

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 NNCD6.8RL 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, 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.

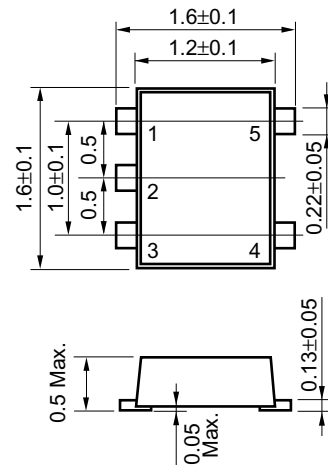
FEATURES

- Based on the electrostatic discharge immunity test (IEC61000-4-2), the product assures the minimum endurance of 8 kV.
- With four elements mounted (common anode)  
Super small mini mold package, the product can achieve high density and automatic packing.

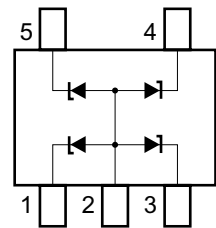
APPLICATIONS

- External interface circuit ESD absorption
- Circuits for waveform clipper, 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 (T<sub>A</sub> = 25°C)

ITEM	SYMBOL	RATING	UNIT	REMARK
Power Dissipation	P	200	mW	Total
Surge Reverse Power	P <sub>RSM</sub>	2 (t = 10 μs, 1 pulse)	W	
Junction Temperature	T <sub>j</sub>	150	°C	
Storage Temperature	T <sub>stg</sub>	-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
NNCD6.8RL	6.2	7.1	5	10	V <sub>R</sub> = 0 V f = 1 MHz	2	3.5	8	C = 150 pF R = 330 Ω Contact discharge

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

**2.** Based upon with IEC61000-4-2.

TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

Figure 1. P vs. T<sub>A</sub> RATING

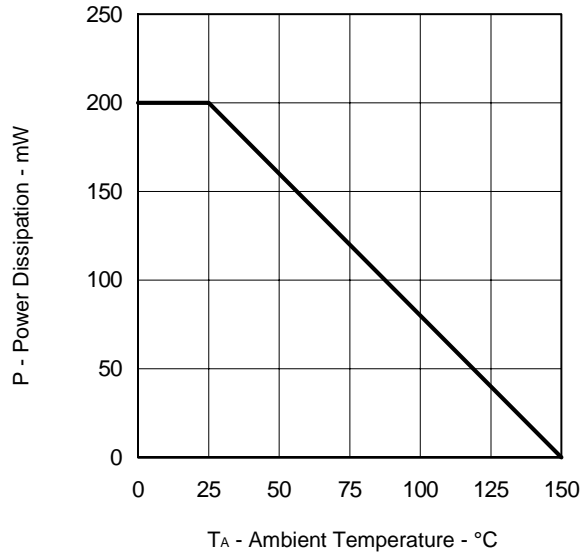


Figure 2. I<sub>T</sub> vs. V<sub>BR</sub> CHARACTERISTICS (A - K1, A - K2, A - K3, A - K4)

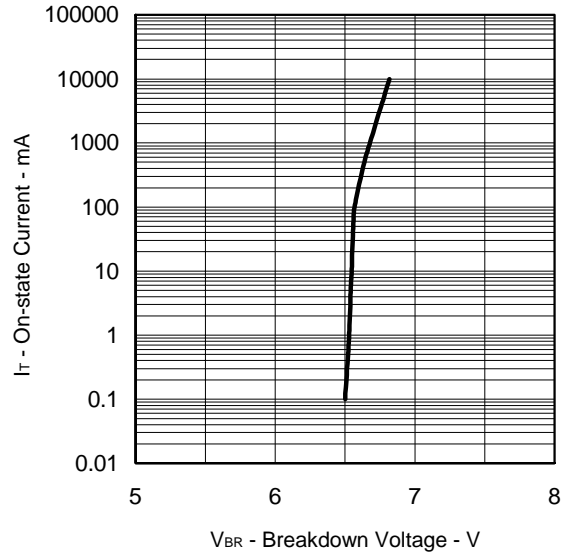


Figure 3. C<sub>t</sub> vs. V<sub>R</sub> CHARACTERISTICS

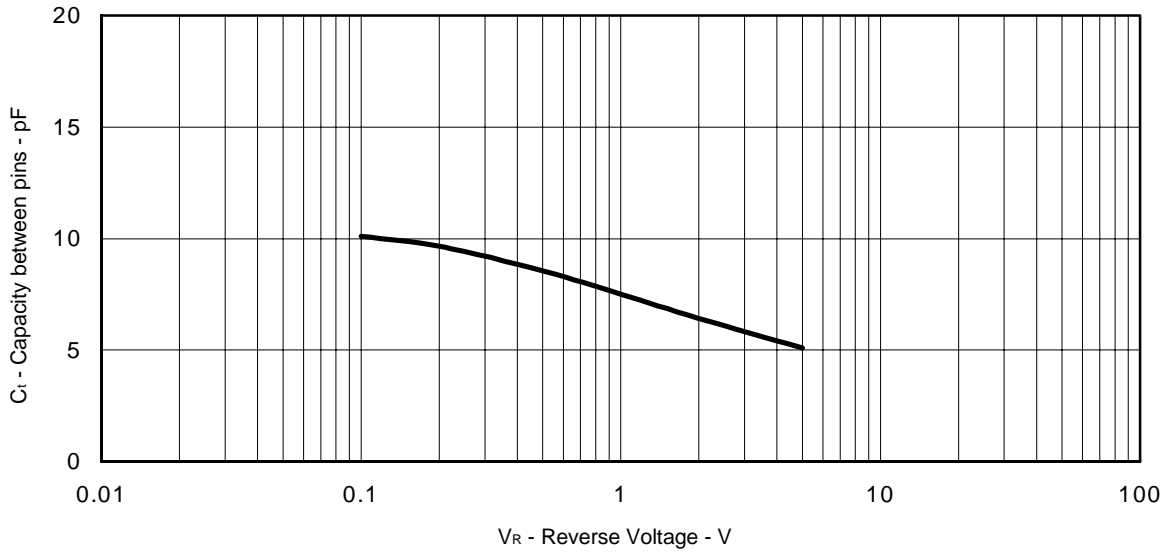


Figure 4. SURGE REVERSE POWER RATING

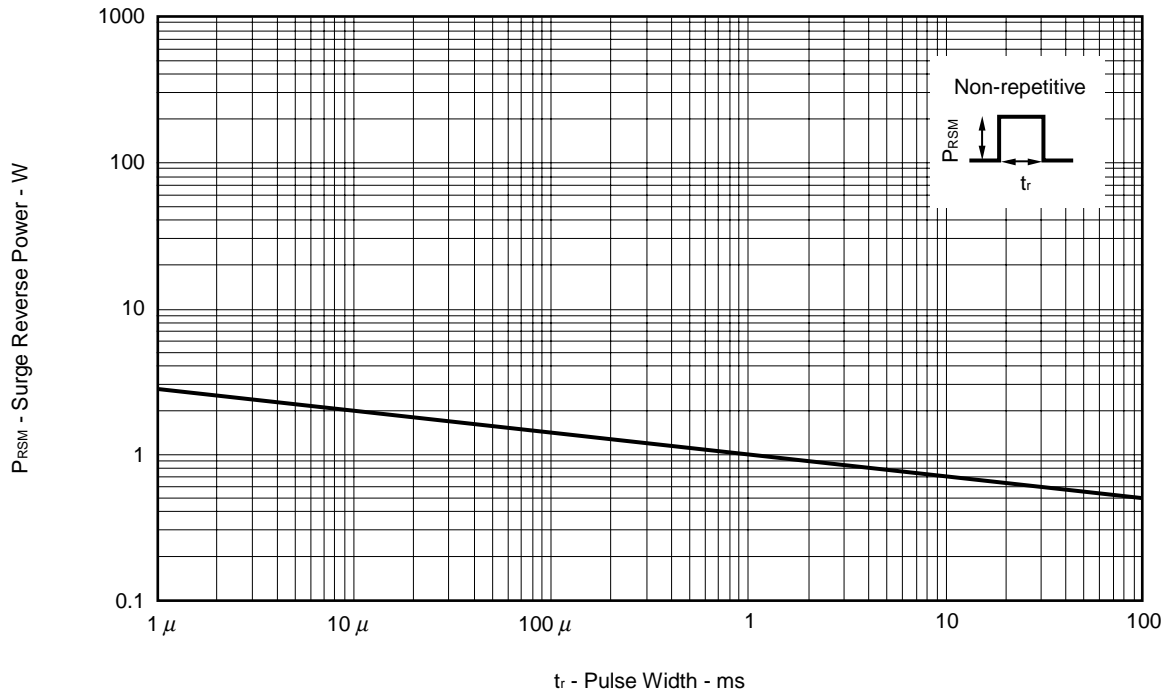
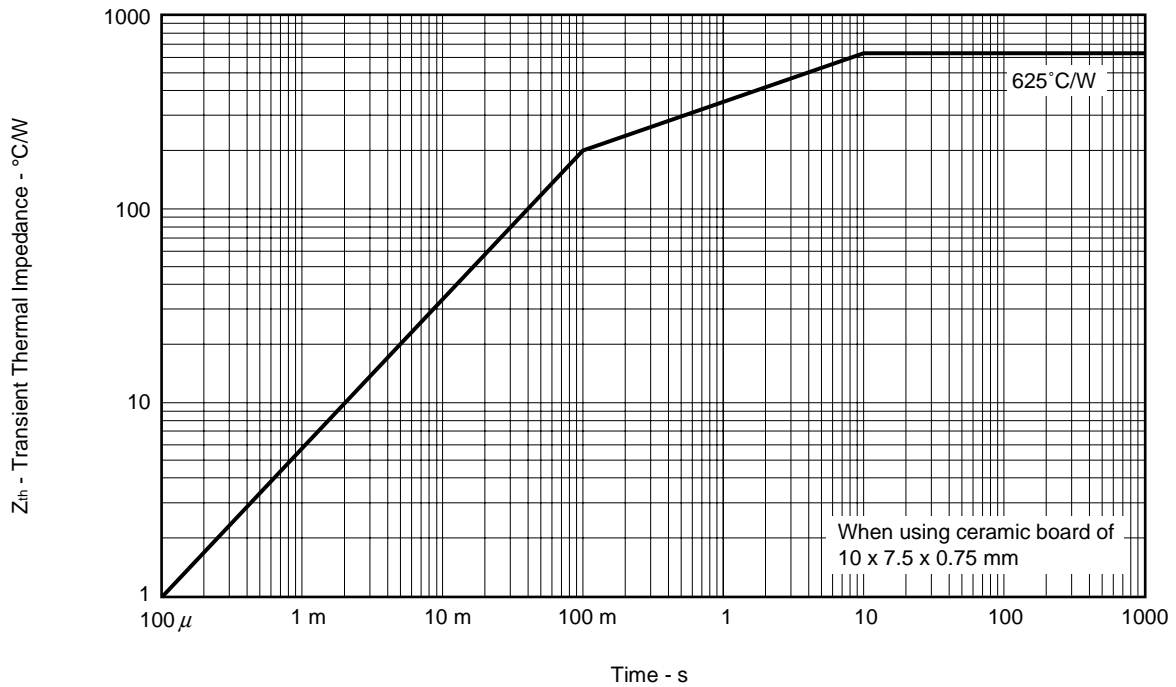


Figure 5. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



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