



## NT Series Glass NTC Thermistor

### NT Thermistor

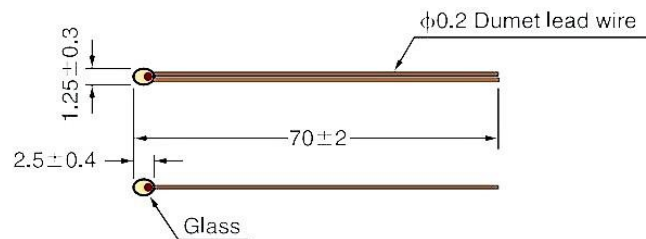
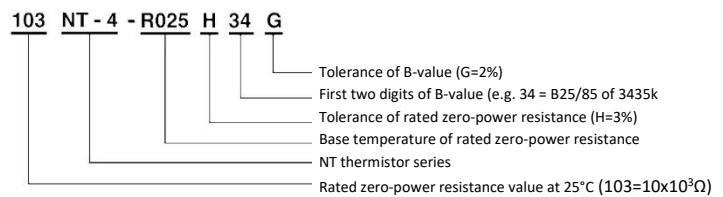
Semitec's NT series glass bead thermistors have a very fast response time and wide operating temperature range from -50°C to 300°C. The glass coating is extremely robust and ensures the thermistor is moisture-proof. These high temperature thermistors use lead-alloy technology to ensure long-term stability. They are ideal for use in home appliances, automotive sensors, medical sensors and high temperature control systems, e.g. 3D printers, EGR sensors, fuel cells, etc.

### Applications

- Heating/cooling devices
- Boilers & Domestic appliances
- Automotive sensors
- E-vehicle batteries
- Medical devices
- Temperature safety applications
- 3D printers & Office automation
- High temperature sensors

### Features

- High temperature rating
- High accuracy
- Small sensing bead
- Fast response
- High reliability / Stability



Unit (mm)

#### Caution

- When soldering make sure to have a minimum distance from the bead of at least 5 mm.
- When bending the lead wire make sure to secure the wire at a minimum distance of 5mm from the glass bead.

Product number	Rated zero-power resistance (*1)		Resistance tolerance	B value temperature °C(XX/XXX)	B value (*2)	Operating temperature range (°C)
	Temperature	Resistance				
502NT-4-R025H39G	25 °C	5 kΩ	± 3% (*3)	25/85	3964 K ± 2%	- 50 to 300
852NT-4-R050H34G	50 °C	3.485 kΩ		0/100	3450 K ± 2%	
103NT-4-R025H34G	25 °C	10 kΩ		25/85	3435 K ± 2%	
103NT-4-R025H41G	25 °C	10 kΩ		25/85	4126 K ± 2%	
203NT-4-R025H42G	25 °C	20 kΩ		25/85	4282 K ± 2%	
493NT-4-R100H40G	100 °C	3.3 kΩ		0/100	3970 K ± 2%	
503NT-4-R025H42G	25 °C	50 kΩ		25/85	4288 K ± 2%	
104NT-4-R025H42G	25 °C	100 kΩ		25/85	4267 K ± 2%	
104NT-4-R025H43G	25 °C	100 kΩ		25/85	4390 K ± 2%	
204NT-4-R025H43G	25 °C	200 kΩ		25/85	4338 K ± 2%	
234NT-4-R200H42G	200 °C	1 kΩ		100/200	4537 K ± 2%	
504NT-4-R025H45G	25 °C	500 kΩ		25/85	4526 K ± 2%	
105NT-4-R025H46G	25 °C	1000 kΩ		25/85	4608 K ± 2%	

°Dissipation factor: 0.8 mw / °C °Thermal time constant4 : approx. 6 s °Rated power at 25 °C: 4 mW

(\*1): Rated zero-power resistance at each

(\*2): B value calculated from rated zero-power resistance at each

(\*3): If your application requires other tolerance values please contact ATC Semitec

(\*4): Time required to reach 63.2% of temperature difference. Measured with sensor

For further information please contact us at [sales@atcsemitec.co.uk](mailto:sales@atcsemitec.co.uk)



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### Resistance-Temperature Tables (Unit kΩ)

Temperature (°C)	502NT-4-R025H39G	852NT-4-R050H34G	103NT-4-R025H34G	103NT-4-R025H41G	203NT-4-R025H42G	493NT-4-R100H40G	503NT-4-R025H42G	104NT-4-R025H42G	104NT-4-R025H43G	204NT-4-R025H43G	234NT-4-R200H42G	504NT-4-R025H45G	105NT-4-R025H46G
-50	339.5	346.8	394.7	830.9	1931	3376	3576	8887	10090	19040	17900	52600	110900
-30	92.34	106.1	122.0	207.7	459.2	885.4	965	2156	2353	4524	4633	12290	25610
-10	28.48	38.02	44.09	60.87	129.3	275.5	302.8	623.2	657	1284	1393	3396	6979
0	16.64	23.92	27.86	34.85	72.67	162.2	175.2	354.6	368.1	724.5	804.8	1887	3849
10	10.06	15.49	18.13	20.65	42.33	98.65	104.00	208.8	213.5	423.0	479.2	1084	2195
25	5.00	8.487	10.00	10.00	20.00	49.41	50.00	100.00	100.0	200.0	232.1	500.0	1000
40	2.649	4.899	5.806	5.166	10.10	26.23	25.42	50.90	49.90	100.6	119.0	245.2	484.7
50	1.790	3.485	4.144	3.437	6.613	17.70	16.69	33.45	32.42	65.72	78.46	157.3	308.4
60	1.238	2.524	3.011	2.341	4.440	12.20	11.19	22.48	21.54	43.89	52.84	103.1	200.7
80	0.6306	1.391	1.668	1.159	2.138	6.134	5.343	10.8	10.13	20.81	25.39	47.24	90.54
85	0.3591	1.209	1.451	0.9843	1.803	5.222	4.494	9.094	8.486	17.48	21.38	39.31	75.08
100	0.3455	0.8104	0.9754	0.6189	1.112	3.300	2.741	5.569	5.122	10.61	13.06	23.27	43.96
120	0.2014	0.4952	0.5920	0.3525	0.6175	1.882	1.498	3.058	2.763	5.759	7.130	12.23	22.78
140	0.1238	0.3108	0.3679	0.2121	0.3631	1.127	0.8635	1.770	1.574	3.301	4.098	6.787	12.48
160	0.07968	0.2000	0.2365	0.1339	0.2245	0.7057	0.5225	1.074	0.9414	1.985	2.466	3.957	7.188
180	0.05341	0.1325	0.1568	0.08811	0.1448	0.4592	0.3296	0.6793	0.5873	1.244	1.544	2.406	4.322
200	0.03708	0.09036	0.1068	0.06015	0.09698	0.3092	0.2158	0.4452	0.3804	0.8098	1.000	1.519	2.703
220	0.02656	0.06329	0.07467	0.04239	0.06713	0.2145	0.1459	0.3016	0.2549	0.5442	0.6674	0.9937	1.750
240	0.01956	0.04543	0.05345	0.03072	0.04784	0.1529	0.1016	0.2104	0.1760	0.3765	0.4574	0.6712	1.168
260	0.01477	0.03337	0.03907	0.02285	0.03499	0.1117	0.07261	0.1507	0.1250	0.2676	0.3210	0.4663	0.8019
280	0.01141	0.02506	0.02912	0.01743	0.02619	0.08336	0.05319	0.1105	0.09101	0.1950	0.2302	0.3317	0.5651
300	0.00900	0.01919	0.02209	0.01361	0.02003	0.06345	0.03981	0.08278	0.06772	0.1452	0.1683	0.2410	0.4074