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April 1st, 2010
Renesas Electronics Corporation

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

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ESD NOISE CLIPPING DIODE
NNCD6.8PG

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

DESCRIPTION

The NNCD6.8PG is a diode developed for ESD (Electrostatic Discharge) absorption. Based on the IEC-61000-4-2 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 mini mold package, the product can cope with more high density assembling.

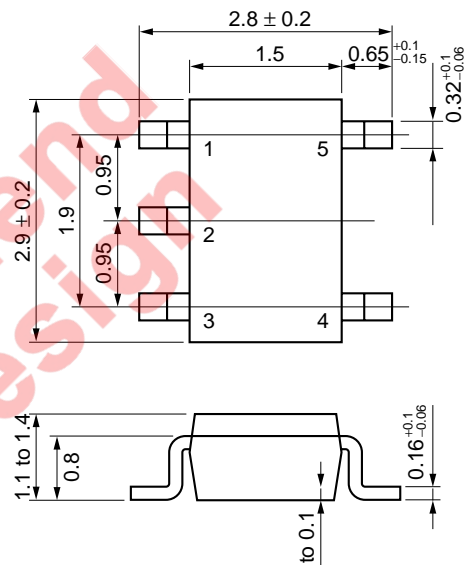
FEATURES

- Base on the electrostatic discharge immunity test (IEC 61000-4-2), the product assures the minimum endurance of 30 kV.
- With four elements in the MINI MOLD package, the product can achieve high density and automatic packaging.

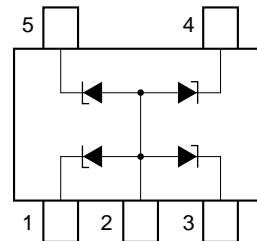
APPLICATIONS

- External interface circuit ESD absorption
- Circuits for waveform clipper, surge absorber

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 (T_A = 25°C)

ITEM	SYMBOL	RATING	UNIT	REMARK
Power Dissipation	P	200	mW	Total
Surge Reverse Power	P _{RSM}	85 (t = 10 μs 1 pulse)	W	
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{stg}	-55 to +150	°C	

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

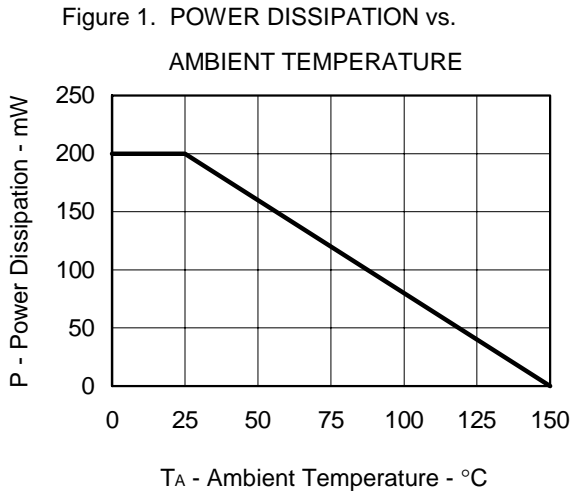
TYPE No.	BREAKDOWN VOLTAGE ^{Note1} V _{BR} (V)			CAPACITANCE C _t (pF)		REVERSE LEAKAGE I _R (μA)		DYNAMIC IMPEDANCE ^{Note2} Z _z (Ω)		ESD VOLTAGE ^{Note3} (kV)	
	MIN.	MAX.	I _T (mA)	TYP.	Condition	MAX.	V _R (V)	MAX.	I _T (mA)	MIN.	Condition
NNCD6.8PG	6.2	7.1	5	90	V _R = 0 V f = 1 MHz	2	3.5	40	5	30	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. Based upon with IEC 61000-4-2

Not recommend
for new design

TYPICAL CHARACTERISTICS (T_A = 25°C)



★

Figure 2. I_T - V_{BR} CHARACTERISTICS

(A-K1, A-K2, A-K3, A-K4)

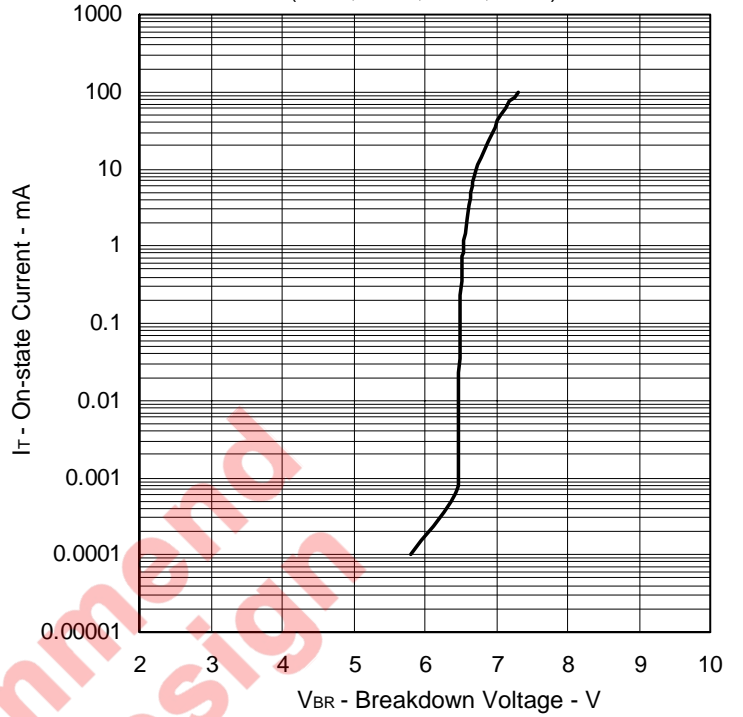


Figure 3. Z_Z - I_T

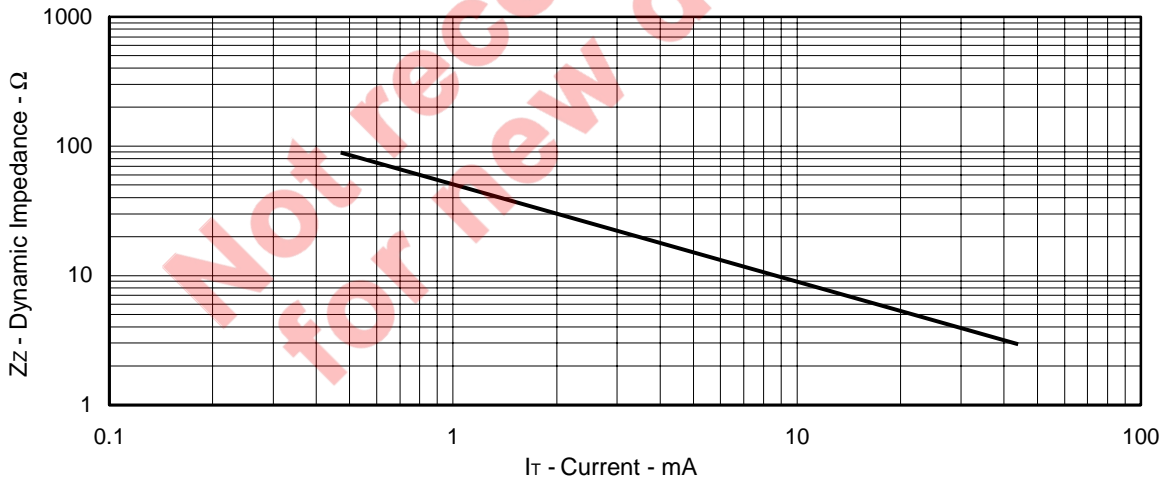


Figure 4. C_t - V_R CHARACTERISTICS

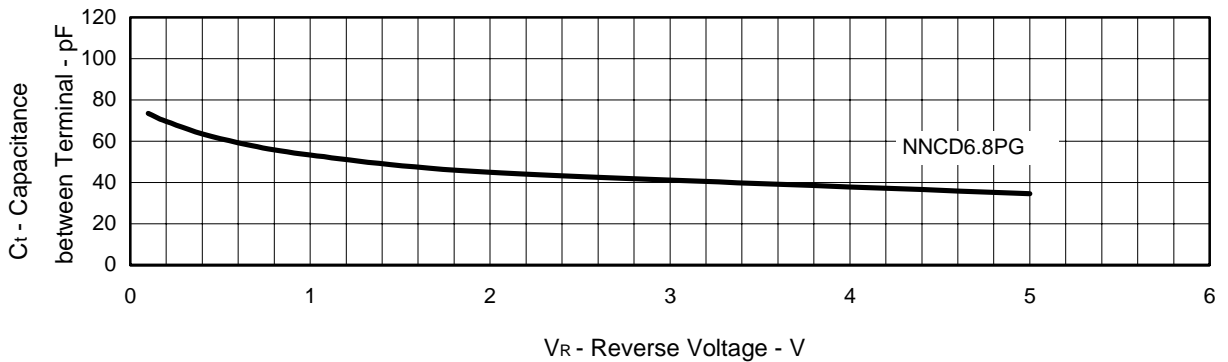


Figure 5. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

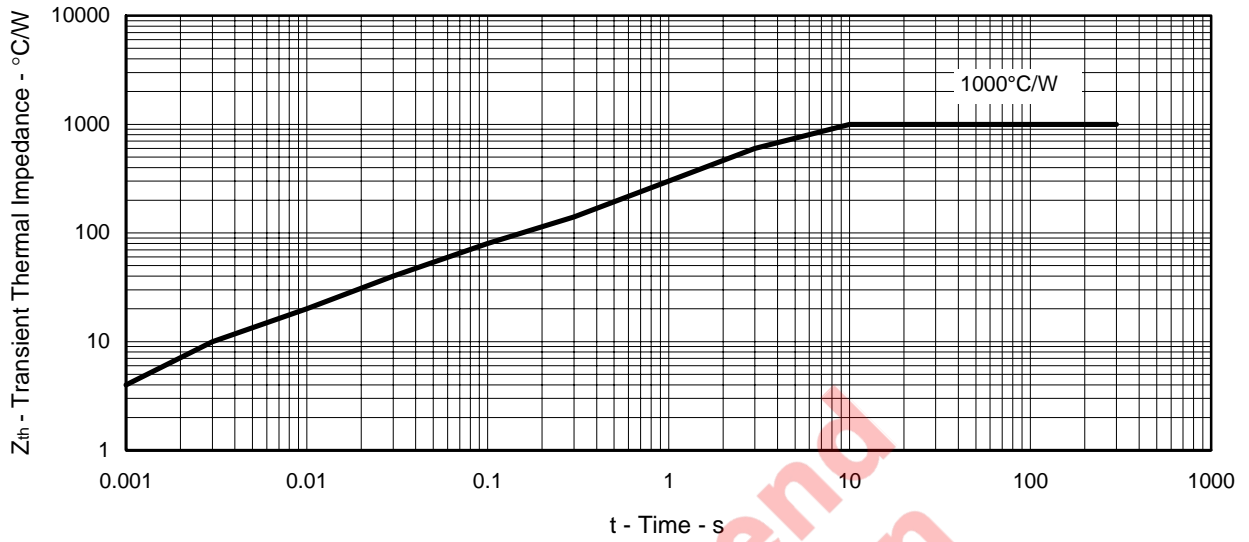
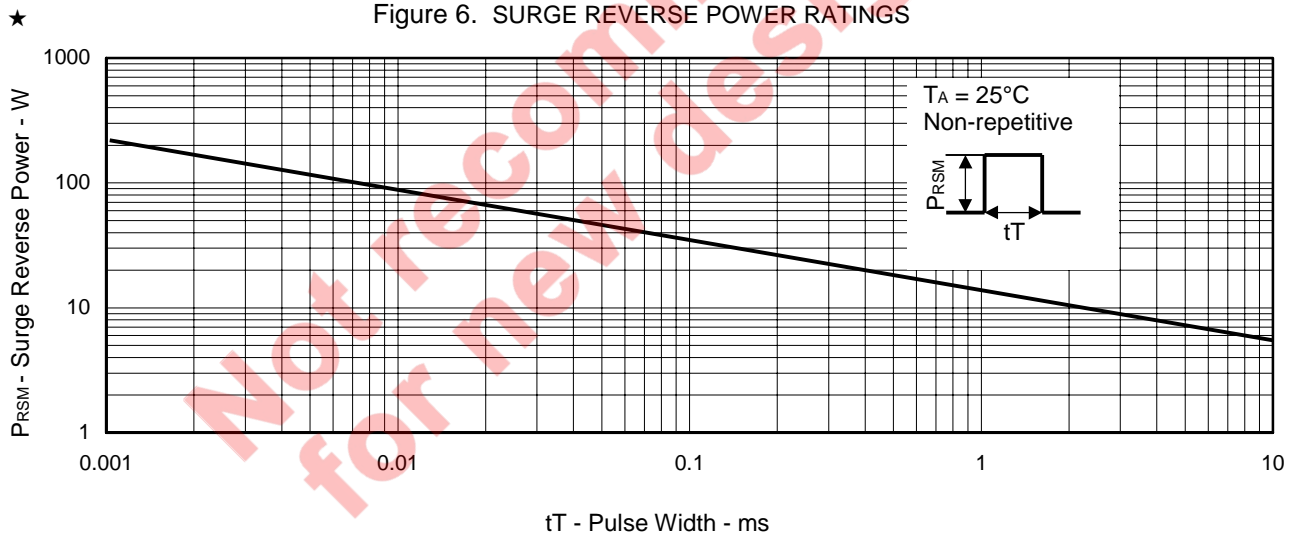


Figure 6. SURGE REVERSE POWER RATINGS



[MEMO]

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