

**OVERVIEW**

The SM6503A is the Diode array for ESD protection. 5 circuits consisted of diode element are integrated into ultra-small 6 pin plastic package. It is the most appropriate to protect the external interface circuit of portable equipment which requires miniaturization from ESD.

**FEATURES**

- ± 12kV ESD immunity level (IEC61000-4-2 contact discharge)
- Clamp voltage: 7.5V typ.
- Low capacitance: 10pF typ.
- 5 circuits integrated into one package
- Ultra-small package
  - SM6503AD: 6-pin SON
  - SM6503AH: SOT23-6

**APPLICATIONS**

- Cellular phone
- PDA
- Set Top Box
- Digital Still Camera

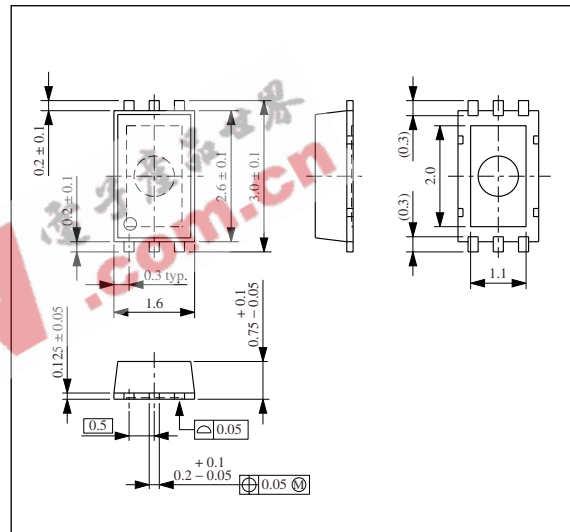
**ORDERING INFORMATION**

Device	Package
SM6503AD	6-pin SON
SM6503AH	SOT23-6

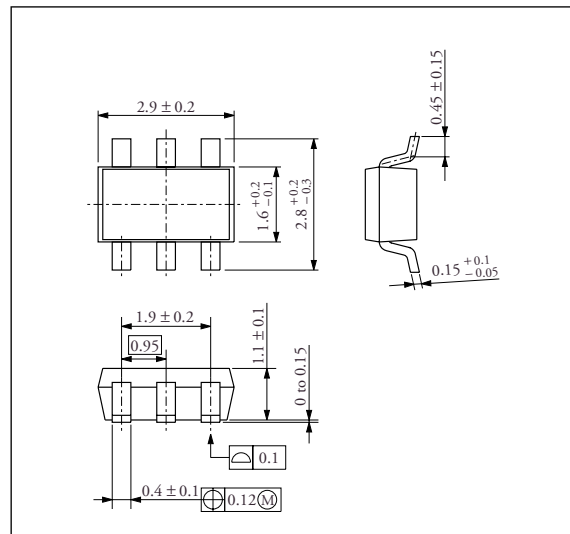
**PACKAGE DIMENSIONS**

(Unit: mm)

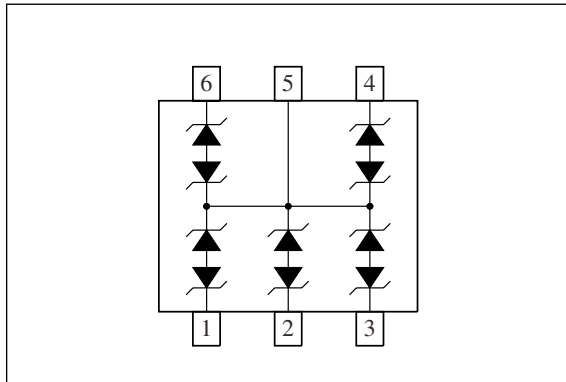
**SM6503AD (6-pin SON)**



**SM6503AH (SOT23-6)**



## PINOUT (Top view)



## PIN DESCRIPTION

Number	Name	Description
1	DIO1	Diode 1
2	DIO2	Diode 2
3	DIO3	Diode 3
4	DIO4	Diode 4
5	VSS	Ground
6	DIO5	Diode 5

## SPECIFICATIONS

## Absolute Maximum Ratings

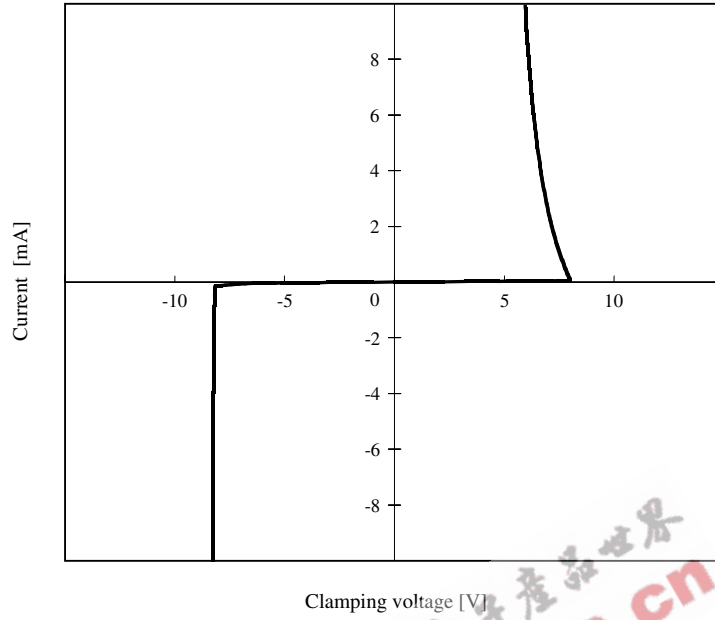
$T_a = 25^\circ\text{C}$

Parameter	Symbol	Condition	Rating	Unit
Power dissipation	$P_D$		220	mW
Storage temperature range	$T_{stg}$		-55 to 125	$^\circ\text{C}$

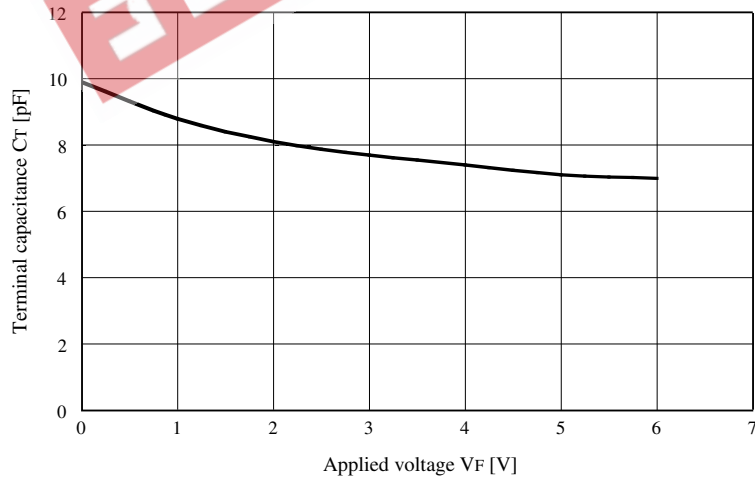
## Electrical Characteristics

$T_a = 25^\circ\text{C}$

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Diode maximum leakage current	$I_{LEAK}$	6V applied	-	-	1	$\mu\text{A}$
Forward clamp voltage	$V_{ZF}$	$I_Z = 1\mu\text{A}$	6.5	7.5	8.5	V
		$I_Z = 5\text{mA}$	-	6.5	-	V
Reverse clamp voltage	$V_{ZR}$	$I_Z = -1\mu\text{A}$	-8.5	-7.5	-6.5	V
		$I_Z = -5\text{mA}$	-	-8.0	-	V
Terminal capacitance	$C_T$	$f = 1\text{MHz}$ , between DIO1 to DIO5 and VSS	-	10	-	pF
Maximum operating voltage	$V_{MAX}$		-	-	6	V

**TYPICAL PERFORMANCE****V-I Characteristics (between DIO1 to DIO5 and VSS)****Terminal Capacitance vs. Applied Voltage**

f = 1MHz



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**NPC**  
NIPPON PRECISION CIRCUITS INC.

NIPPON PRECISION CIRCUITS INC.

4-3, Fukuzumi 2-chome, Koto-ku,  
Tokyo 135-8430, Japan  
Telephone: +81-3-3642-6661  
Facsimile: +81-3-3642-6698  
<http://www.npc.co.jp/>  
Email: [sales@npc.co.jp](mailto:sales@npc.co.jp)

NC0023AE 2001.05