151-121

BOWTHORPE THERMISTORS

NTC Thermistors

INDUSTRIAL/CONSUMER

TELECOMMUNICATIONS/DP

PROFESSIONAL

TYPE **RA**

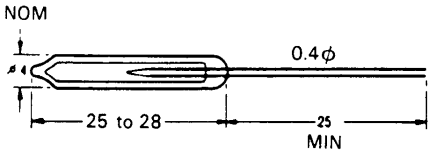
Description

Type RA are directly heated bead type thermistors primarily intended for applications where high sensitivity to electrical power input is required.

The thermistor element consists of a very small bead of thermistor material, approximately 0.25mm (0.010 in.) in diameter, which is integrally formed on two parallel platinum alloy wires. These wires are then welded to cunife lead wires and the whole assembly is sealed in an evacuated glass envelope.

Applications of these thermistors include amplitude control, voltage stabilisation, time delay and power measurement.

Outline



Data

Resistance tolerance at 25°C ..... ± 20%
B value tolerance 25-85°C ..... ± 5%
$T_{A\,max}$ ..... 155°C
$T_{B\,max}$ ..... 225°C
P_{max} ..... 2.95 mW at 25°C
k ..... 12.5 μW/°C between 25 and 100°C
..... 16.0 μW/°C between 100 and 225°C
τ 11s
Weight 0.5g

Power Derating

Derate linearly to 1 mW at 155°C

Code	R_{20} Ω	R_{25} Ω	R_{min} Ω	$B_{25\text{-}85}$ K
RA52	500	430	18	2650
RA13	1k	852	29	2800
RA23	2k	1.7k	44	3000
RA53	5k	4.2k	79	3250
RA14	10k	8.2k	120	3450
RA24	20k	16.3k	198	3600
RA54	50k	40.1k	350	3850
RA15	100k	79.3k	540	4050
RA25	200k	157k	890	4200

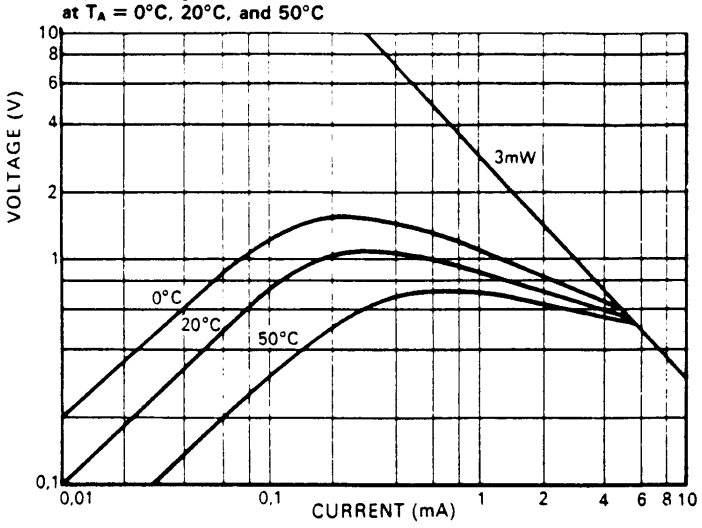
Amplitude & Gain Control

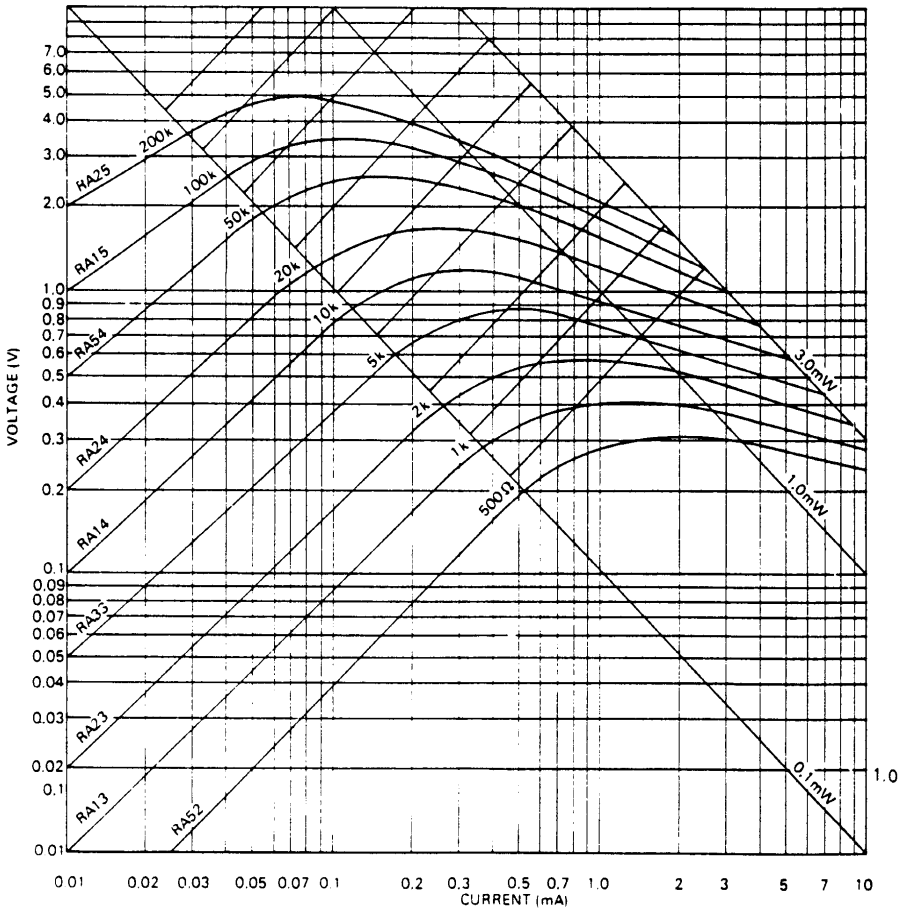
Power Measurement & Control

Voltage Stabilisation

D27 2

Typical Voltage v Current Curves for RA14
at T_A = 0°C, 20°C, and 50°C





OPERATING:
Thermistors are designed to be intrinsically safe components provided they are operated within the rated voltages or currents and inside the recommended temperature range.

STORAGE :
The normal care required for electronic components should be exercised.

DISPOSAL :
No special hazards are involved in disposal. Incineration of thermistors is not recommended due to the emission of toxic fumes from epoxy coated devices or the shattering of glass and/or ceramic with possible hazard from hot jagged material.

PHYSICAL FORM :
The wire ends should not be bent nearer than 3mm to the glass body of the thermistor

May 1989

D27 - 3

BOWTHORPE THERMISTORS
CROWN INDUSTRIAL ESTATE
PRIORSWOOD ROAD
TAUNTON
SOMERSET TA2 8QY

TELEPHONE 0823 335200

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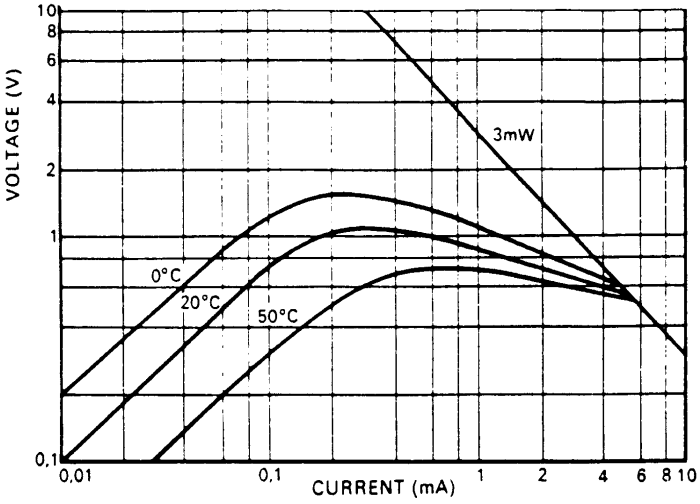

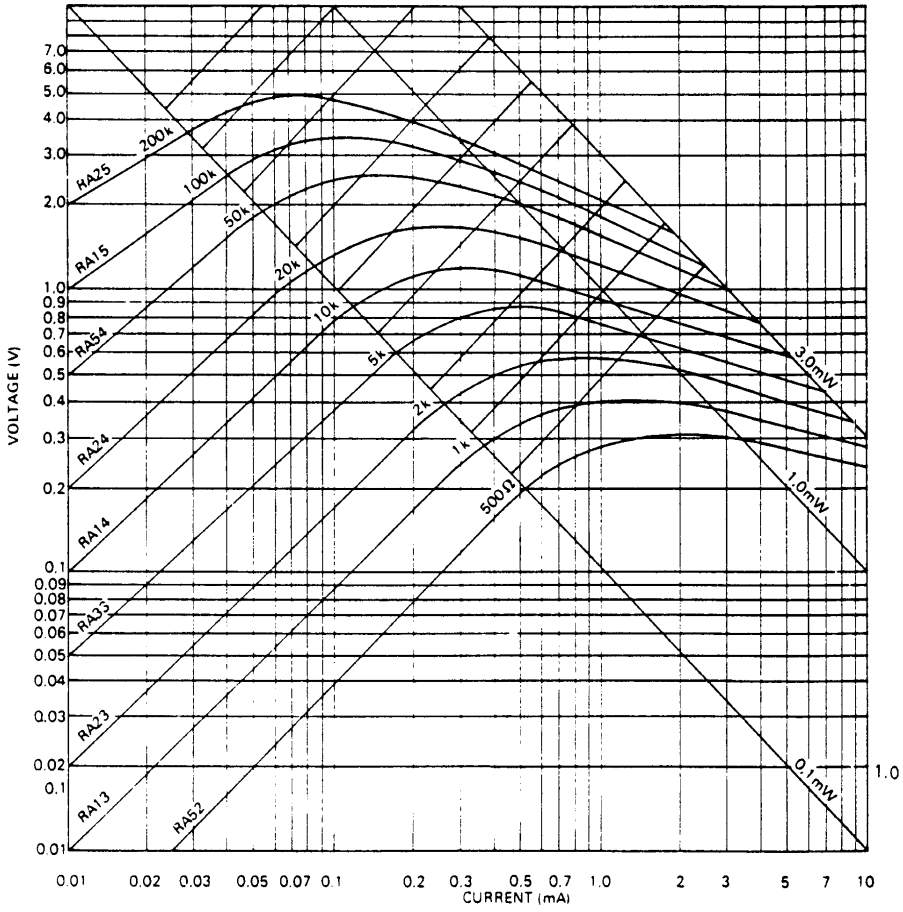

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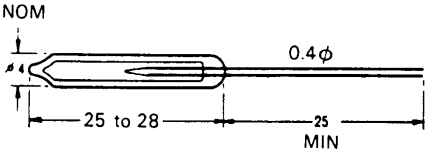

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