

100 Ohm Resistive Temperature Sensor



TH100PT

Description

The TH100PT is a resistive temperature device (RTD) rated 100 Ω at 0 $^{\circ}\text{C}$.

Specifications

100 Ohm Resistive Temperature Sensor	
Body Dimensions	0.08" x 0.20" x 0.05" (2.0 mm x 5.0 mm x 1.3 mm) Not Including Leads
Lead Dimensions	0.6" Long (15 mm), 0.010" Diameter Ag (0.25 mm)
Resistance	100 Ω @ 0 $^{\circ}\text{C}$ $\pm 0.12\%$ (En60751 Class B)
Material	Aluminum Oxide Substrate with Fused Glass Cover
Temperature Coefficient	$3.85 \times 10^{-3}/\text{K}$ (TCR = 0.00385/ $^{\circ}\text{C}$)
Repeatability	± 0.1 $^{\circ}\text{C}$ or Better
Stability	Drift Less Than ± 0.1 $^{\circ}\text{C}/\text{Year}$ in Normal Use
Temperature Range	-70 to 400 $^{\circ}\text{C}$ (-94 to 752 $^{\circ}\text{F}$)



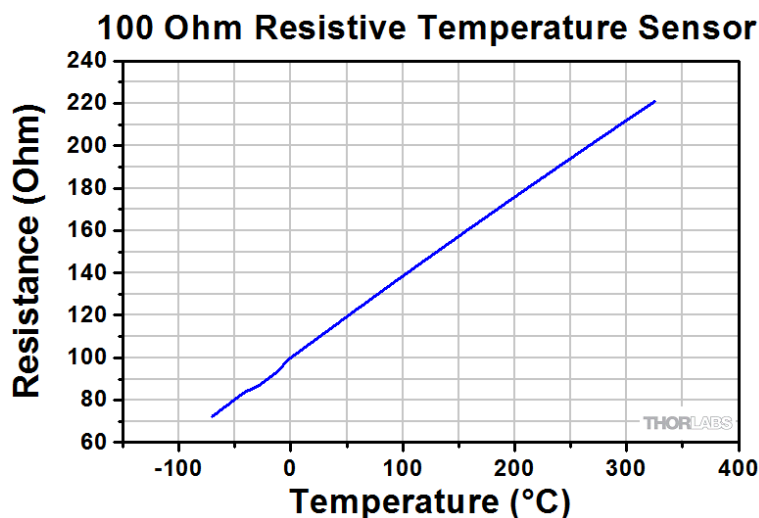
Application Information

Resistance Table:

$R_T = R_0 (1 + AT + BT^2)$ (in accordance with IEC 751, 2:1995-07 [DIN EN 60751; 1996-07])

Where: $A = 3.9083 \times 10^{-3} \text{ }^{\circ}\text{C}^{-1}$ and $B = -5.775 \times 10^{-7} \text{ }^{\circ}\text{C}^{-2}$ and $R_0 = 100 \text{ } \Omega$

Performance Plot



100 Ω Resistive Temperature Sensor R-T Curve Data							
Temp (°C)	Temp (°F)	Temp (K)	Ω	Temp (°C)	Temp (°F)	Temp (K)	Ω
-70	-94	203.15	72.36	130	266	403.15	149.83
-65	-85	208.15	74.35	135	275	408.15	151.71
-60	-76	213.15	76.34	140	284	413.15	153.58
-55	-67	218.15	78.33	145	293	418.15	155.46
-50	-58	223.15	80.31	150	302	423.15	157.33
-45	-49	228.15	82.30	155	311	428.15	159.19
-40	-40	233.15	84.27	160	320	433.15	161.05
-35	-31	238.15	86.25	165	329	438.15	162.91
-30	-22	243.15	88.22	170	338	443.15	164.77
-25	-13	248.15	90.19	175	347	448.15	166.63
-20	-4	253.15	92.16	180	356	453.15	168.48
-15	5	258.15	94.12	185	365	458.15	170.33
-10	14	263.15	96.09	190	374	463.15	172.17
-5	23	268.15	98.04	195	383	468.15	174.02
0	32	273.15	100.00	200	392	473.15	175.86
5	41	278.15	101.95	205	401	478.15	177.69
10	50	283.15	103.90	210	410	483.15	179.53
15	59	288.15	105.85	215	419	488.15	181.36
20	68	293.15	107.79	220	428	493.15	183.19
25	77	298.15	109.73	225	437	498.15	185.01
30	86	303.15	111.67	230	446	503.15	186.84
35	95	308.15	113.61	235	455	508.15	188.66
40	104	313.15	115.54	240	464	513.15	190.47
45	113	318.15	117.47	245	473	518.15	192.29
50	122	323.15	119.40	250	482	523.15	194.10
55	131	328.15	121.32	255	491	528.15	195.51
60	140	333.15	123.24	260	500	533.15	197.71
65	149	338.15	125.16	265	509	538.15	199.51
70	158	343.15	127.08	270	518	543.15	201.31
75	167	348.15	128.99	275	527	548.15	203.11
80	176	353.15	130.90	280	536	553.15	204.90
85	185	358.15	132.80	285	545	558.15	206.70
90	194	363.15	134.71	290	554	563.15	208.48
95	203	368.15	136.61	295	563	568.15	210.27
100	212	373.15	138.51	300	572	573.15	212.05
105	221	378.15	140.40	305	581	578.15	213.83
110	230	383.15	142.29	310	590	583.15	215.61
115	239	388.15	144.18	315	599	588.15	217.38
120	248	393.15	146.07	320	608	593.15	219.15
125	257	398.15	147.95	325	617	598.15	220.92