# SURGE ABSORBER DEVICES **NSAD500S**

# ELECTROSTATIC DISCHARGE SURGE ABSORBER DEVICES DUAL TYPE: COMMON ANODE SC-70 PACKAGE

## DESCRIPTION

NE

This product series is a low capacity for ESD surge absorber devices. Use by 100 to 500 Mbps class data line (USB2.0, IEEE1394, 100B, etc.).

Based on the IEC 61000-4-2 test on electromagnetic interference (EMI), the devices assures an endurance of no less than 8 kV, thus making itself most suitable for external high signal interface circuit protection.

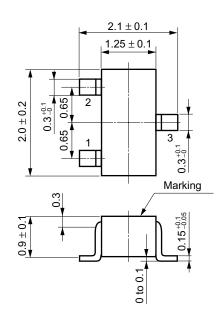
## FEATURES

- Base on the electrostatic discharge immunity test (IEC 61000-4-2) product assures the minimum endurance of 8 kV.
- Capacitance: 3.5 pF TYP. It's an extraordinarily small capacitance.
- With 2 elements mounted (common anode). Mounted in the SC-70 package, the products can achiever high density and automatic packaging.

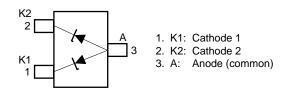
### APPLICATIONS

• USB2.0, IEEE1394, 100B external interface circuit ESD protection.

# PACKAGE DRAWING (Unit: mm)



### **ELECTRODE CONNECTION**



### ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

ITEM	SYMBOL	RATING	UNIT	REMARK
Power Dissipation	Р	150	mW	Total
Surge Reverse Power	Prsm	2 (t = 10 µs, 1 pulse)	W	
Junction Temperature	Tj	150	°C	
Storage Temperature	Tstg	–55 to +150	°C	

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# ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}C$ ) (A to K1, A to K2)

PARAMETER	BREAK OVER		CAPACITANCE		REVERSE		ESD Note		<reference></reference>
	VOLTAGE		Ct (pF)		CURRENT		(kV)		FORWARD
	Vво (V)				Ι <sub>R</sub> (μΑ)				BREAK OVER
	MIN.	TYP.	TYP.	Condition	MAX.	VF (V)	MIN.	Condition	VOLTAGE
NSAD500S	5.3 8		8 3.5	VR = 0 V	0.1	3.0	8	C = 150 pF	10 V TYP.
								R = 330 Ω	
		8		f = 1 MHz				Contact	
								discharge	

**Note** Biased upon with IEC 61000-4-2.

I - Current - mA

# TYPICAL CHARACTERISTICS (TA = 25°C)

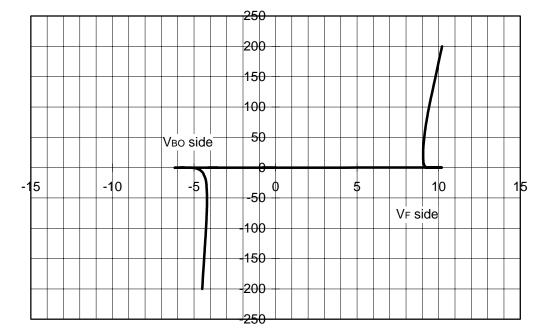


Figure 1. I vs. VBO CHARACTERISTICS

VBO - Break Over Voltage - V

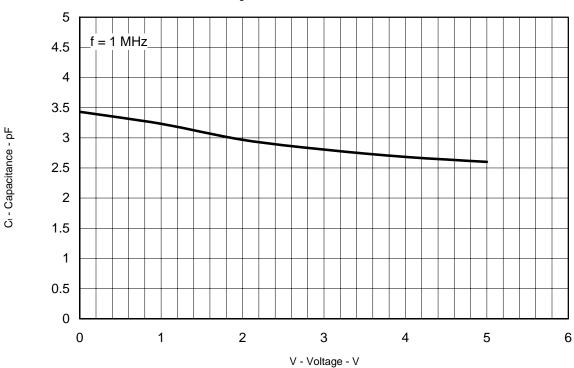


Figure 2. Ct vs. V CHARACTERISTICS

20-15-10-5-0 -6 6 -8 -4 –'2 0 2 4 8 -5 -10--–15--20-

Figure 3. It vs. V CHARACTERISTICS

V - Voltage - V

It - Reverse Current - nA

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