

ESD NOISE CLIPPING DIODE NNCD18DT to NNCD36DT

ELECTROSTATIC DISCHARGE NOISE CLIPPING DIODE FOR LIN BUS APPLICATION

DESCRIPTION

These products are the ESD (Electrostatic Discharge) Noise Clipping Diode that is designed to protect from both positive and negative noise. NNCD18DT and NNCD36DT are suitable for ESD protection of LIN (Local Interconnect Network) bus.

FEATURES

- Suitable to absorb positive and negative noise
- Comply with IEC61000-4-2 or higher
- Possible to high density mounting with small sized 2-pin Super Mini Mold Package (SC-76)

APPLICATIONS

- ESD protection
- Surge absorbing

ORDERING INFORMATION

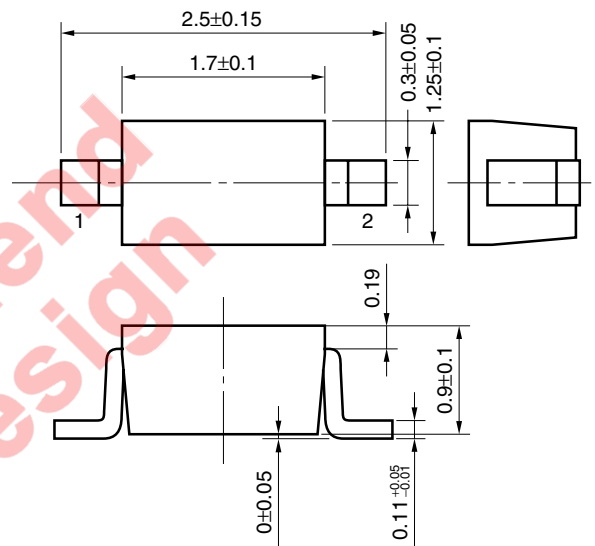
PART NUMBER	LEAD PLATING	PACKING	PACKAGE
NNCD18DT-T1-AT ^{Note}	Pure Sn (Tin)	Tape 3000 p/reel	2-pin Super Mini Mold (SC-76)
NNCD20DT-T1-AT ^{Note}			
NNCD27DT-T1-AT ^{Note}			
NNCD36DT-T1-AT ^{Note}			

Note Pb-free (This product does not contain Pb in the external electrode and other parts.)

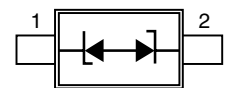
ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	Rating	Unit	Remark
Power Dissipation	P	200	mW	When surface mounting on 50 mm x 50 mm x 1.6 mm P.C.B. (Glass Epoxy), refer to Figure 1
Surge Reverse Power	P _{RSM}	85	W	t _r = 10 μs, 1 pulse, refer to Figure 4
Junction Temperature	T _j	150	°C	
Storage Temperature	T _{stg}	-55 to +150	°C	

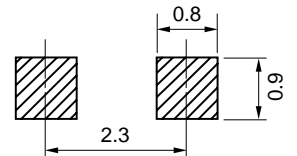
PACKAGE DRAWING (Unit: mm)



PIN CONFIGURATION



RECOMMENDED MOUNT PAD (Unit: mm)



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ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Type Number	Breakdown Voltage			Reverse Leakage		Capacitance		ESD Voltage	
	V _{BR} (V) ^{Note}			I _R (μA)		C _t (pF)		(kV)	
	MIN.	MAX.	I _Z (mA)	MAX.	V _R (V)	TYP.	Condition	MIN.	Condition
NNCD18DT	16	20	5	0.1	12	15	V _R = 0 V, f = 1 MHz	30	C = 150 pF, R = 330 Ω
NNCD20DT	18	22	5	0.1	13	14		30	
NNCD27DT	25	31	2	0.1	21	11		20	
NNCD36DT	33	39	2	0.1	27	9		15	

Note V_{BR} is tested with pulse (40 ms).

TYPICAL CHARACTERISTICS (T_A = 25°C)

Figure 1. POWER DISSIPATION vs. AMBIENT TEMPERATURE

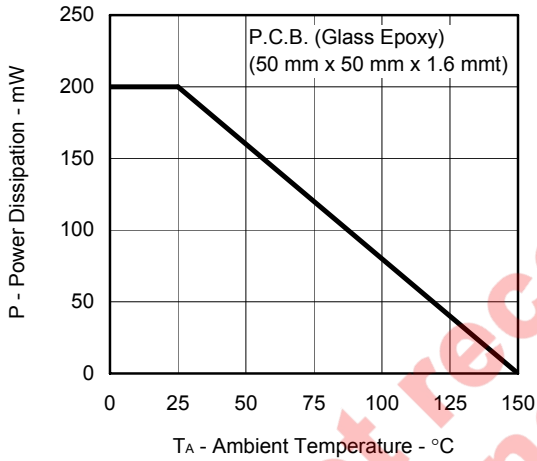


Figure 2. I_T - V_{BR} CHARACTERISTICS

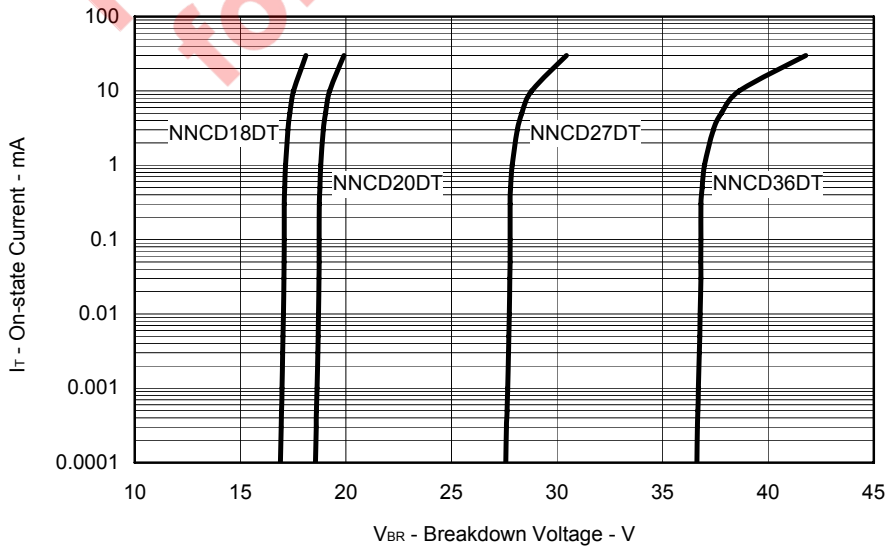


Figure 3. TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS

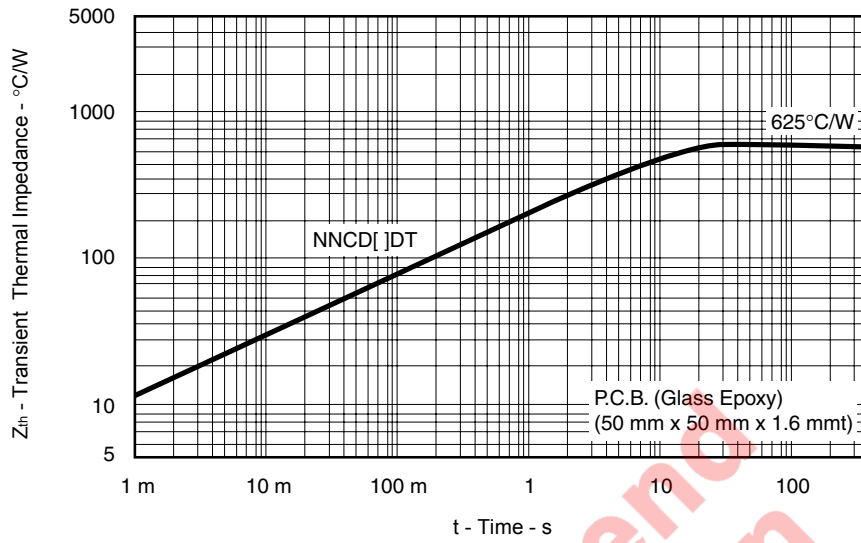
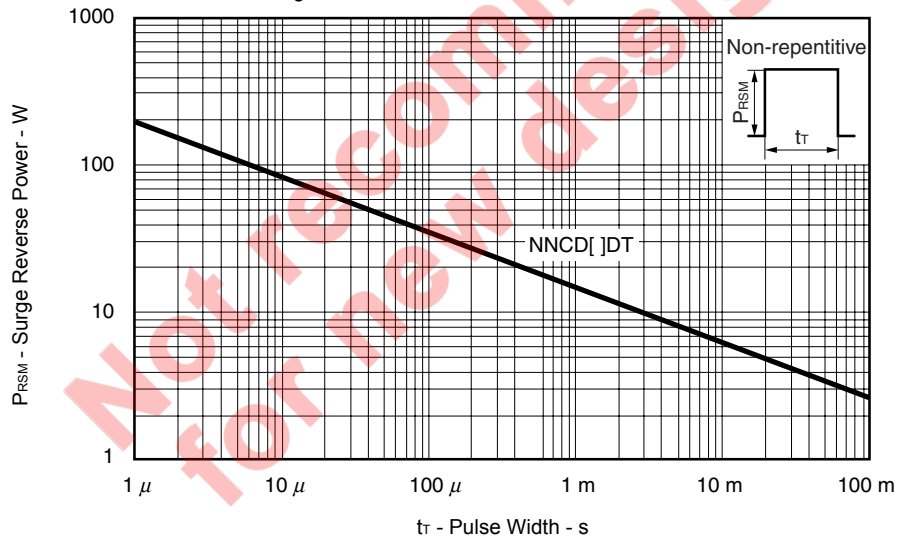


Figure 4. SURGE REVERSE POWER RATINGS



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April 1st, 2010
Renesas Electronics Corporation

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Not recommended
for new design

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