

NTC THERMISTORS

miniature bead

QUICK REFERENCE DATA

Resistance value at + 25 °C	1 k Ω to 1 M Ω
B _{25/85} -value	2075 to 4100 K
Maximum dissipation	60 mW
Dissipation factor	~ 0,5 mW/K
Thermal time constant	~ 5,5 s
Operating temperature range	
at zero power	-55 to + 200 °C
at maximum power	0 to + 55 °C

APPLICATION

Temperature measurements.

DESCRIPTION

Bead thermistor with negative temperature coefficient, in a glass envelope with two tinned dumet (CuNiFe) wires.

MECHANICAL DATA

Outlines

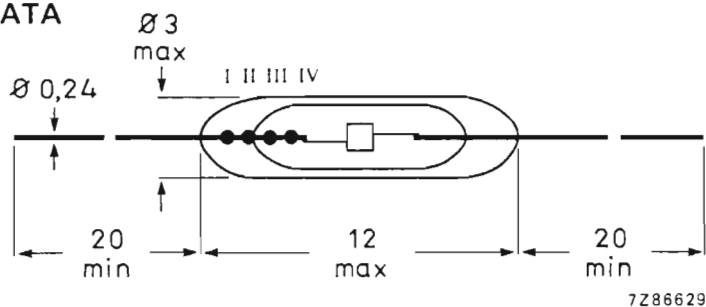


Fig. 1.

Marking

Colour dots on the glass envelope, see Fig. 1 and Table 1.

Mass

0,1 g approximately.

Mounting

In any position by soldering.

Soldering

Solderability max. 240 °C, max. 4 s

Resistance to heat max. 265 °C, max. 11 s

Inflammability

Uninflammable.

Impact

Free fall 100 mm

Robustness of terminations

Tensile strength 1,0 N

Bending 0,5 N

Torsion 3 times

Resistance to solvents: according to IEC 68-2-45, resistant to R113 at T_{amb} **Packaging**

100 thermistors in a cardboard box.

ELECTRICAL DATA

Unless otherwise specified, measured according to IEC publication 539.

Table 1 Catalogue number 2322 633 2....

suffix of the catalogue number			R ₂₅ k Ω	B _{25/85} -value $\pm 5\%$ K	temperature coefficient at 25 °C %/K	colour code*		
tol. $\pm 5\%$	tol. $\pm 10\%$	tol. $\pm 20\%$				I	II	III
3102	2102	1102	1	2075	-2,3	brown	black	red
3222	2222	1222	2,2	2285	-2,6	red	red	red
3472	2472	1472	4,7	2485	-2,8	yellow	violet	red
3103	2103	1103	10	3750	-4,2	brown	black	orange
3223	2223	1223	22	3560	-4,0	red	red	orange
3473	2473	1473	47	3750	-4,2	yellow	violet	orange
3104	2104	1104	100	3900	-4,4	brown	black	yellow
3224	2224	1224	220	3860	-4,3	red	red	yellow
3474	2474	1474	470	3950	-4,5	yellow	violet	yellow
3105	2105	1105	1000	4100	-4,6	brown	black	green

* Thermistors with 5% tolerance have a gold dot IV; 10% tolerance is identified by a silver dot IV, 20% versions have no dot IV (Fig. 1).

Maximum dissipation at + 55 °C

60 mW

Dissipation factor

 $\sim 0,5$ mW/K

Thermal time constant

 $\sim 5,5$ s

Operating temperature range (Fig. 2)

at zero power

-55 to + 200 °C

at maximum power

0 to + 55 °C

Dielectric withstanding voltage (r.m.s.)
between terminals and glass envelope

min. 1500 V

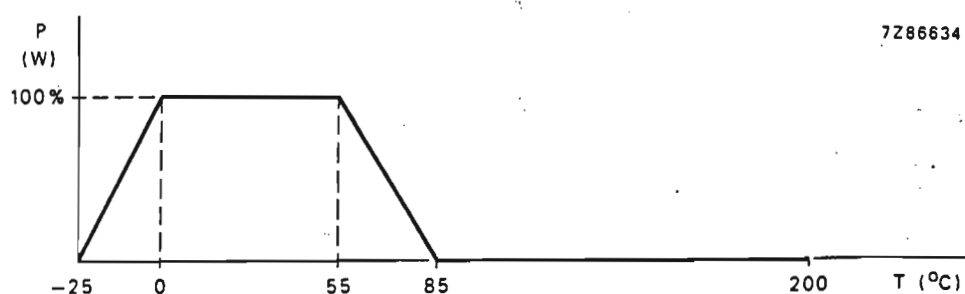
Insulation resistance between terminals
and glass envelope at 100 V (d.c.)min. 100 M Ω 

Fig. 2 Derating curve.

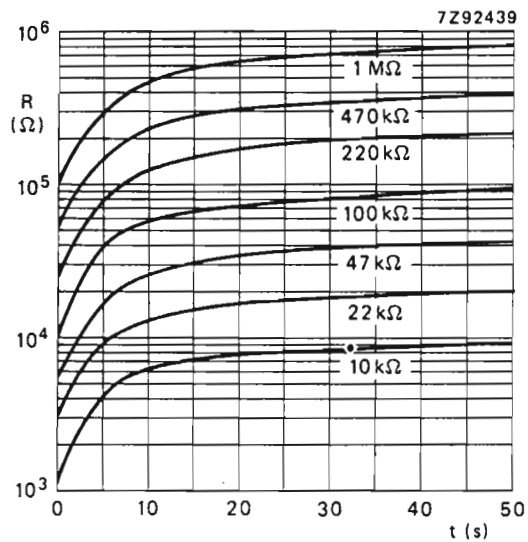
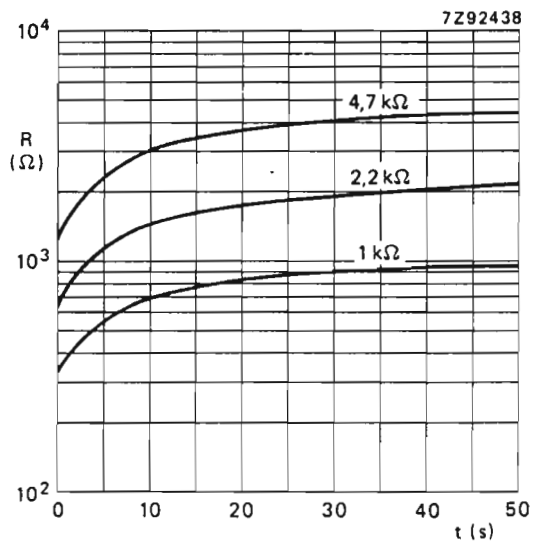


Fig. 5 Typical resistance/cooling characteristics.
Measured in still air at 25 °C. $T_{\text{start}} = 85\text{ °C}$.

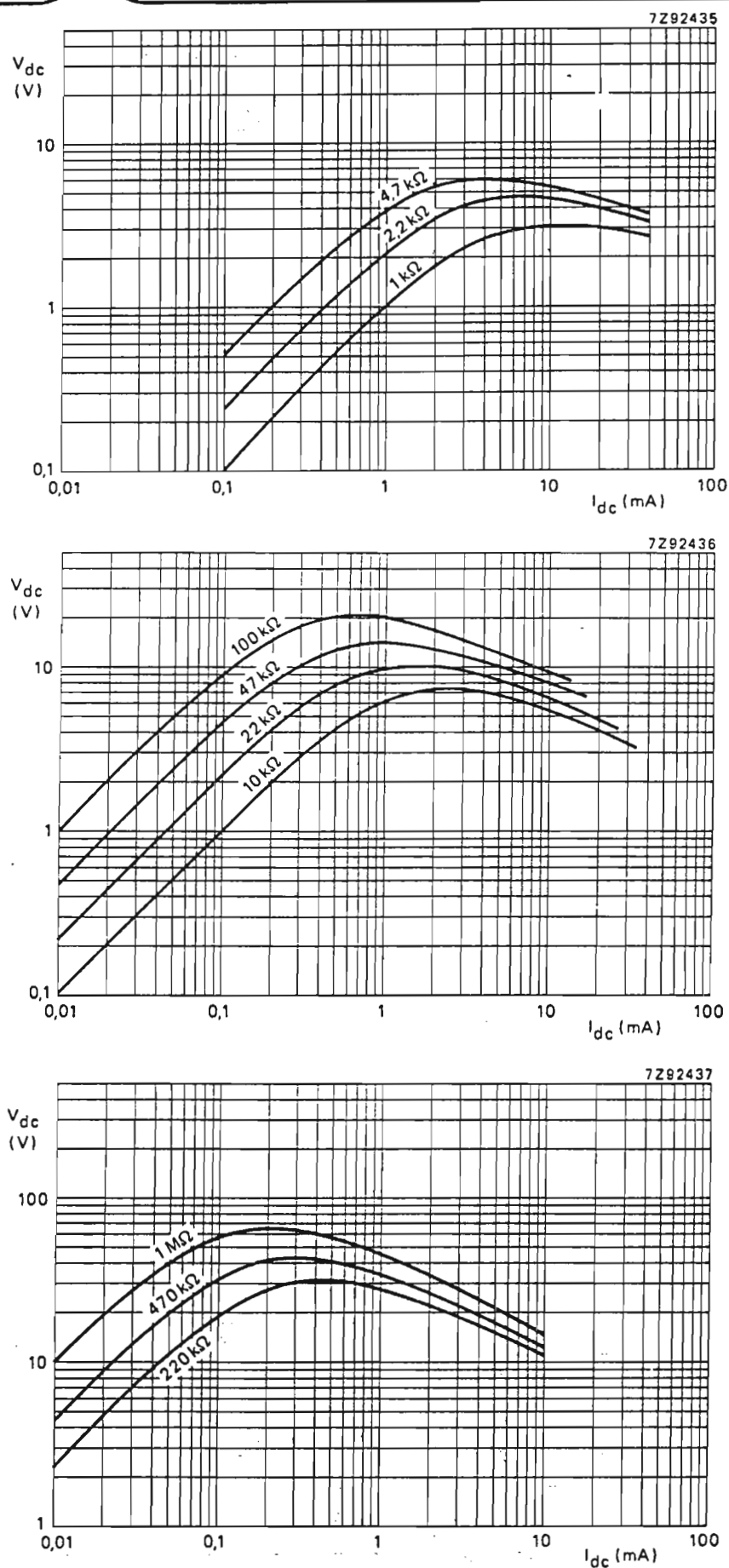


Fig. 4 Typical voltage/current characteristic. Measured in still air at 25 °C.

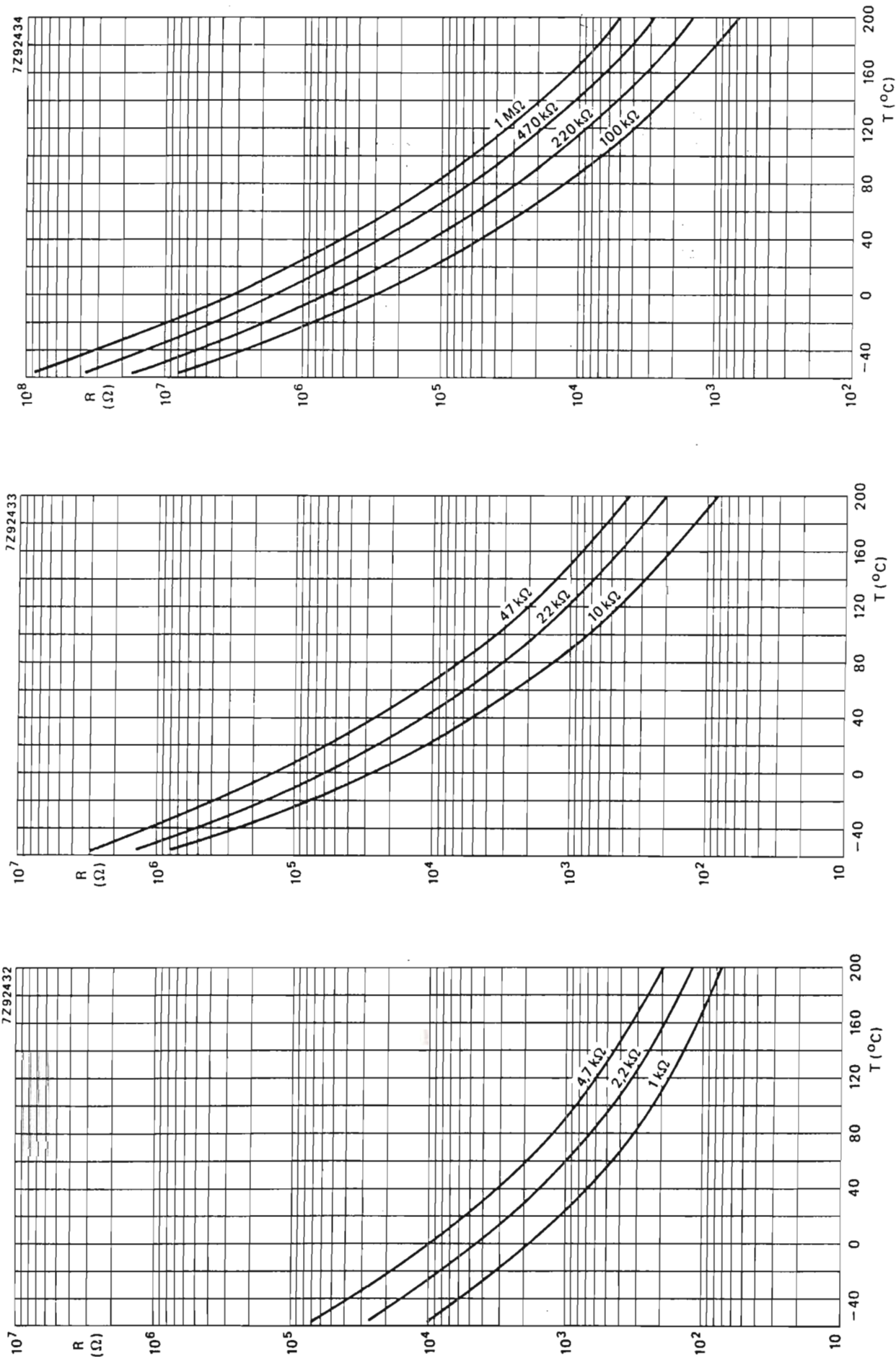


Fig. 3 Typical resistance/temperature characteristics.