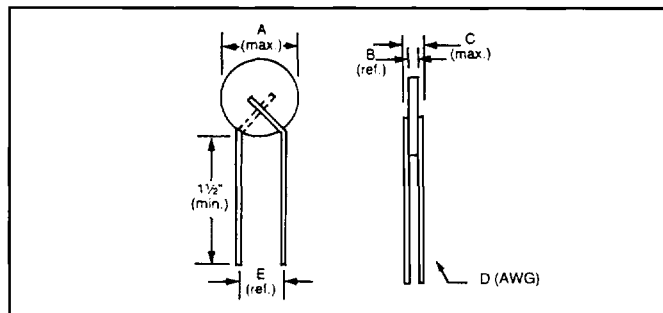


NTC THERMISTORS:

Resistance range @ 25°C5 Ω to 150 Ω†
 Temperature coefficient of
 resistance (α) @ 25°C.....-3.42%/°C
 Operating temperature range-50°C to +150°C

Temp. Range (°C)	Resistance Ratio (Nom.)	Beta (°K)
0/50	5.6	3033
37.8/104.4	5.9	3129
25/125	14.1	3138

†This resistance range is based on the diameter/thickness combinations shown in the table below. Other R₀ @ 25°C values are available in this material system.



To calculate $\frac{R_T}{R_{25}}$ at temperatures other than those listed in the table, use the following equation:

$$\frac{R_T}{R_{25}} = e^{(\ln A - C \ln T + \frac{D}{T})}$$

T = temperature in °K and equation constants are as follows:

Temperature Range (°C)	Ln A	C	D
-50 to 0	17.57910	4.16718	1835.82
0 to 50	7.17807	2.59260	2264.01
50 to 100	0.58323	1.61491	2569.59
100 to 150	-26.95255	-2.31696	4155.97

To calculate the actual thermistor temperature as a function of the thermistor resistance, use the following equation:

$$T = \frac{1}{a + b \left(\ln \frac{R_T}{R_{25}}\right) + c \left(\ln \frac{R_T}{R_{25}}\right)^2 + d \left(\ln \frac{R_T}{R_{25}}\right)^3}$$

T = temperature in °K and equation constants are as follows:

$\frac{R_T}{R_{25}}$ Range	a	b	c	d
2.514 to 26.32	3.356056E-03	3.250625E-04	6.261213E-06	-1.384282E-07
.4510 to 2.514	3.354016E-03	3.292673E-04	4.111564E-06	-1.651587E-07
.1232 to .4510	3.356698E-03	3.347387E-04	7.730427E-06	1.062442E-06
.0442 to .1232	3.297579E-03	2.913574E-04	-2.188039E-07	7.768265E-07

Temperature (°F)	Temperature (°C)	$\frac{R_T}{R_{25}}$	Temperature Coef. Of Resistance (α) (%/°C)
-58	-50	26.32	-5.55
-49	-45	20.04	-5.35
-40	-40	15.41	-5.16
-31	-35	11.96	-4.99
-22	-30	9.357	-4.82
-13	-25	7.383	-4.66
-4	-20	5.870	-4.51
5	-15	4.702	-4.37
14	-10	3.792	-4.23
23	-5	3.078	-4.11
32	0	2.514	-3.98
41	5	2.067	-3.86
50	10	1.709	-3.74
59	15	1.422	-3.63
68	20	1.189	-3.56
77	25	1.000	-3.42
86	30	0.8450	-3.32
95	35	0.7175	-3.23
104	40	0.6120	-3.14
113	45	0.5243	-3.05
122	50	0.4510	-2.97
131	55	0.3898	-2.88
140	60	0.3382	-2.80
149	65	0.2946	-2.73
158	70	0.2575	-2.66
167	75	0.2259	-2.59
176	80	0.1989	-2.52
185	85	0.1756	-2.46
194	90	0.1556	-2.40
203	95	0.1382	-2.34
212	100	0.1232	-2.29
221	105	0.1097	-2.23
230	110	0.09794	-2.18
239	115	0.08776	-2.13
248	120	0.07889	-2.09
257	125	0.07114	-2.04
266	130	0.06434	-2.00
275	135	0.05835	-1.95
284	140	0.05306	-1.90
293	145	0.04837	-1.87
302	150	0.04421	-1.83

Type Number	R° @ 25°C Ω	Tolerance* ± %	A		B		C		D	E		δ (mW/°C)	τ (Sec.)
			(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(AWG)	(in.)	(mm)		
RL1006-98.4-59-D1	150	20	0.110	2.79	0.060	1.52	0.140	3.56	26	0.100	2.54	2.7	10
RL1005-82-59-D1	125				0.050	1.27	0.130	3.30				2.5	10
RL1004-65.6-59-D1	100				0.040	1.02	0.120	3.05				2.5	9
RL1003-49.2-59-D1	75				0.030	0.76	0.110	2.79				2.5	9
RL2007-32.8-59-D1	50	20	0.220	5.59	0.070	1.78	0.160	4.06	24	0.156	3.96	6.5	30
RL2004-16.4-59-D1	25				0.040	1.02	0.130	3.30				6.5	20
RL3008-13.1-59-D1	20	20	0.320	8.13	0.080	2.03	0.170	4.32	24	0.250	6.35	8.0	50
RL3006-9.84-59-D1	15				0.060	1.52	0.150	3.81				7.5	45
RL3004-6.56-59-D1	10				0.040	1.02	0.130	3.30				7.0	35
RL4504-3.28-59-D1	5	20	0.480	12.19	0.040	1.02	0.140	3.56	22	0.328	8.33	10.0	60

*Consult Keystone Thermometrics Engineering Department for information on other tolerances or tolerances at temperatures other than 25°C.

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