

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

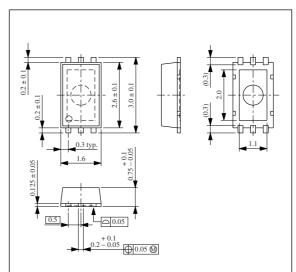
ORDERING INFORMATION

Device	Package		
SM6503AD	6-pin SON		
SM6503AH	SOT23-6		

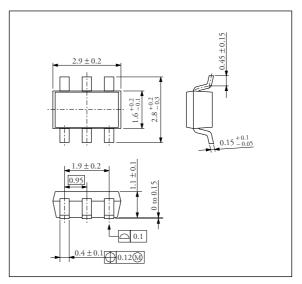
PACKAGE DIMENSIONS

(Unit: mm)

SM6503AD (6-pin SON)

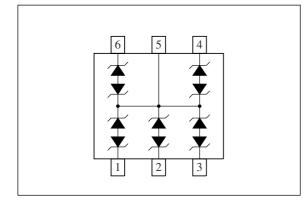


SM6503AH (SOT23-6)



PIN DESCRIPTION

PINOUT (Top view)



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

 $Ta = 25^{\circ}C$

Parameter	Symbol	Condition	Rating	Unit
Power dissipation	PD		220	mW
Storage temperature range	T _{stg}		- 55 to 125	°C

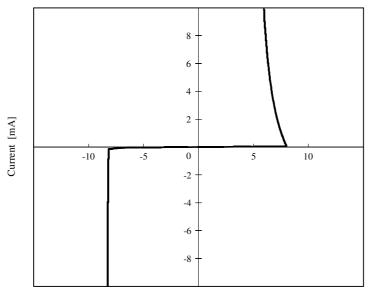
Electrical Characteristics

 $Ta = 25^{\circ}C$

Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	Unit
Diode maximum leakage current	I _{LEAK}	6V applied	-	-	1	μA
Forward clamp voltage V _{ZF}	V	I _Z = 1μA	6.5	7.5	8.5	V
	VZF	I _Z = 5mA	-	6.5	-	V
Reverse clamp voltage V _{ZR}	M	I _Z = - 1μA	- 8.5	- 7.5	- 6.5	V
	VZR	I _Z = - 5mA	-	- 8.0	-	V
Terminal capacitance	CT	f = 1MHz, between DIO1 to DIO5 and VSS	-	10	-	pF
Maximum operating voltage	V _{MAX}		-	-	6	V

TYPICAL PERFORMANCE

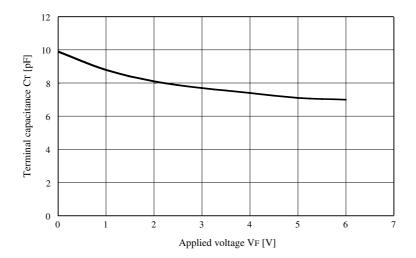
V–I Characteristics (between DIO1 to DIO5 and VSS)



Clamping voltage [V]

Terminal Capacitance vs. Applied Voltage

f = 1MHz



SM6503A

NIPPON PRECISION CIRCUITS INC. reserves the right to make changes to the products described in this data sheet in order to improve the design or performance and to supply the best possible products. Nippon Precision Circuits Inc. assumes no responsibility for the use of any circuits shown in this data sheet, conveys no license under any patent or other rights, and makes no claim that the circuits are free from patent infringement. Applications for any devices shown in this data sheet are for illustration only and Nippon Precision Circuits Inc. makes no claim or warranty that such applications will be suitable for the use specified without further testing or modification. The products described in this data sheet are not intended to use for the apparatus which influence human lives due to the failure or malfunction of the products. Customers are requested to comply with applicable laws and regulations in effect now and hereinafter, including compliance with export controls on the distribution or dissemination of the products. Customers shall not export, directly or indirectly, any products without first obtaining required licenses and approvals from appropriate government agencies.



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

NC0023AE 2001.05