

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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**5-PIN SUPER SMALL MINI MOLD (FLAT LEAD TYPE)  
ELECTROSTATIC DISCHARGE NOISE CLIPPING DIODE  
(QUAD TYPE: COMMON ANODE)**

**DESCRIPTION**

The NNCD6.8PL 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 30 kV, thus making itself most suitable for external interface circuit protection.

With four elements mounted in the 5-pin super mini mold (Flat lead type) package, the product can cope with more high density assembling.

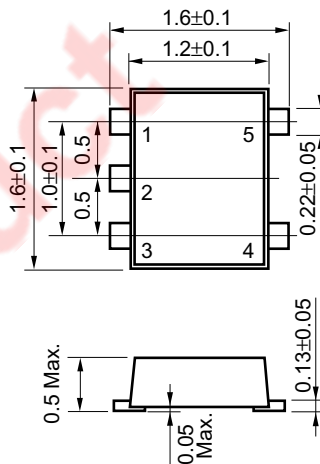
**FEATURES**

- Based on the electrostatic discharge immunity test (IEC61000-4-2), the product assures the minimum endurance of 30 kV.
- With four elements in the super mini mold package, the product can achieve high density and automatic packaging.

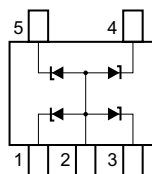
**APPLICATIONS**

- External interface circuit ESD absorption
- Circuit for surge absorber

**PACKAGE DRAWING (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)**

ITEM	SYMBOL	RATING	UNIT	REMARK
Power Dissipation	P	200	mW	Total
Surge Reverse Power	PRSM	85 (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<sub>A</sub> = 25°C) (A - K1, A - K2, A - K3, A - K4)**

TYPE No.	BREAKDOWN VOLTAGE <sup>Note1</sup>			CAPACITANCE		REVERSE LEAKAGE		ESD VOLTAGE <sup>Note2</sup>	
	V <sub>BR</sub> (V)			C <sub>t</sub> (pF)		I <sub>R</sub> (μA)		(kV)	
	MIN.	MAX.	I <sub>T</sub> (mA)	TYP.	Condition	MAX.	V <sub>R</sub> (V)	MIN.	Condition
NNCD6.8PL	6.2	7.1	5	90	V <sub>R</sub> = 0 V f = 1 MHz	2	3.5	30	C = 150 pF R = 330 Ω Contact discharge

**Notes** 1. Tested with pulse (40 ms).

2. Based upon with IEC61000-4-2.

EOL Product

TYPICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

Figure 1. P vs.  $T_A$  RATING

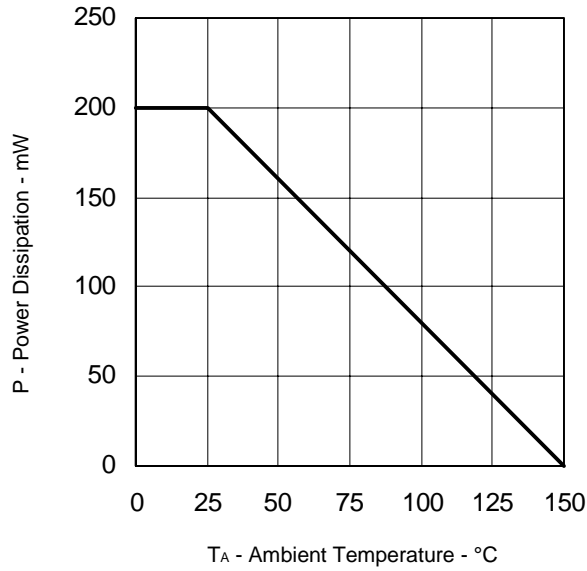


Figure 2.  $I_T$  vs.  $V_{BR}$  CHARACTERISTICS  
(A - K1, A - K2, A - K3, A - K4)

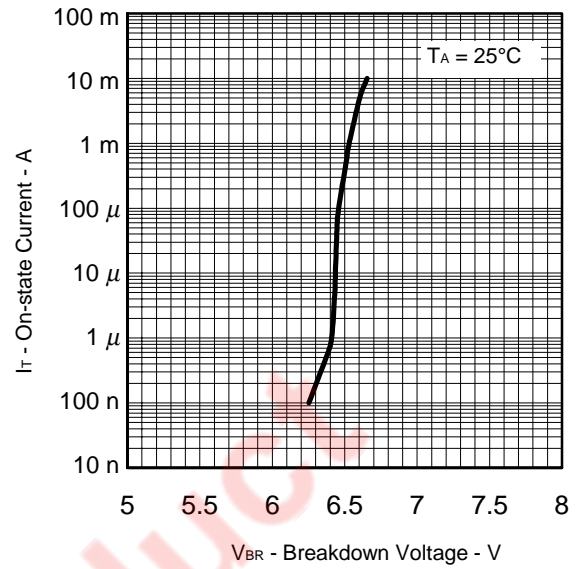


Figure 3.  $C_t$  vs.  $V_R$  CHARACTERISTICS

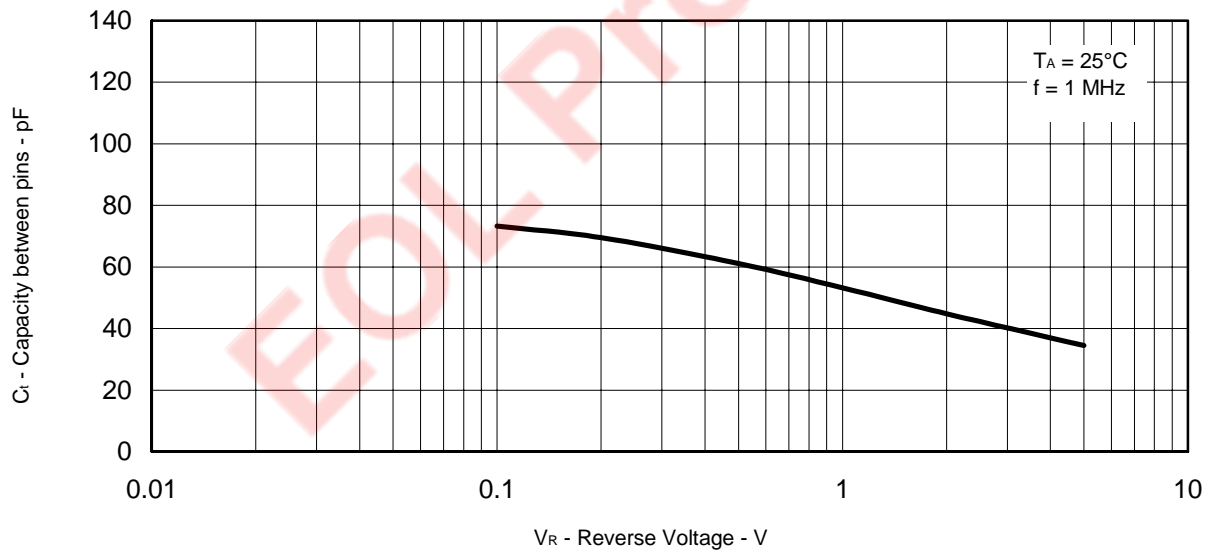


Figure 4. SURGE REVERSE POWER RATING

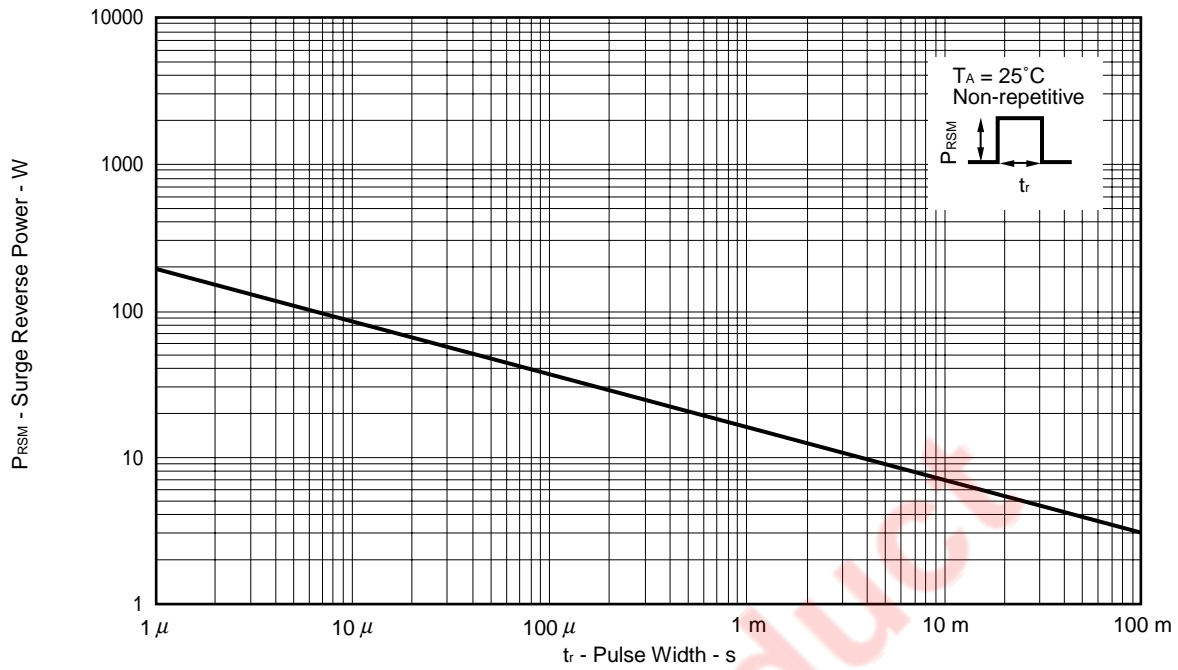
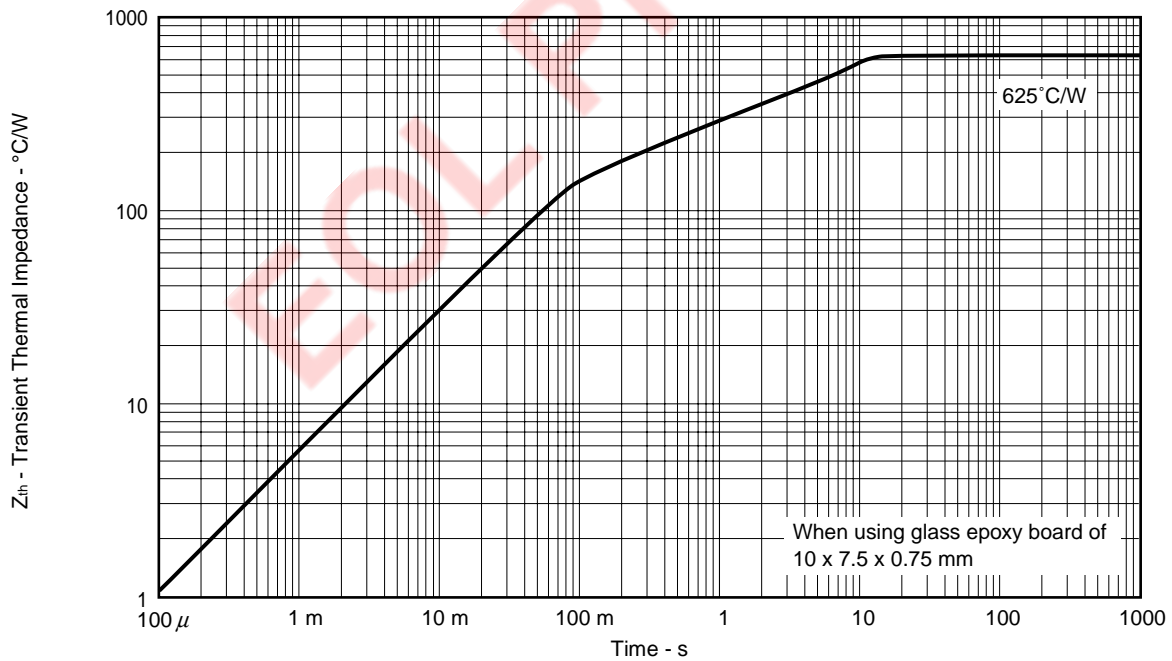


Figure 5. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



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