

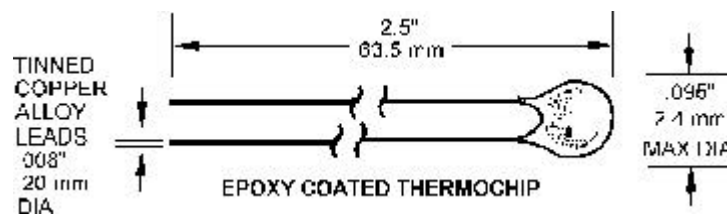
NTC THERMISTORS: TYPE EC95



DESCRIPTION:

Unitherm Interchangeable Thermistors, Thermometrics' Type EC95, are manufactured using proven materials and techniques, making it possible to obtain close tolerances and resistance-temperature curve tracking at a low cost. The performance of EC95 has been substantiated by extensive field use and long-term testing. The result is a rugged, stable and easy-to-handle device. All Type EC95 thermistors are epoxy-coated for stability and have a maximum diameter of .095 inch. Standard leads are 2½ inches x .008 inches diameter. Standard resistance values at 25°C range from 100 to 100K. Each unit tracks a specified curve to within $\pm 0.2^\circ\text{C}$ over the temperature range -20°C to 50°C or 0°C to 70°C . Narrower temperature ranges may be specified for effective cost savings or to accomplish even tighter curve tracking tolerances.

DIMENSIONS:



APPLICATIONS:

Unitherm Interchangeable Thermistors, Type EC95, are designed for close tolerance resistance-temperature curve tracking over two standard temperature ranges. As such, they may be used in any general temperature measurement, control or compensation application where interchangeability and low cost are major considerations. Chip-style thermistors, such as the Type EC95, have higher dissipation constants than glass-coated beads or probe-style thermistors and therefore can be used in circuits where there are moderate power levels. The thermal time constant for chip-style thermistors is comparable to that of large glass probes. The Type EC95 chip thermistor is especially suitable for disposable and permanent medical product usage, as well as in energy management systems, appliances, industrial equipment and automotive applications. Type EC95 thermistors are available in a large variety of sensor configurations and housings. Contact the factory for specific design or application information on mountings or enclosures.

DATA:

Type EC95 thermistors are designed to be interchangeable over -20°C to 50°C and 0°C to 70°C. They may be used at temperatures as low as -80°C and as high as 150°C, however, best overall stability is achieved with exposure or storage temperatures lower than 105°C. Resistance shifts and degraded stability will result if the devices are subjected to temperatures greater than 105°C and physical failure may result at temperatures in excess of 150°C.

THERMAL AND ELECTRICAL PROPERTIES:

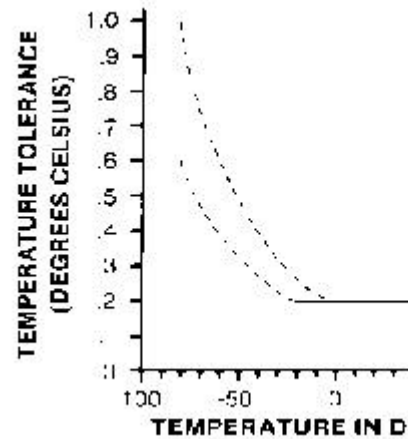
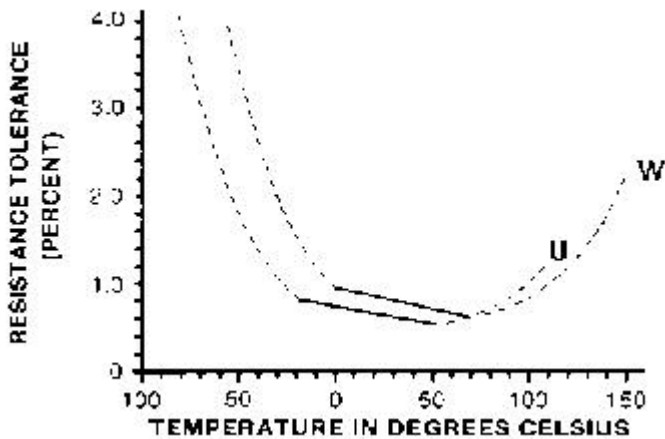
DISSIPATION CONSTANT: (STILL AIR) 1 mW/°C (STIRRED OIL) 8 mW/°C

THERMAL TIME CONSTANT: (STILL AIR) 10 SEC. (STIRRED OIL) 1 SEC.

MAXIMUM POWER RATING: .075 WATTS (DERATED FROM 100% AT 25°C TO 0% AT 100°C)

CODING:

EC95	TYPE: EPOXY COATED CHI .095" MAX. DIA.
	MATERIAL SYSTEM CODE LETTER: (SEE TABLE)
	RESISTANCE CODE: 101 = 100 OHMS 301 = 300 OHMS 102 = 1000 OHMS 232 = 2252 OHMS 302 = 3000 OHMS 502 = 5000 OHMS 103 = 10000 OHMS 303 = 30000 OHMS 503 = 50000 OHMS 104 = 100000 OHMS



*Data plotted for Material System "F"

*Data plotted for Material System "F"

MATERIAL SYSTEM		"Q"	"R"	"S"	"Y"	"F"	"H"	"G"
Ordering Code =								
0°C /50°C Ratio =		5.81	6.35	6.95	7.60	9.06	8.69	10.45
0°C /70°C Ratio =		10.35	11.65	13.08	14.84	18.64	17.75	22.64
25°C/125°C Ratio =		---	17.33	19.05	23.29	29.25	28.62	38.07
Available Resistance values at 25°C. (in Ohms)		100 300	1000	1000	10000	2252 3000 5000 10000	30000	50000 100000
Temperature								
°C	°F							
-----	-----							
-80	-112	178.3000	229.0000					
-75	-103	126.9000	160.8000					
-70	-94	91.4000	114.3000					
-65	-85	66.6000	82.1800					
-60	-76	49.1000	59.7700					
-55	-67	36.6000	43.9400	57.0890	62.9601	96.3749	80.7745	119.0750
-50	-58	27.5400	32.6400	40.9480	45.4910	67.0115	57.4437	82.0100
-45	-49	20.9300	24.4900	29.8400	33.2209	47.1956	41.2736	57.1400
-40	-40	16.0600	18.5500	21.5100	24.5089	33.6470	29.9525	40.1550
-35	-31	12.4300	14.1700	16.2900	18.2590	24.2675	21.9478	28.6430
-30	-22	9.7030	10.9200	12.3300	13.7307	17.6970	16.2334	20.6400
-25	-13	7.6370	8.4890	9.4920	10.4182	13.0418	12.1157	15.0200
-20	-4	6.0530	6.6490	7.3070	7.9729	9.7079	9.1218	11.0340
-15	5	4.8370	5.2480	5.7180	6.1519	7.2955	6.9257	8.1807
-10	14	3.8900	4.1720	4.4760	4.7843	5.5328	5.3011	6.1187
-5	23	3.1510	3.3390	3.5560	3.7489	4.2327	4.0894	4.6155
0	32	2.5680	2.6910	2.8250	2.9588	3.2651	3.1785	3.5102
5	41	2.1030	2.1810	2.2740	2.3515	2.6391	2.4885	2.6908
10	50	1.7310	1.7790	1.8300	1.8813	1.9898	1.9619	2.0785
15	59	1.4340	1.4590	1.4920	1.5148	1.5710	1.5572	1.6173
20	68	1.1940	1.2040	1.2160	1.2272	1.2492	1.2440	1.2674
25	77	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	86	.8413	.8337	.8267	.8195	.8057	.8087	.7942
35	95	.7113	.6990	.6890	.6752	.6531	.6578	.6348
40	104	.6040	.5890	.5742	.5593	.5327	.5380	.5105
45	113	.5153	.4986	.4832	.4656	.4369	.4424	.4129
50	122	.4417	.4239	.4067	.3894	.3603	.3657	.3359
55	131	.3800	.3620	.3456	.3273	.2987	.3038	.2748
60	140	.3280	.3105	.2937	.2763	.2488	.2535	.2259
65	149	.2850	.2673	.2519	.2342	.2083	.2126	.1867
70	158	.2480	.2310	.2160	.1994	.1752	.1791	.1550
75	167	.2160	.2004	.1868	.1704	.1479	.1515	.1293
80	176	.1890	.1745	.1615	.1462	.1255	.1287	.1084
85	185	.1670	.1524	.1409	.1259	.1070	.1097	.9120
90	194	.1470	.1336	.1229	.1088	.9150	.9400	.7710
95	203	.1300	.1175	.1089	.9440	.7870	.8070	.6540
100	212	.1150	.1036	.9460	.8210	.6780	.6960	.5570
105	221		.9160	.8370	.7170	.5870	.6030	.4760
110	230		.8130	.7400	.6280	.5110	.5230	.4080
115	239		.7230	.6580	.5520	.4450	.4560	.3510
120	248		.6450	.5850	.4860	.3900	.3990	.3030
125	257		.5770	.5250	.4290	.3420	.3490	.2630
130	266		.5170	.4710	.3800	.3010	.3070	.2280
135	275		.4650	.4240	.3380	.2660	.2710	.1990
140	284		.4190	.3820	.3010	.2350	.2400	.1730
145	293		.3780	.3460	.2690	.2090	.2120	.1520
150	302		.3410	.3140	.2400	.1860	.1890	.1330

Tinted Area Indicates Temperature Range of Interchangeability.

Tolerance Codes:

U = ±0.2°C over -20° to 50°C

V = ±0.1°C over 0° to 70°C

W = ±0.2°C over 0° to 70°C

The Curves Shown Represent Standard Products.

Other (Non-Standard) Curves are Available on Special Order to Match Customer Requirements.

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

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