D	.020	.028	0.50	0.70	—
E	.010	.014	0.25	0.35	—
F	.004	.008	0.10	0.20	—
G	.020	.028	0.50	0.70	—

[1] CONTROLLING DIMENSION: MILLIMETERS

## Suggested Land Pattern



DIM <sup>N</sup>	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
C	—	.067	—	1.70	REF
G	—	.043	—	1.10	—
X	—	.031	—	0.80	REF
Y	—	.024	—	0.60	—
Z	—	.091	—	2.30	—

[1] CONTROLLING DIMENSION: MILLIMETERS