

# NNCD6.8RH

## LOW CAPACITANCE TYPE ELECTROSTATIC DISCHARGE NOISE CLIPPING DIODE (QUARTO TYPE: COMMON ANODE) 5-PIN SUPER SMALL MINI MOLD

#### **DESCRIPTION**

The NNCD6.8RH is a low capacitance type diode developed for ESD (Electrostatic Discharge) absorption. Based on the IEC61000-4-2 test on electromagnetic interference (EMI), the diode assures an endurance of no less then 8 kV, and capacitance is small with 10 pF between the terminal.

This product series is the most suitable for ESD absorption in the high-speed data communication bus such as USB.

With four elements mounted in the 5-PIN super mini mold package, the product can cope with more high density assembling.

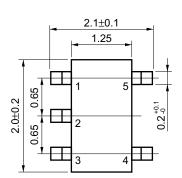
#### **FEATURES**

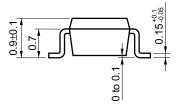
- Base on the electrostatic discharge immunity test (IEC 61000-4-2), the product assures the minimum endurance of 8 kV.
- Capacitance: 10 pF (at V<sub>R</sub> = 0 V, f = 1 MHz) between the terminal
   The low capacitance can realize the excellent frequency characteristic.
- With four elements in the mini mold package, the products can achieve high density and automatic packaging.

#### **APPLICATIONS**

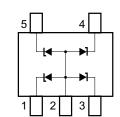
 External interface circuit ESD absorption in the high-speed data communication bus such as USB.

### PACKAGE DIMENSION (Unit: mm)





#### **ELECTRODE CONNECTION**



- 1. K1: Cathode 1
- 2. A: Anode (common)
- 3. K2: Cathode 2 4. K3: Cathode 3
- 5. K4: Cathode 4

## MAXIMUM RATINGS (TA = 25 °C)

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Item	Symbol	Rating	Unit	Remark	
Power Dissipation	Р	200	mW	Total	
Surge Reverse Power	Prsm	2 (t = 10 $\mu$ s 1 pulse)	W		
Junction Temperature	Tj	150	°C		
Storage Temperature	Tstg	−55 to +150	°C		

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ELECTRICAL CHARACTERISTICS (TA = 25°C (A to K1, A to K2, A to K3, A to K4))

TYPE No.	Breakdown Voltage Note1  VBR (V)			Capacitance C <sub>t</sub> (pF)		Reverse Leakage I <sub>R</sub> (μA)		Dynamic impedance Note2 $Z_z(\Omega)$		ESD Voltage <sup>Note3</sup> (kV)	
	MIN.	MAX.	I⊤ (mA)	TYP.	Condition	MAX.	V <sub>R</sub> (V)	MAX.	l⊤ (mA)	MIN.	Condition
NNCD6.8RH	6.2	7.1	5	10	V <sub>R</sub> = 0 V f = 1 MHz	2	3.5	40	5	8	$C = 150 \text{ pF}$ $R = 330 \Omega$ Contact discharge

Notes 1. tested with pulse (40 ms)

- ${f 2}.~Z_z$  is measured at  $I_T$  given a small A.C. signal.
- 3. Biased upon with IEC 61000-4-2

2



## TYPICAL CHARACTERISTICS (TA = 25°C)

Figure 1. POWER DISSIPATION vs.

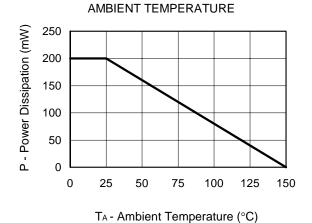
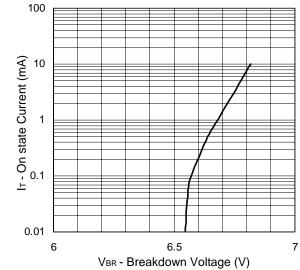
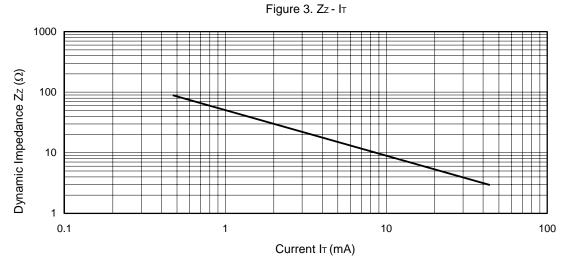
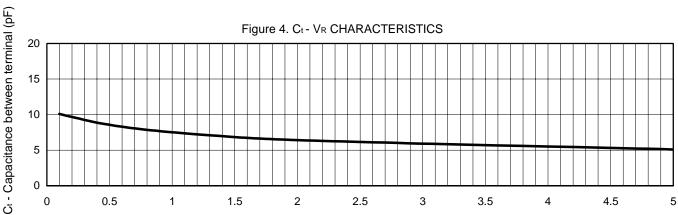


Figure 2. IT - VBR CHARACTERISTICS (A-K1, A-K2, A-K3, A-K4)



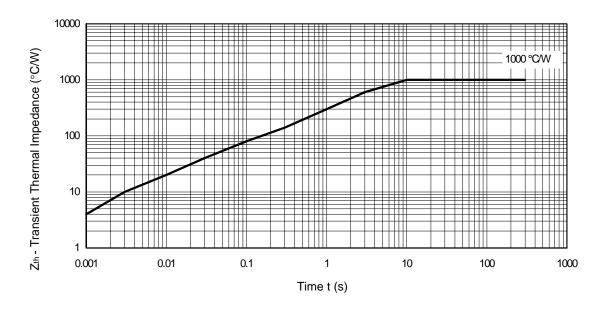


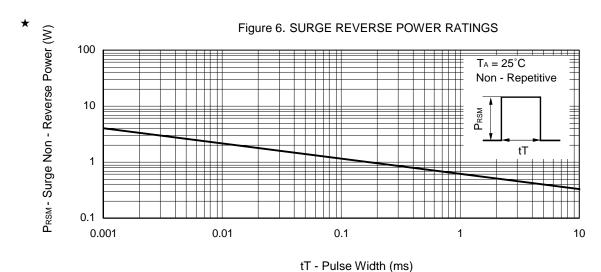


VR - Reverse Voltage (V)

3

Figure 5. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS





4

[MEMO]

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