

Temperature Chip Sensor - NA SERIES

NTC Thermistors Data Sheet

Features

- Operating temperature range: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Wide range of electrical specifications
- Fast response
- Thermal and electrical characteristics with high stability
- RoHS& Halogen Free (HF) compliant
- Customizable :
R25, Cap Type, Wire Type and Length, or other demand.

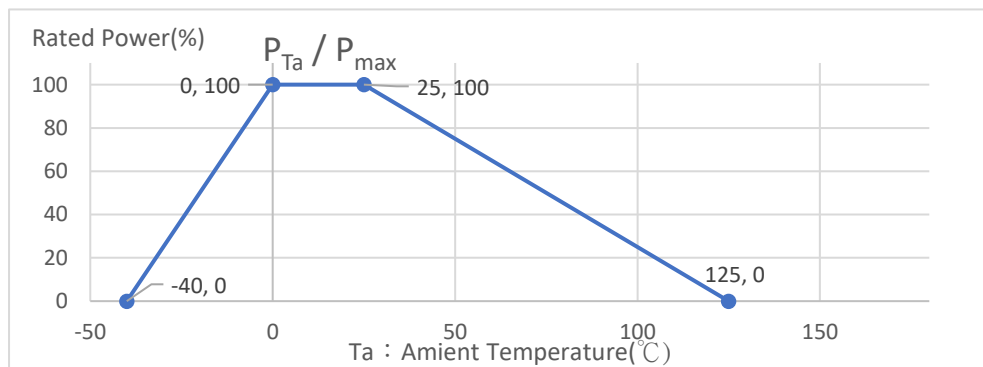


APPLICATIONS

- Air Conditioners : indoor & outdoor units , pipe.
- Home Appliances : fans, washer dryers, toilet seats, dehumidifiers, refrigerators ...etc.
- OA Equipment : printers, copying machines, fax machines...etc.
- Industrial & Automobile Equipment :
battery charges, heaters, surface & Ambient temperature sensing and control.

Max. Power Derating Curve

P_{max} at 25°C : 75mW



PART NUMBER CODE

Main PN (Table-1)				Sub PN				Additional Suffixes	
NA	103	6	F	2	B	5	—	760	
NTC Chip Sensor series	R25 Zero power Resistance	Beta Value code	Tol% of R25 and B	Cap／ Coating Code	Wire type	RoHS code	Wire Length		Customization Code
	Table-1	Table-1		Appendix	Appendix	Default	760→76mm		
	102→1KΩ	NA5	F→±1%	1~2codes		“5”	761→760mm		
	103→10KΩ	NA6	G→±2%				762→7600mm		
	104→100KΩ	NA7	H→±3%						
NA9		J→±5%							
			H→+10%						

■ Main PN - ELECTRICAL CHARACTERISTICS

Table-1

Series	NA5	NA6	NA7	NA9
BETA (25- 50°C)	3877	3935	4204	3390
BETA (25- 85°C)	3943	3978	4262	3435
ALPHA @25°C	-4.3 %/°C	-4.4 %/°C	-4.7 %/°C	-3.9 %/°C
R25(KΩ)	NA5	NA6	NA7	NA9
1.0				NA1029△
1.5		NA1526△		
2.0		NA2026△		NA2029△
2.2		NA2226△		
2.7		NA2726△		
3.0		NA3026△		NA3029△
3.3		NA3326△		
3.7		NA3726△		
4.0		NA4026△		
4.7		NA4726△		
5.0		NA5026△		NA5029△
6.0		NA6026△		
7.2	NA7225△			
8.0		NA8026△		
8.5				NA8529△
10.0	NA1035△	NA1036△	NA1037△	NA1039△
12.0		NA1236△		
15.0	NA1535△	NA1536△		
20.0	NA2035△	NA2036△	NA2037△	
21.0				
22.0	NA2235△			
25.0	NA2535△		NA2537△	
30.0	NA3035△	NA3036△		
33.0		NA3336△	NA3337△	
40.0		NA4036△		
47.0		NA4736△		
50.0	NA5035△	NA5036△	NA5037△	
100.0	NA1045△		NA1047△	
150.0			NA1547△	

Note : △ means Tolerance of R25 and Beta Value

F:±1% G:±2% H:±3% J:±5%

PRODUUCT Spec.

■ **Application** : Surface temperature sensing and control.

Battery charges, OA equipment, Industry equipment.

PN	Zero Power $R_{25}(\Omega)$ $\pm 1\%$	Beta 25/85 $\pm 1\%$	Operating Temperature $^{\circ}\text{C}(\text{TL-TU})$	Thermal Time Constant (Sec)	Thermal Dissipation Constant ($\text{mW}/^{\circ}\text{C}$)	Wire Code	CONFIGURATIONS & DIMENSION (unit: mm)
NA1039F14W5	10K	3435	40~+125	Approx. 10	Approx. 10	W	NA□-12-W type Cap No.14: Tin Plated Copper 5Φ CP Wire (Non-Insulation - Single)
NA1036F14W5	10K	3978	-40~+125	Approx. 10	Approx. 10	W	
NA1047F14W5	100K	4262	-40~+125	Approx. 10	Approx. 10	W	
NA1039F10B5	10K	3435	40~+125	Approx. 25	Approx. 10	B	NA□-14-B type Cap No.10: Tinned Brass 26AWG Wire (Insulation - Single)
NA1036F10B5	10K	3978	-40~+125	Approx. 25	Approx. 10	B	
NA1047F10B5	100K	4262	-40~+125	Approx. 25	Approx. 10	B	
NA1039F2D5 NA1039F2H5	10K	3435	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	NA□-02-D type / NA□-02-H type Cap No.2 :Tinned Copper 24 AWG / 26AWG (Insulation Wire- Parallel)
NA1036F2D5 NA1036F2H5	10K	3978	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	
NA1047F2D5 NA1047F2H5	100K	4262	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	
NA1039F12D5 NA1039F12H5	10K	3435	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	NA□-12-D type / NA□-12-H type Cap No.12 : Nickel - plate 24 AWG / 26AWG (Insulation Wire- Parallel)
NA1036F12D5 NA1036F12H5	10K	3978	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	
NA1047F12D5 NA1047F12H5	100K	4262	-40~+ 85 -40~+125	Approx. 35	Approx. 6	D H	

Customizable : R25, Cap Type, Wire Type and Length, or other demand

■ Application : Battery (Packs & Ambient)/Adapter/Thermometers

PN	Zero Power $R_{25}(\Omega)$ $\pm 1\%$	Beta 25/85 $\pm 1\%$	Operating Temperature $^{\circ}\text{C}(\text{TL-TU})$	Thermal Time Constant (Sec)	Thermal Dissipation Constant ($\text{mW}/^{\circ}\text{C}$)	Wire Code	CONFIGURATIONS & DIMENSION (unit: mm)
NA1039F1A5	10K	3435	40~+125	Approx. 10	Approx. 1 ↓	A	NA□-01-A type 32AWG Wire (Non-Insulation - Single)
NA1036F1A5	10K	3978	-40~+125	Approx. 10	Approx. 1 ↓	A	
NA1047F1A5	100K	4262	-40~+125	Approx. 10	Approx. 1 ↓	A	
NA1039F1W5	10K	3435	40~+125	Approx. 10	Approx. 1 ↓	W	NA□-01-W type 5Φ CP Wire (Non-Insulation - Single)
NA1036F1W5	10K	3978	-40~+125	Approx. 10	Approx. 1 ↓	W	
NA1047F1W5	100K	4262	-40~+125	Approx. 10	Approx. 1 ↓	W	
NA1039F1C5	10K	3435	40~+125	Approx. 10	Approx. 1 ↓	C	NA□-01-C type 30AWG Wire (Insulation - Single)
NA1036F1C5	10K	3978	-40~+125	Approx. 10	Approx. 1 ↓	C	
NA1047F1C5	100K	4262	-40~+125	Approx. 10	Approx. 1 ↓	C	

■ Application : Air conditioner/Automobile air conditioners & Heaters (ambient)

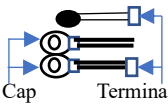
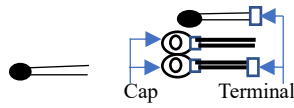
PN	Zero Power $R_{25}(\Omega)$ $\pm 1\%$	Beta 25/85 $\pm 1\%$	Operating Temperature $^{\circ}\text{C}(\text{TL-TU})$	Thermal Time Constant (Sec)	Thermal Dissipation Constant ($\text{mW}/^{\circ}\text{C}$)	Wire Code	CONFIGURATIONS & DIMENSION (unit: mm)
NA1039F1D5 NA1039F1H5	10K	3435	-40~+ 85 -40~+125	Approx. 10	Approx. 1 ↓	D H	NA□-10-D type / NA□-10-H type 24 AWG / 26AWG Parallel Insulation Wire
NA1036F1D5 NA1036F1H5	10K	3978	-40~+ 85 -40~+125	Approx. 10	Approx. 1 ↓	D H	
NA1047F1D5 NA1047F1H5	100K	4262	-40~+ 85 -40~+125	Approx. 10	Approx. 1 ↓	D H	

■ Application : Air conditioner indoor&outdoor units ,and pipe/Dehumidifiers
/Dishwashers/Washer dryers /Refrigerators

PN	Zero Power $R_{25}(\Omega)$ $\pm 1\%$	Beta 25/85 $\pm 1\%$	Operating Temperature $^{\circ}\text{C}(\text{TL-TU})$	Thermal Time Constant (Sec)	Thermal Dissipation Constant ($\text{mW}/^{\circ}\text{C}$)	Wire Code	CONFIGURATIONS (unit: mm)
NA1039F11D5 NA1039F11H5	10K	3435	-40~+ 85 -40~+125	Approx. 80	Approx. 10	D H	NA□-10-D type / NA□-10-H type <u>Cap No.11 : Nickel - plate</u> 24 AWG / 26AWG (Insulation Wire- Parallel)
NA1036F11D5 NA1036F11H5	10K	3978	-40~+ 85 -40~+125	Approx. 80	Approx. 10	D H	
NA1047F11D5 NA1047F11H5	100K	4262	-40~+ 85 -40~+125	Approx. 80	Approx. 10	D H	

Customizable : R25, Cap Type, Wire Type and Length, or other demand

Bulk Packing

Coating & Cap Type	Epoxy only Cap Code =1	with Cap (Cap Code ≠ 1) or Terminal	All product					
CONFIGURATIONS								
Wire Length	50 ↓ mm	50 ↓ mm	51 ~160 mm	161 ~500 mm	501 ~1000 mm	1001 ~3500 mm	3501 ~5000 mm	5001 ~7500 mm
SPQ	200 pcs/Bag	100 pcs/Bag	100 pcs/Bag	100 pcs/Bag	100 pcs/Bag	50 pcs/Bag	25 pcs/Bag	20 pcs/Bag

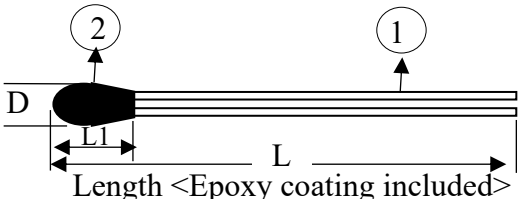
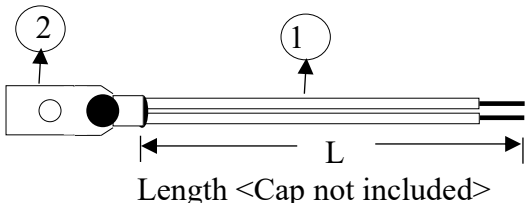
Warehouse Storage Conditions

- Storage temperature: -10°C~+40°C.
- Relative humidity: ≤75%RH.
- Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.

APPENDIX

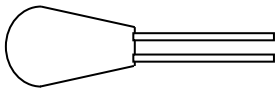
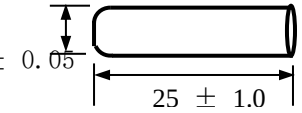
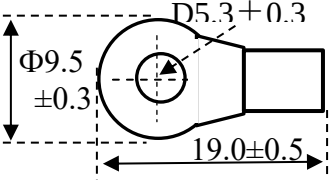
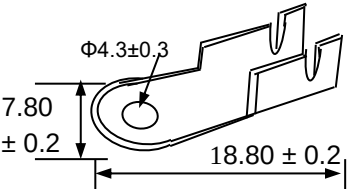
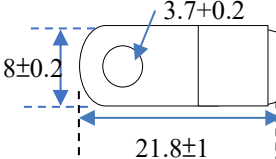
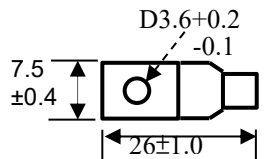
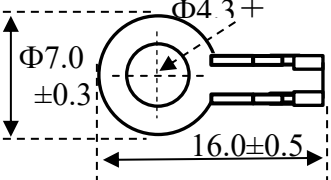
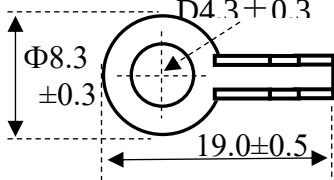
■ PRODUCT CONFIGURATIONS

Table-A1

NS type (Epoxy <u>without</u> Cap)  Length <Epoxy coating included>		NSA,NSG (Epoxy <u>with</u> Cap)  Length <Cap <u>not</u> included>
(1) Wire Type	(2) Coating/Cap	(L) Wire length

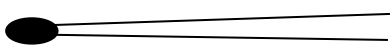
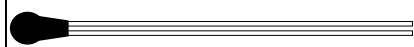
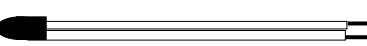
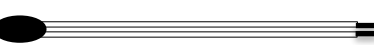
■ Coating / Cap Type

Table-A2

Cap No.	Material	Dimensions (mm)	Cap No.	Material	Dimensions (mm)
1	Epoxy Resin		11	Nickel - plate	
2	Tinned Copper		12 NSG	Nickel - plate	
4	Copper		14 NSA	Tin Plated Copper	
10	Tinned Brass		19	Tinned brass	

■ Wire Type

Table-A3

Wire Type	Specifications & Dimensions	Wire Type	Specifications & Dimensions
A	32AWG Non-insulation Wire  Tu=125°C	W	0.5Φ CP Wire Non-insulation Wire  Tu=125°C
B	26AWG Single Teflon Wire Insulation Wire  Tu=125°C	H	26AWG Parallel Wire Insulation Wire  Tu=125°C
C	30AWG Single Teflon Wire Insulation Wire  Tu=125°C	D	24AWG Parallel PVC Wire Insulation Wire  Tu= 85°C

PRODUCT INDEX

PN	Type	R25	Beta code	Beta (25-85)	Tol.% of R25 & Beta	Cap No.	Operating Temperature Range T _L ~T _U (°C)	Wire Type	Wire Length (mm)	Epoxy	
										D (mm)	L1 (mm)
NA2029F1A5-760	NA3-01-A	2K	NA3	3435	±1%	Epoxy	-40~+125	A	76	2.41	5±2
NA1039F1A5-760	NA3-01-A	10K	NA3	3435	±1%	Epoxy	-40~+125	A	76	2.41	5±2
NA1039F1B5-760	NA3-01-B	10K	NA3	3435	±1%	Epoxy	-40~+125	B	76	3.2	5±2
NA1029J1C5-760	NA3-01-C	1K	NA3	3435	±5%	Epoxy	-40~+125	C	76	3.3	5±2
NA5029J1C5-760	NA3-01-C	5K	NA3	3435	±5%	Epoxy	-40~+125	C	76	2.8	5±2
NA1039F1C5-760	NA3-01-C	10K	NA3	3435	±1%	Epoxy	-40~+125	C	76	3.2	5±2
NA1039F1D5-760	NA3-01-D	10K	NA3	3435	±1%	Epoxy	-40~+ 85	D	76	4.0	5±2
NA1039F1W5	NA3-01-W	10K	NA3	3435	±1%	Epoxy	-40~+125	W	25	2.41	5±2
NA3035J1A5-760	NA5-01-A	30K	NA5	3943	±5%	Epoxy	-40~+125	A	76	2.41	5±2
NA1045F1W5	NA5-01-W	100K	NA5	3943	±1%	Epoxy	-40~+125	W	25	2.41	5±2
NA1036K1A5-760	NA6-01-A	10K	NA6	3978	±10%	Epoxy	-40~+125	A	76	2.41	5±2
NA1036F1B5-760	NA6-01-B	10K	NA6	3978	±1%	Epoxy	-40~+125	B	76	3.2	5±2
NA5026H1B5-400	NA6-01-B	5K	NA6	3978	±3%	Epoxy	-40~+125	B	40	3.2	5±2
NA1036J1B5-340	NA6-01-B	10K	NA6	3978	±5%	Epoxy	-40~+125	B	34	3.2	5±2
NA1036F1C5-760	NA6-01-C	10K	NA6	3978	±1%	Epoxy	-40~+125	C	76	2.8	5±2
NA1036J1C5-201	NA6-01-C	10K	NA6	3978	±5%	Epoxy	-40~+125	C	200	2.8	5±2
NA1036F1D5-760	NA6-01-D	10K	NA6	3978	±1%	Epoxy	-40~+ 85	D	76	4.0	5±2
NA5026J1D5-201	NA6-01-D	5K	NA6	3978	±5%	Epoxy	-40~+ 85	D	200	4	5±2
NA1036H1W5	NA6-01-W	10K	NA6	3978	±3%	Epoxy	-40~+125	W	25	3.0	5±2
NA1036F1W5	NA6-01-W	10K	NA6	3978	±1%	Epoxy	-40~+125	W	25	3.0	5±2
NA3337F1A5-760	NA7-01-A	33K	NA7	4262	±1%	Epoxy	-40~+125	A	76	2.41	5±2
NA1047F1A5-760	NA7-01-A	100K	NA7	4262	±1%	Epoxy	-40~+125	A	76	2.41	5±2
NA3337F1B5-760	NA7-01-B	33K	NA7	4262	±1%	Epoxy	-40~+125	B	76	3.2	5±2
NA1047J1B5-760	NA7-01-B	100K	NA7	4262	±5%	Epoxy	-40~+125	B	76	3.2	5±2
NA1047F1B5-151	NA7-01-B	100K	NA7	4262	±1%	Epoxy	-40~+125	B	150	3.2	5±2
NA1047F1B5-251	NA7-01-B	100K	NA7	4262	±1%	Epoxy	-40~+125	B	250	3.2	5±2
NA1047F1B5-500	NA7-01-B	100K	NA7	4262	±1%	Epoxy	-40~+125	B	50	3.2	5±2
NA1047G1B5-351	NA7-01-B	100K	NA7	4262	±2%	Epoxy	-40~+125	B	350	3.2	5±2
NA1047F1B5-760	NA7-01-B	100K	NA7	4262	±1%	Epoxy	-40~+125	B	76	3.2	5±2
NA3337F1C5-760	NA7-01-C	33K	NA7	4262	±1%	Epoxy	-40~+125	C	76	2.8	5±2
NA1047F1C5-760	NA7-01-C	100K	NA7	4262	±1%	Epoxy	-40~+125	C	76	2.8	5±2
NA3337F1D5-760	NA7-01-D	33K	NA7	4262	±1%	Epoxy	-40~+ 85	D	76	4	5±2
NA1047F1D5-760	NA7-01-D	100K	NA7	4262	±1%	Epoxy	-40~+ 85	D	76	4	5±2
NA3337F1W5	NA7-01-W	33K	NA7	4262	±1%	Epoxy	-40~+125	W	25	2.41	5±2

PN	Type	R25	Beta code	Beta (25-85)	Tol.% of R25 & Beta	Cap No.	Operating Temperature Range T _L ~T _U (°C)	Wire Type	Wire Length (mm)	Epoxy	
										D (mm)	L1 (mm)
NA1036F19B5-151	NA6-19-B	10K	NA6	3978	±1%	No.19	-40~+125	B	150	--	--
NA1033F14B5-101	NA3-14-B	10K	NA3	3488	±1%	No.14	-40~+125	B	100	--	--
NA1536F14B5-301	NA6-14-B	15K	NA6	3978	±1%	No.14	-40~+125	B	300	--	--
NA1036J14D5-101	NA6-14-D	10K	NA6	3978	±5%	No.14	-40~+ 85	D	100	--	--
NA1036F14D5-502	NA6-14-D	10K	NA6	3978	±1%	No.14	-40~+ 85	D	5000	--	--
NA1036F14D5-602	NA6-14-D	10K	NA6	3978	±1%	No.14	-40~+ 85	D	6000	--	--
NA1033F12D5-650	NA3-12-D	10K	NA3	3435	±1%	No.12	-40~+ 85	D	65	--	--
NA1033F11B5-182	NA3-11-B	10K	NA3	3435	±1%	No.11	-40~+125	B	1800	--	--
NA1033F11D5-152	NA3-11-D	10K	NA3	3435	±1%	No.11	-40~+ 85	D	1500	--	--
NA1036F11D5-701	NA6-11-D	10K	NA6	3978	±1%	No.11	-40~+ 85	D	700	--	--
NA5026F11D5-102	NA6-11-D	5K	NA6	3978	±1%	No.11	-40~+ 85	D	1000	--	--
NA1036F11D5-302	NA6-11-D	10K	NA6	3978	±1%	No.11	-40~+ 85	D	3000	--	--
NA1033F10B5-101	NA3-10-B	10K	NA3	3488	±1%	No.10	-40~+125	B	100	--	--
NA1036F10B5-760	NA6-10-B	10K	NA6	3978	±1%	No.10	-40~+125	B	76	--	--
NA2036F10B5-101	NA6-10-B	20K	NA6	3978	±1%	No.10	-40~+125	B	100	--	--
NA1036H10W5	NA6-10-W	10K	NA6	3978	±3%	No.10	-40~+125	W	25	--	--
NA1047H10W5	NA7-10-W	100K	NA7	4262	±3%	No.10	-40~+125	W	25	--	--
NA5035J2D5-350	NA5-02-D	50K	NA5	3943	±5%	No.2	-40~+ 85	D	35	--	--
NA1036L2B5-161	NA6-02-B	10K	NA6	3978	±15%	No.2	-40~+125	B	160	--	--
NA1036J2B5-101	NA6-02-B	10K	NA6	3978	±5%	No.2	-40~+125	B	100	--	--
NA5026J2B5-151	NA6-02-B	5K	NA6	3978	±5%	No.2	-40~+125	B	150	--	--
NA1036J2B5-201	NA6-02-B	10K	NA6	3978	±5%	No.2	-40~+125	B	200	--	--
NA1036J2B5-151	NA6-02-B	10K	NA6	3978	±5%	No.2	-40~+125	B	150	--	--
NA1036J2B5-341	NA6-02-B	10K	NA6	3978	±5%	No.2	-40~+125	B	340	--	--
NA5026J2B5-731	NA6-02-B	5K	NA6	3978	±5%	No.2	-40~+125	B	730	--	--
NA1036J2B5-761	NA6-02-B	10K	NA6	3978	±5%	No.2	-40~+125	B	760	--	--
NA1036F2B5-761	NA6-02-B	10K	NA6	3978	±1%	No.2	-40~+125	B	760	--	--
NA5026J2B5-282	NA6-02-B	5K	NA6	3978	±5%	No.2	-40~+125	B	2800	--	--
NA5026G2D5-151	NA6-02-D	5K	NA6	3978	±2%	No.2	-40~+ 85	D	150	--	--