

Reliability report

Exclusive for Farnell UK

2322 615 13103

- * Thermal cycling
- * Damp heat with 5Vdc
- * Dry heat at 125°C
- * Cold at -40°C
- * Dissipation
- * Bending

Thermal cycling

1.1. Conditions

- * Testconditions: 30 min at -40°C (air)
 < 5 s transition time
 30 min at 125°C (air)
- * Duration: 50 cycles
- * Number of tested pieces: 30

1.2. Results

Number of cycles	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
10	2,74	2,79	2,85	0,33
20	2,52	2,78	3,20	0,33
50	3,20	3,47	3,91	0,35

Thermal cycling: -40°C to 125°C

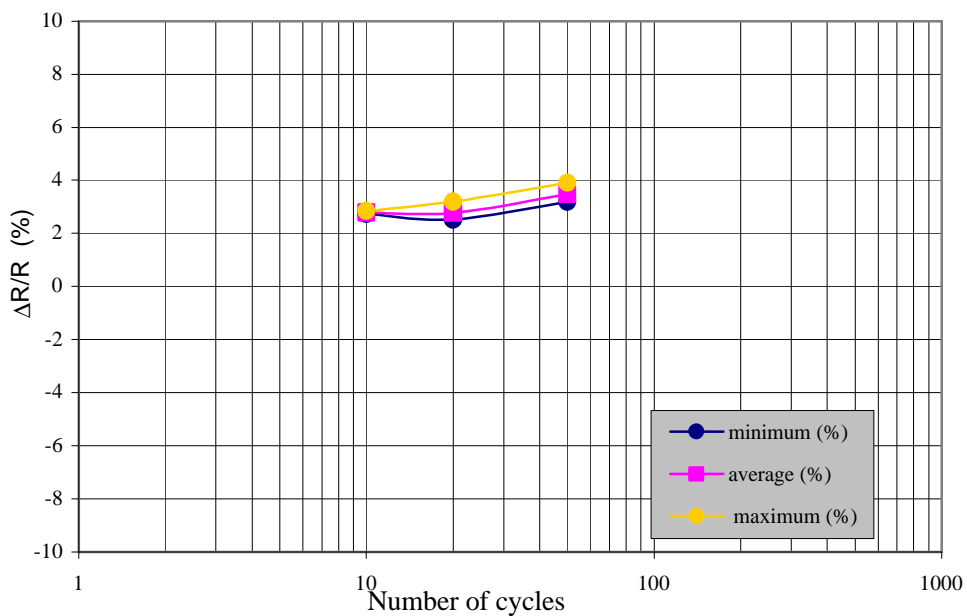


Figure 1 shows the resistance deviation in function of the number of cycles

Performance requirements: after 10cycles: no visual damage & $\Delta R/R$ (25°C) \pm 5% max.

Damp heat with 5Vdc

2.1. Conditions

- * Testconditions: 40°C / 95% RH
5Vdc with $R_s = 2.7k\Omega$
- * Duration: 1000 hours
- * Number of tested pieces: 10

2.2. Results

Time (hours)	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
24	1,02	1,14	1,19	0,05
168	1,73	1,83	1,89	0,05
500	2,39	2,49	2,68	0,08
1000	2,95	3,09	3,35	0,11

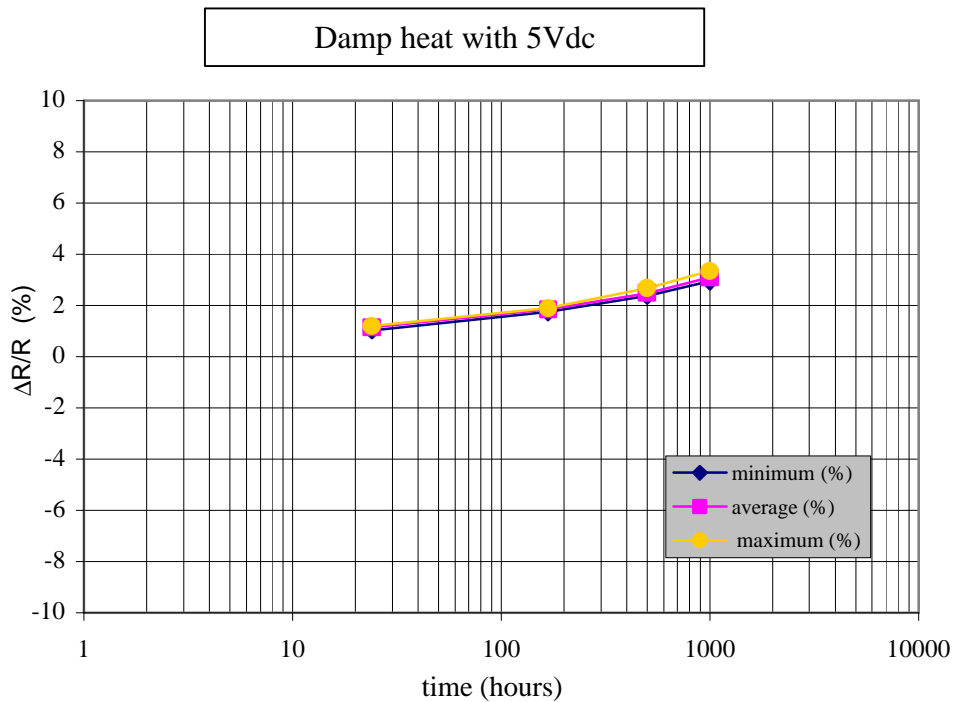


Figure 2 shows the resistance deviation in function of time

Performance requirements: after 1000hours: no visual damage & $\Delta R/R$ (25°C) $\pm 5\%$ max.

Dry heat at 125°C

3.1. Conditions

- * Testconditions: 125°C
- * Duration: 100 hours
- * Number of tested pieces: 10

3.2. Results

Time (hours)	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
24	2,23	2,35	2,42	0,06
168	2,10	2,23	2,32	0,06
500	2,61	2,72	2,97	0,11
1000	2,70	2,87	3,14	0,12

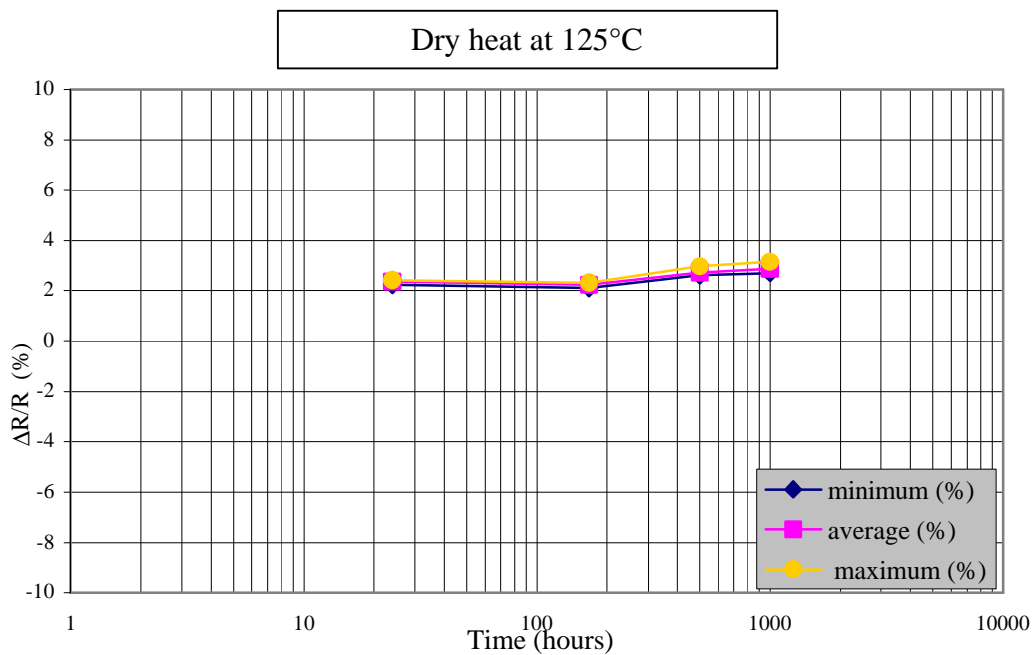


Figure 3 shows the resistance deviation in function of time

Performance requirements: after 1000hours: no visual damage & $\Delta R/R$ (25°C) \pm 10% max.

Cold at -40°C

4.1. Conditions

- * Testconditions: -40°C
- * Duration: 1000 hrs
- * Number of tested pieces: 10

4.2. Results

Time (hours)	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
24	0,56	0,63	0,72	0,04
168	0,73	0,82	0,93	0,05
500	1,51	1,54	1,61	0,03
1000	1,48	1,53	1,62	0,04

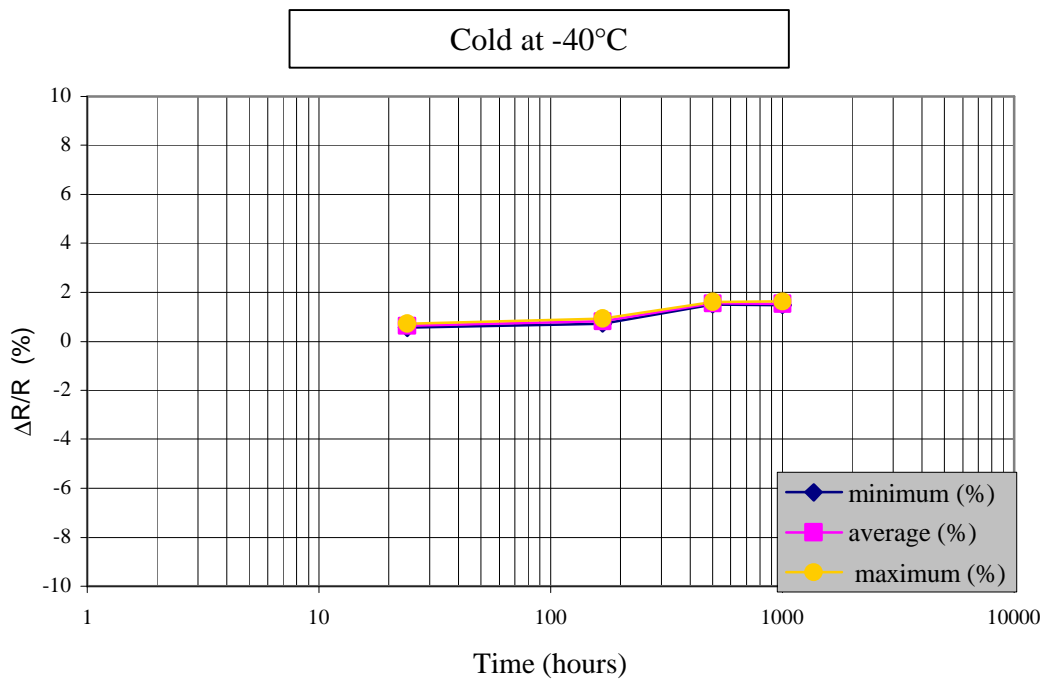


Figure 4 shows the resistance deviation in function of time

Performance requirements: after 1000hours: no visual damage & $\Delta R/R$ (25°C) \pm 3% max.

Maximum dissipation

5.1. Conditions

- * Testconditions: 55°C
 P = 210mW
- * Duration: 1000 hours
- * Number of tested pieces: 10

5.2. Results

Time (hours)	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
24	2,79	2,87	2,93	0,05
168	3,26	3,35	3,43	0,06
500	3,89	4,01	4,19	0,09
1000	3,08	3,24	3,56	0,14

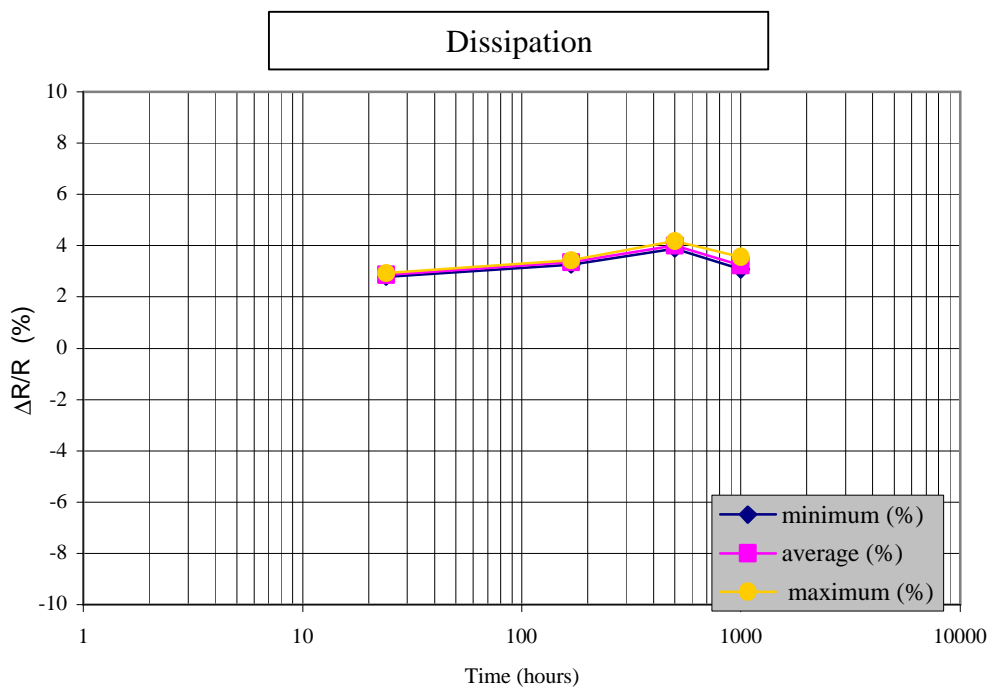


Figure 5 shows the resistance deviation in function of time

Performance requirements: after 1000hours: no visual damage & $\Delta R/R$ (25°C) \pm 10%max.

Bending

6.1. Conditions

* Testconditions: 1mm/ 2mm

* Number of tested pieces: 10

6.2. Results

(mm)	$\Delta R/R$ (25°C) minimum (%)	$\Delta R/R$ (25°C) average (%)	$\Delta R/R$ (25°C) maximum (%)	$\Delta R/R$ (25°C) σ_n (%)
1	0,29	1,41	2,73	0,88
2	0,34	1,41	2,81	0,91

Performance requirements: after 1000hours: no visual damage & $\Delta R/R$ (25°C) \pm 5% max.