

ESD NOISE CLIPPING DIODE
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 than 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 $V_R = 0$ 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.

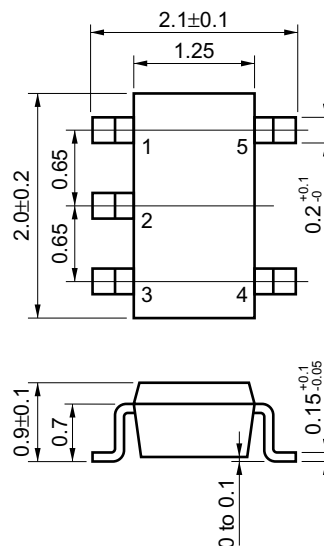
APPLICATIONS

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

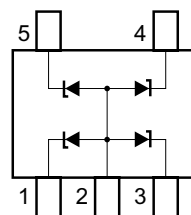
MAXIMUM RATINGS (T_A = 25 °C)

Item	Symbol	Rating	Unit	Remark
Power Dissipation	P	200	mW	Total
Surge Reverse Power	P _{RSM}	2 (t = 10 μs 1 pulse)	W	
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{stg}	-55 to +150	°C	

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

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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} V _{BR} (V)			Capacitance C _i (pF)		Reverse Leakage I _R (μA)		Dynamic impedance ^{Note2} Z _z (Ω)		ESD Voltage ^{Note3} (kV)	
	MIN.	MAX.	I _T (mA)	TYP.	Condition	MAX.	V _R (V)	MAX.	I _T (mA)	MIN.	Condition
NNCD6.8RH	6.2	7.1	5	10	V _R = 0 V f = 1 MHz	2	3.5	40	5	8	C = 150 pF R = 330 Ω Contact discharge

Notes 1. tested with pulse (40 ms)

2. Z_z is measured at I_T given a small A.C. signal.

3. Biased upon with IEC 61000-4-2

TYPICAL CHARACTERISTICS (T_A = 25°C)

Figure 1. POWER DISSIPATION vs. AMBIENT TEMPERATURE

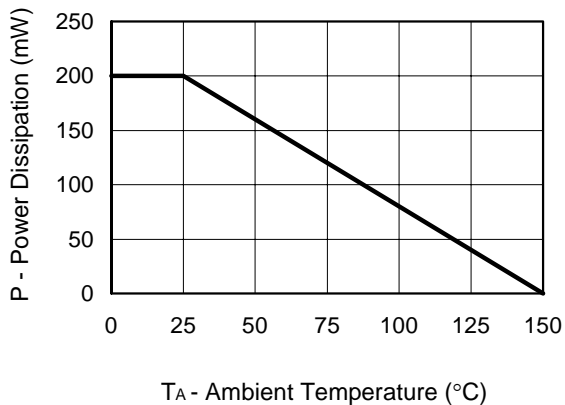


Figure 2. I_T - V_{BR} CHARACTERISTICS (A-K1, A-K2, A-K3, A-K4)

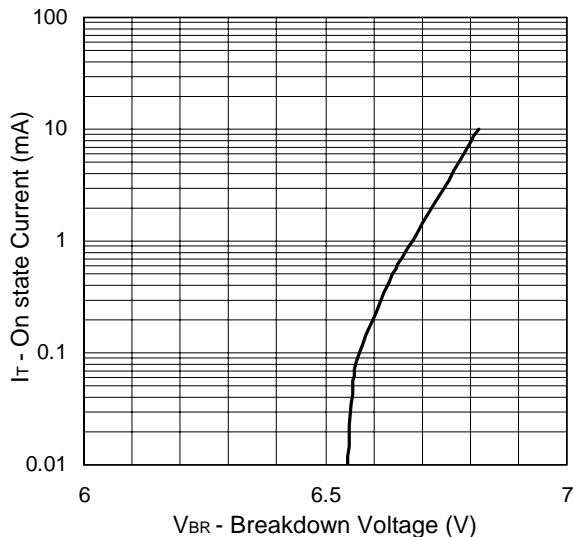


Figure 3. Z_z - I_T

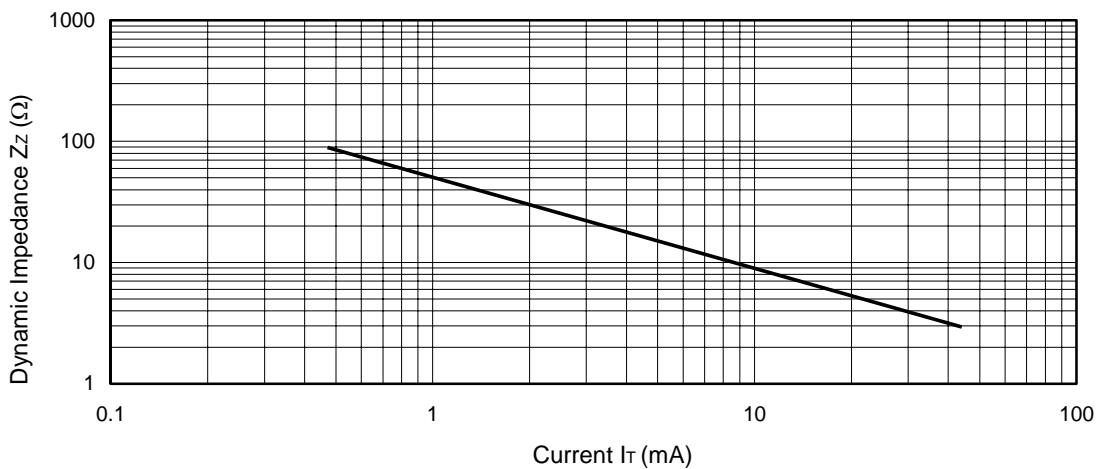


Figure 4. C_t - V_R CHARACTERISTICS

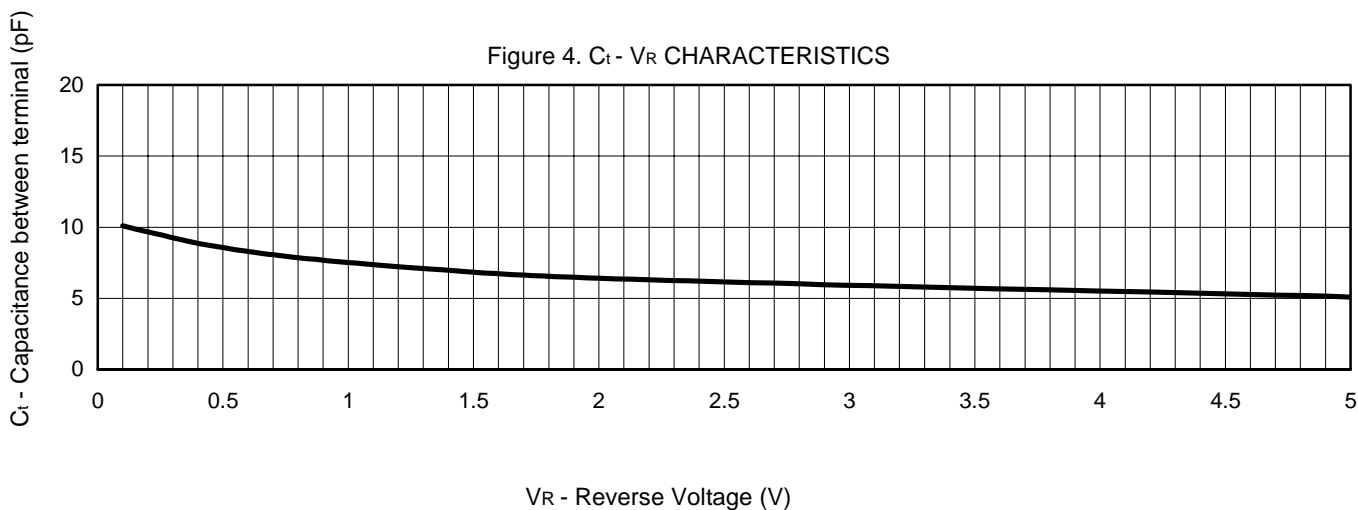
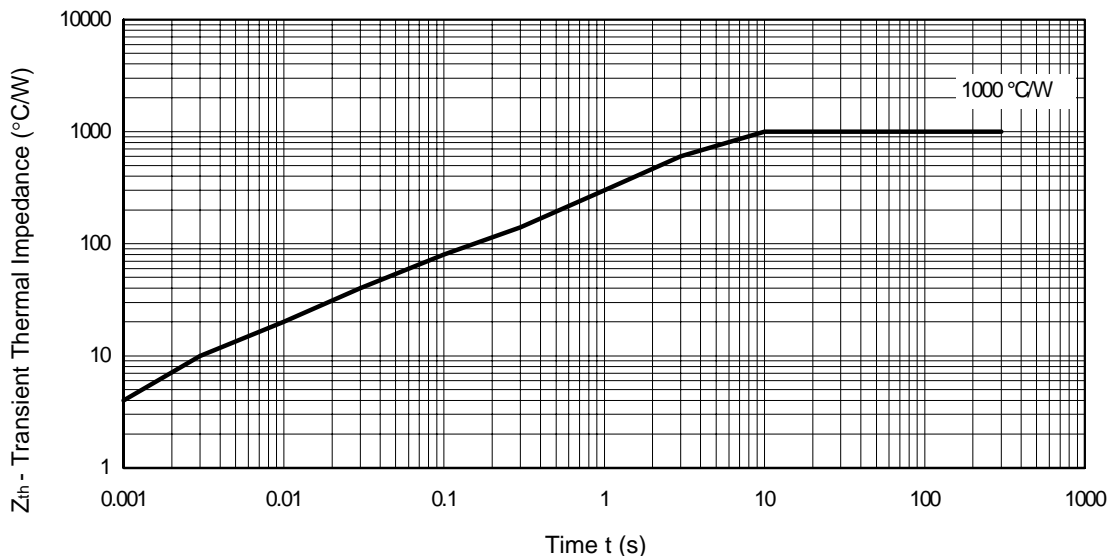
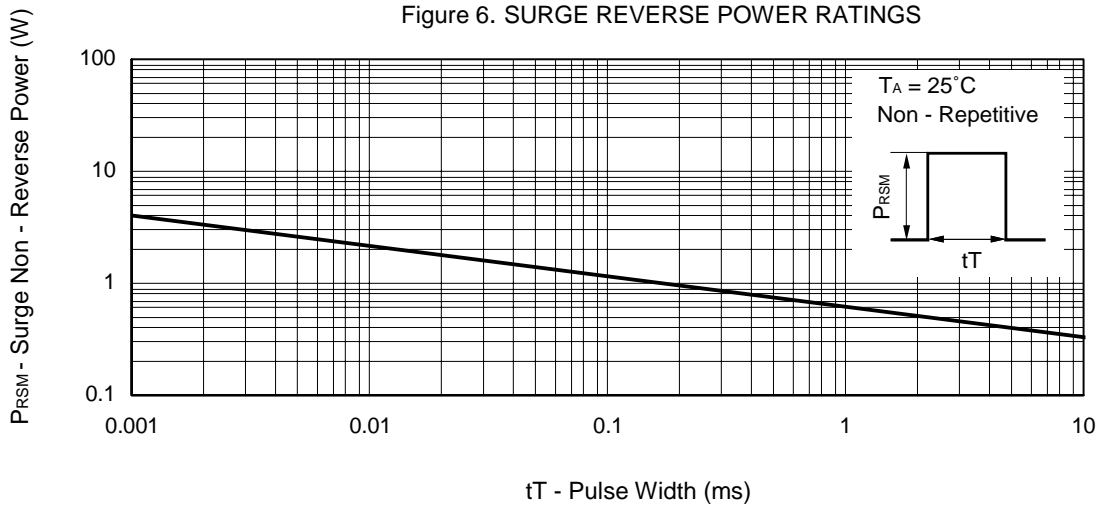


Figure 5. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



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Figure 6. SURGE REVERSE POWER RATINGS



[MEMO]

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