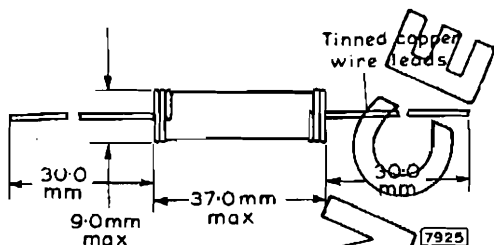


VARITE THERMISTOR

VA1005

Surge limiting thermistor for use in television receivers employing a 300mA series heater chain.



The connecting wires have a diameter of 0.8mm (21s.w.g. approx.)

GENERAL

Varite thermistors are thermally sensitive semiconductors. They are characterised by a large negative temperature coefficient of resistance.

The variation of resistance of a thermistor may be caused by self heating due to power dissipated in the device, by a change in ambient temperature, or by a combination of these factors.

ELECTRICAL DATA

Resistance (at 25°C)	3.92 ± 1.45	kΩ
B factor (Note 1)	4000 ± 10%	°K
Maximum dissipation	4.0	W
Resistance at maximum dissipation	38 to 50	Ω
Current at maximum dissipation	300	mA
Temperature at maximum dissipation (T _{ambient} = 25°C)	150	°C
Dissipation constant (Note 2)	24	mW/°C
Recovery time (Note 3)	285	s

NOTES

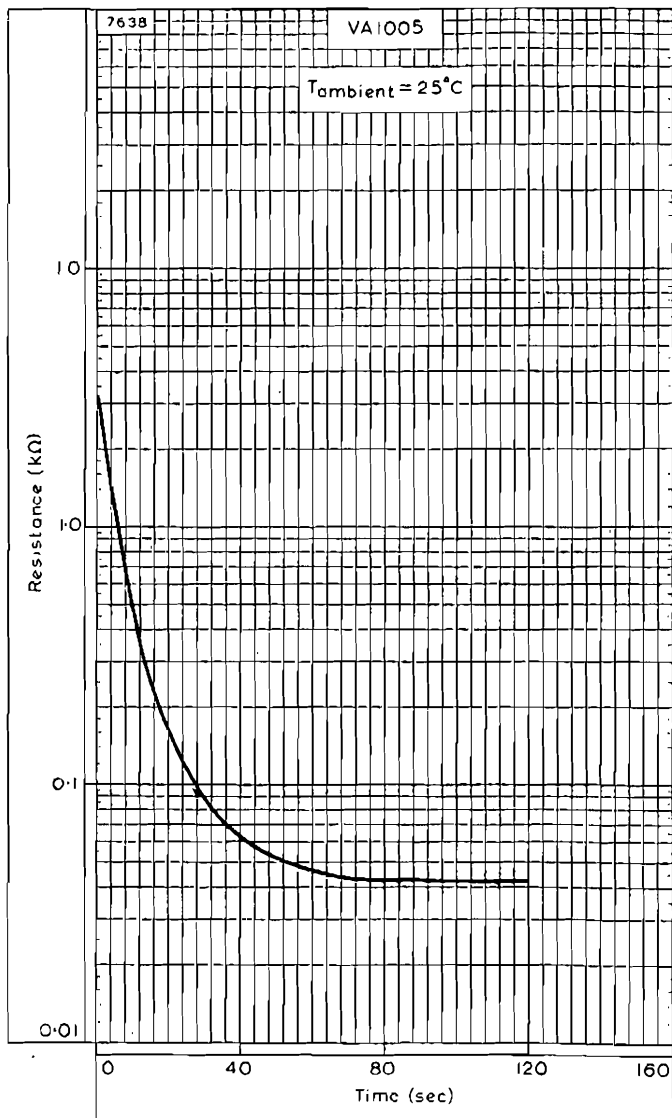
1. The B factor is used to determine the resistance at any temperature from the formula:

$$\log_{10}R_1 = \log_{10}R_2 + \frac{B}{2.303} \left(\frac{T_2 - T_1}{T_2 T_1} \right)$$

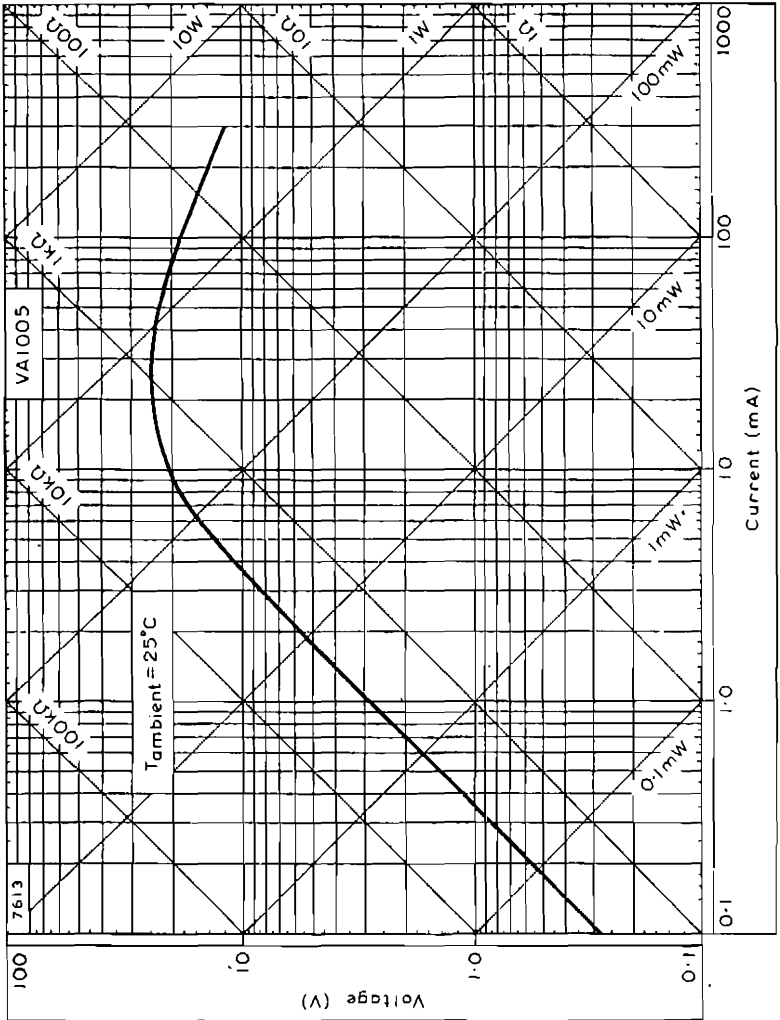
where R_1 is the resistance at a temperature of $T_1(^{\circ}\text{K})$ and

R_2 is the resistance at a temperature of $T_2(^{\circ}\text{K})$

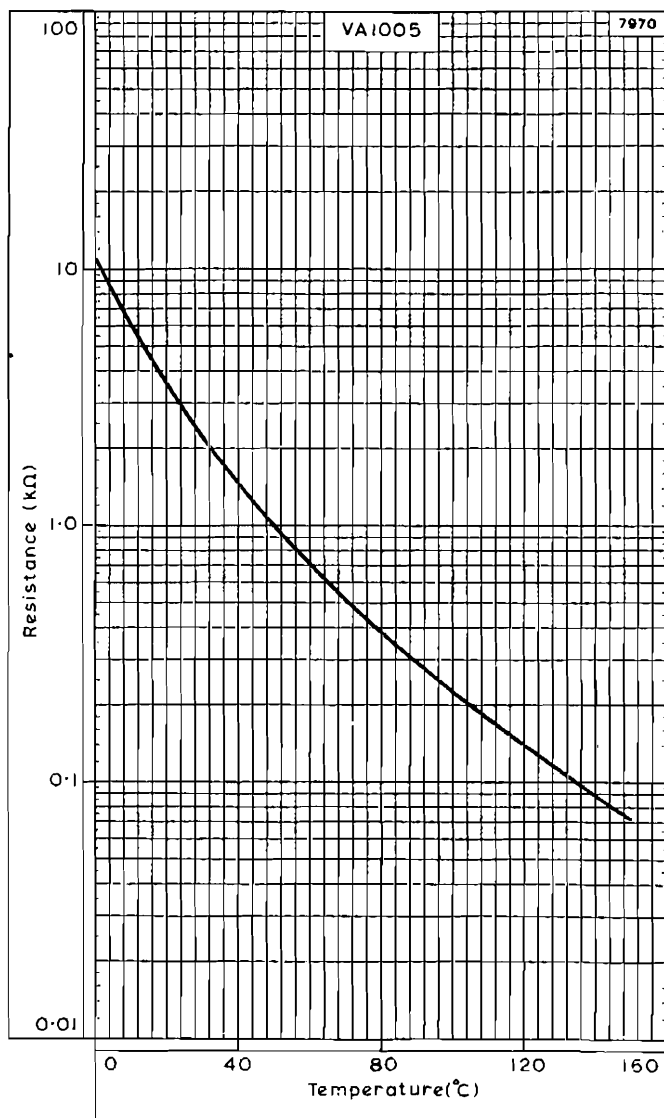
2. The dissipation constant is the power required to raise the temperature by 1°C . It can be used to estimate the rise in temperature of a thermistor for a given dissipation.
3. The recovery time is the time taken by a thermistor to reach half its resistance value at 25°C after it has been operating at maximum dissipation for some time and is allowed to cool in still air at 25°C .



VARIATION OF RESISTANCE WITH TIME UNDER SELF-HEATING CONDITIONS



VOLTAGE/CURRENT CHARACTERISTIC



RESISTANCE/TEMPERATURE CHARACTERISTIC



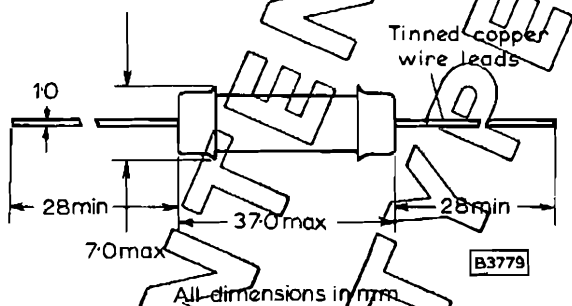
Rod type thermistor for use as surge limiter, in receivers employing a 100mA series heater chain

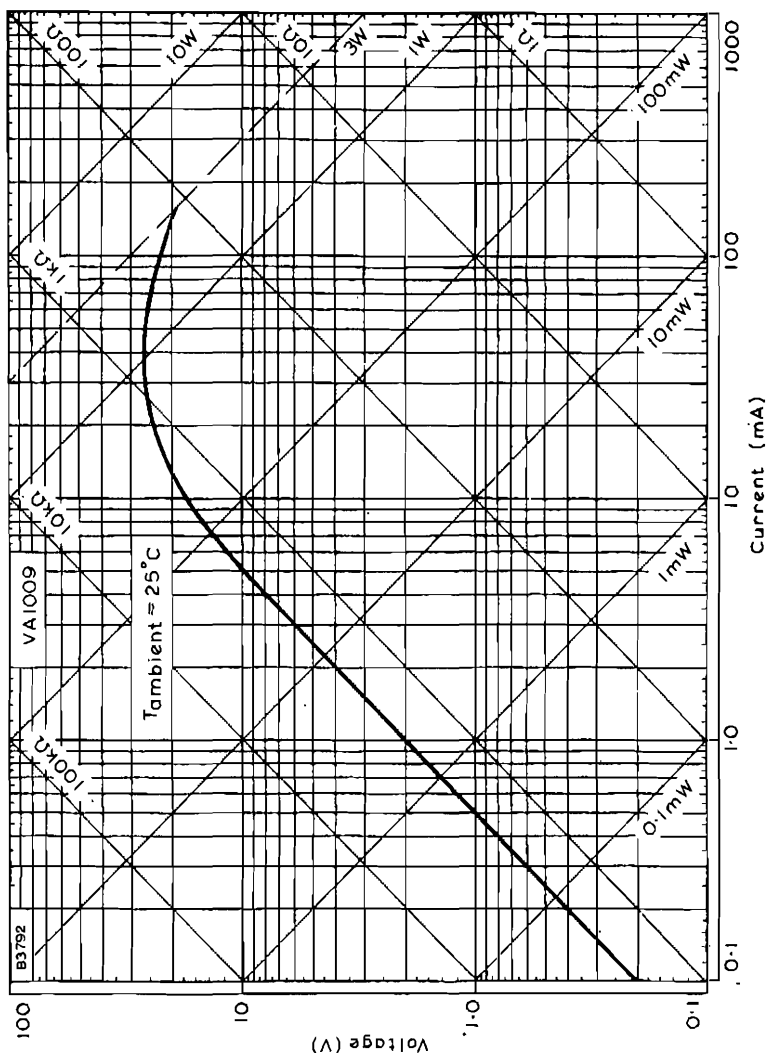
This data should be read in conjunction with Introductory Notes Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

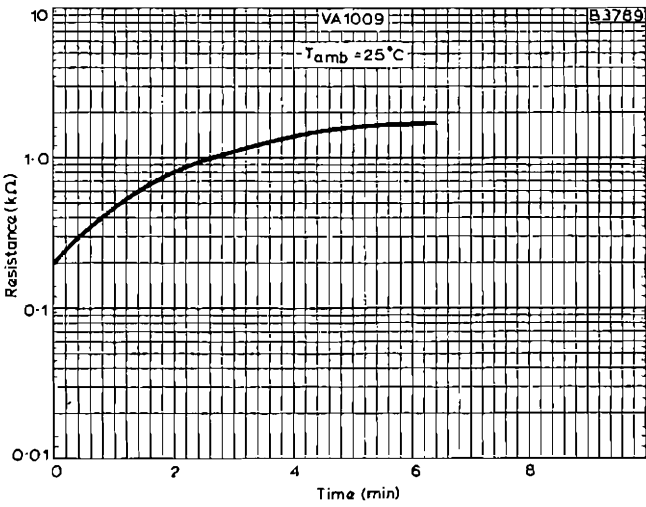
Resistance (at 25°C)	2.5 ± 0.75	$\text{k}\Omega$
B factor	$3000 \pm 10\%$	$^{\circ}\text{K}$
Maximum dissipation	3.0	W
Resistance at 100mA (approx.)	200 to 250	Ω
Current at maximum dissipation (approx.)	160	mA ←
Temperature at maximum dissipation (approx.)	150	$^{\circ}\text{C}$
Dissipation constant	20	mW/deg C
Recovery time	190	s

MECHANICAL DATA

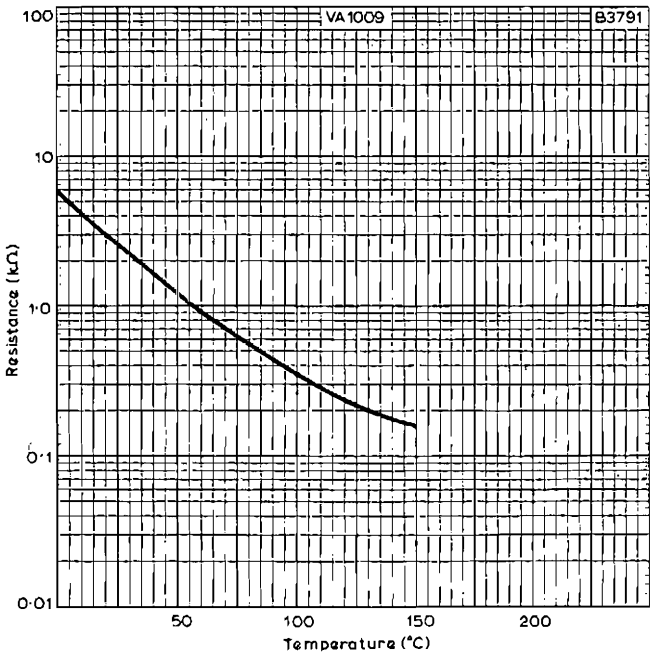




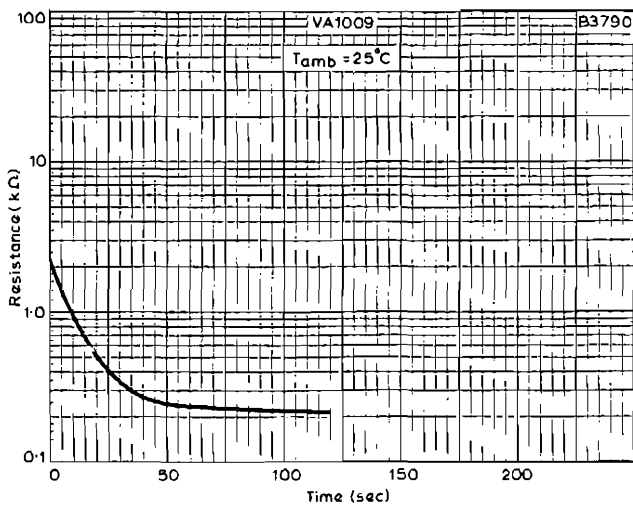
VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE



VARIATION OF RESISTANCE WITH TIME UNDER SELF-HEATING CONDITIONS

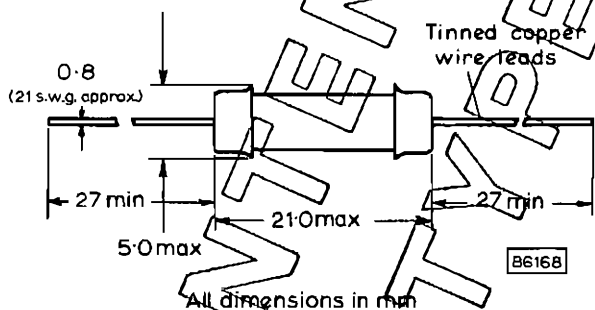
Rod type thermistor for use as surge limiter, in receivers employing a 100mA series heater chain

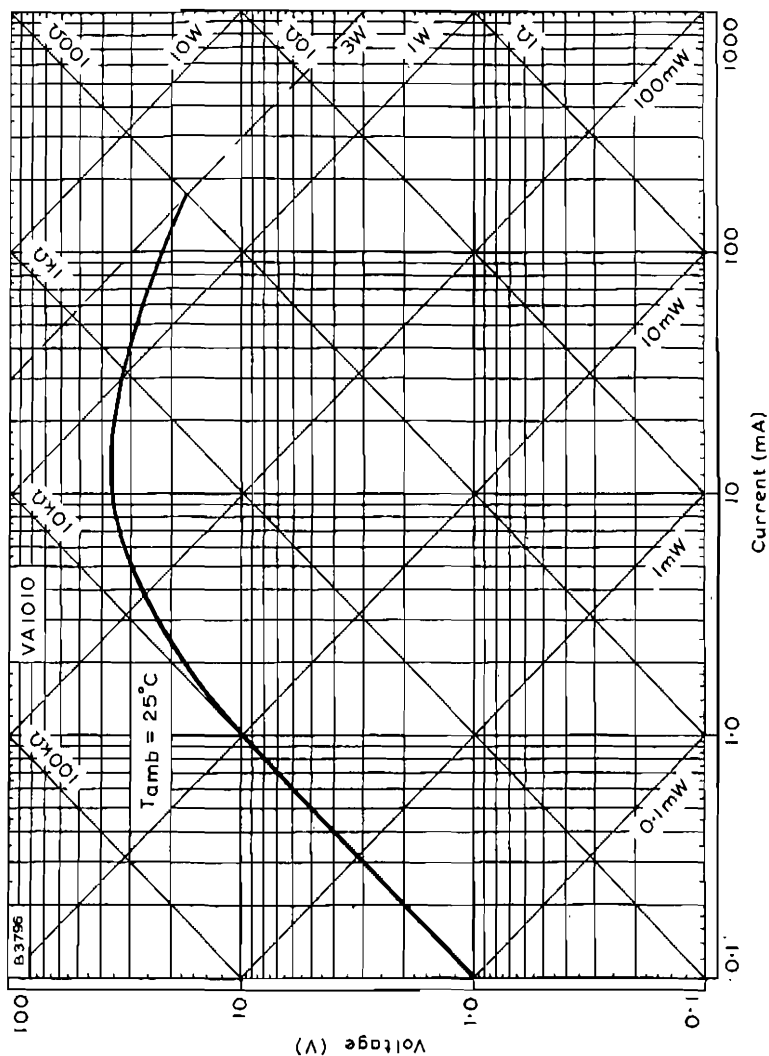
This data should be read in conjunction with Introductory Notes Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	9.65 ± 2.95	$\text{k}\Omega$
B factor	$3000 \pm 10\%$	$^{\circ}\text{K}$
Maximum dissipation	3.0	W
Resistance at 100mA (approx.)	200 to 280	Ω
Current at maximum dissipation (approx.)	175	mA
Temperature at maximum dissipation (approx.)	150	$^{\circ}\text{C}$
Dissipation constant	10	mW/deg C
Recovery time	140	s

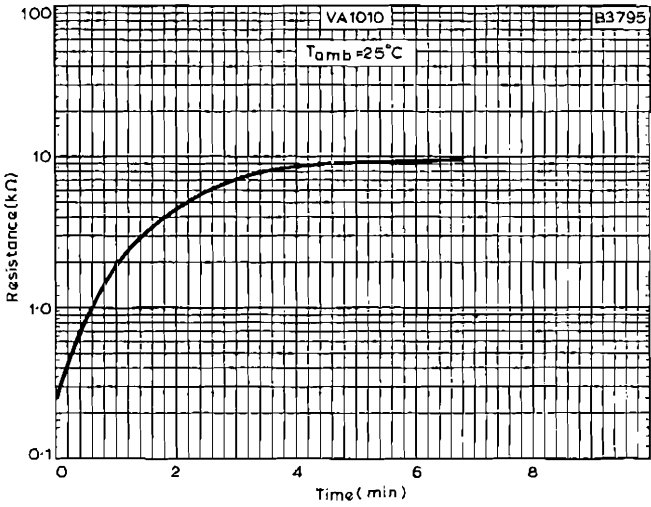
MECHANICAL DATA



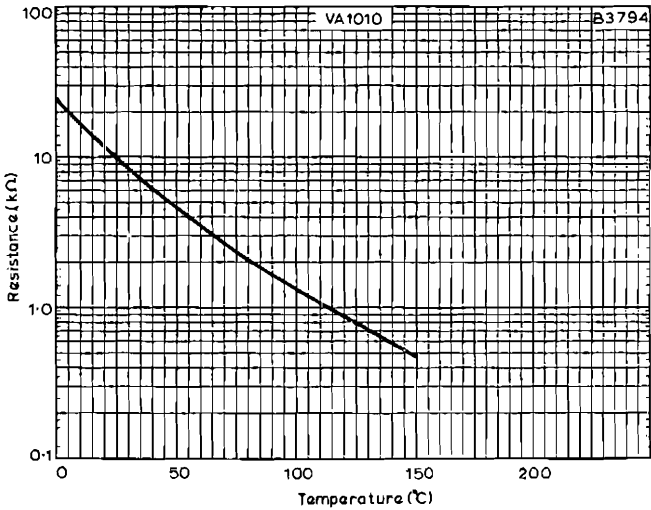


VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$

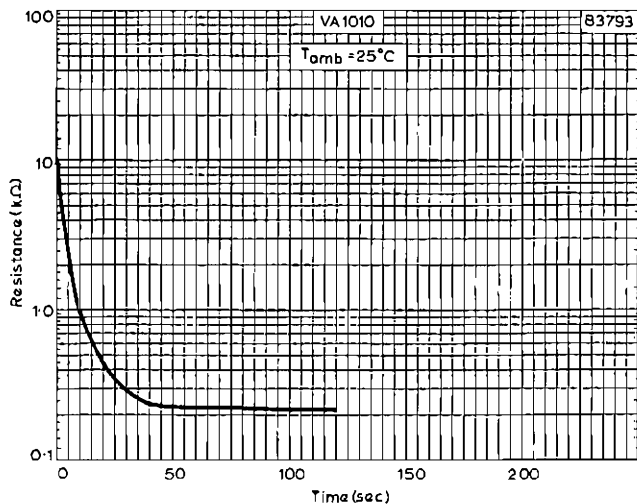




VARIATION OF RESISTANCE WITH TIME UNDER
 NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE



VARIATION OF RESISTANCE WITH TIME UNDER SELF-HEATING CONDITIONS

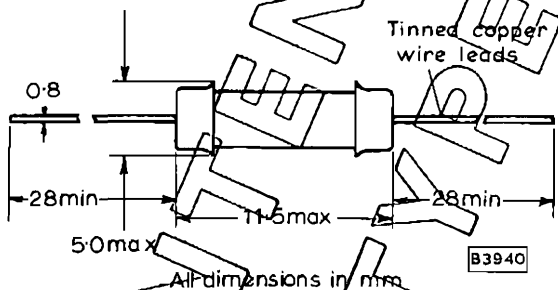
Rod type thermistor suitable for use as a dial lamp shunt or similar applications.

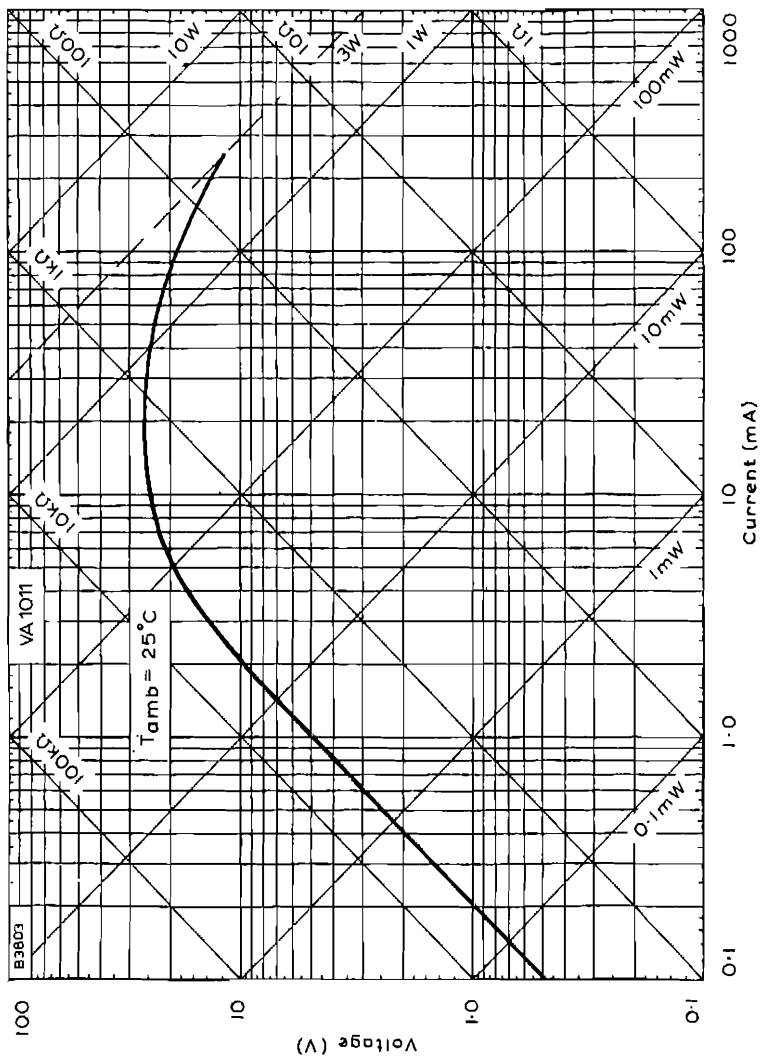
This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}C$)

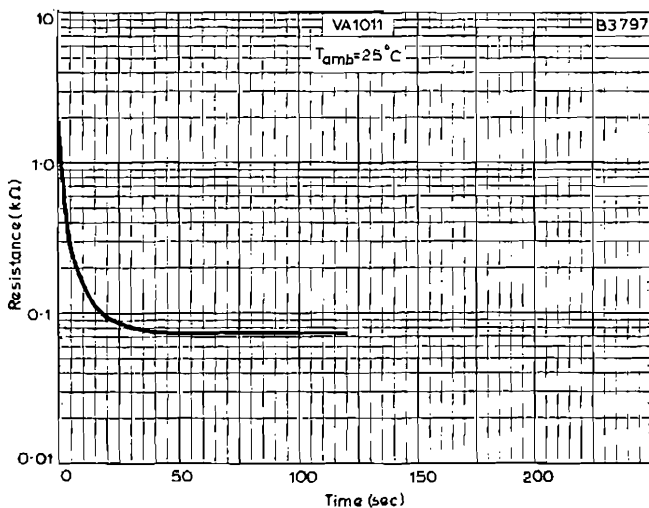
Resistance (at $25^{\circ}C$)	3.81 ± 1.94	$k\Omega$
B factor	$3000 \pm 10\%$	$^{\circ}K$
Maximum dissipation	3.0	W
Resistance at 200mA (approx.)	60 to 90	Ω
Current at maximum dissipation (approx.)	250	mA
Temperature at maximum dissipation (approx.)	150	$^{\circ}C$
Dissipation constant	10	mW/deg C
Recovery time	110	s

MECHANICAL DATA

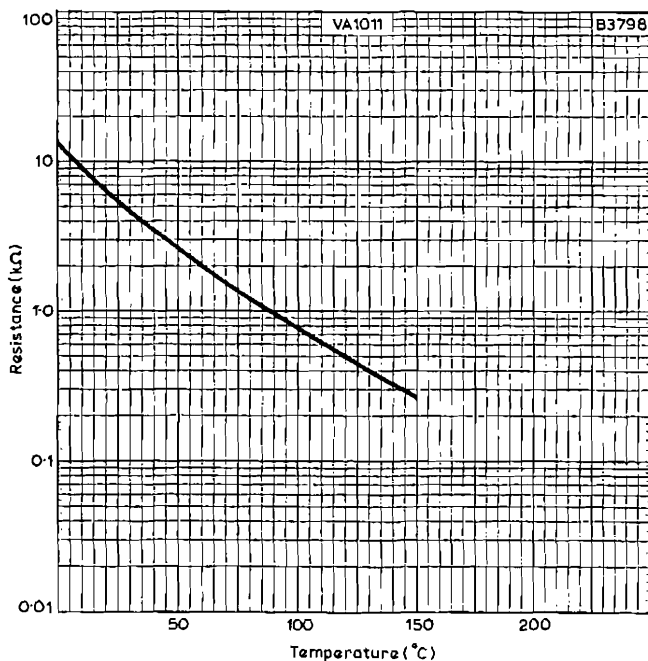




VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER SELF-HEATING CONDITIONS

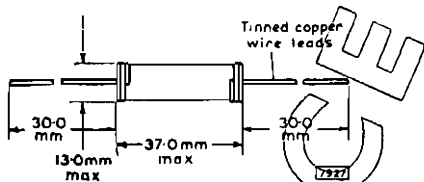


VARIATION OF RESISTANCE WITH TEMPERATURE

VARITE THERMISTOR

VA1015

Surge limiting thermistor for use in television receivers employing a 300mA series heater chain.



The connecting wires have a diameter of 1.0mm (19s.w.g. approx.)

GENERAL

Varite thermistors are thermally sensitive semiconductors. They are characterised by a large negative temperature coefficient of resistance.

The variation of resistance of a thermistor may be caused by self heating due to power dissipated in the device, by a change in ambient temperature, or by a combination of these factors.

ELECTRICAL DATA

Resistance (at 25°C)	930 ± 285	Ω
B factor (Note 1)	3600 ± 10%	°K
Maximum dissipation	6.0	W
Resistance at 300mA	35 to 48	Ω
Current at maximum dissipation	450	mA
Temperature at maximum dissipation ($T_{\text{ambient}} = 25^{\circ}\text{C}$)	150	°C
Dissipation constant (Note 2)	60	mW/°C
Recovery time (Note 3)	450	s

NOTES

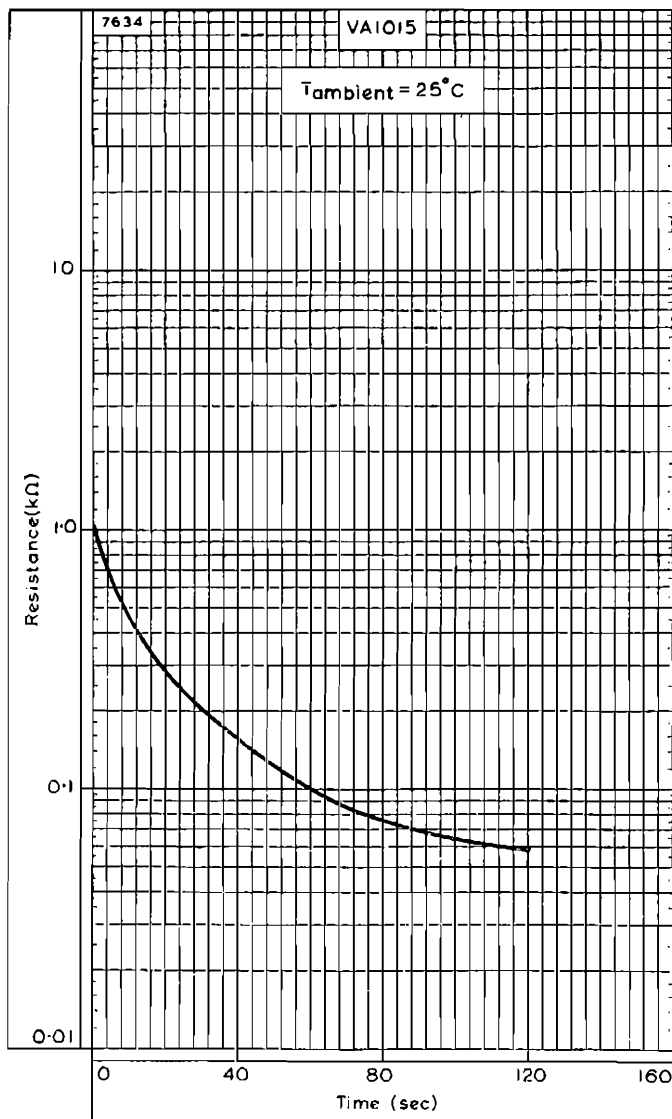
1. The B factor is used to determine the resistance at any temperature from the formula:

$$\log_{10}R_1 = \log_{10}R_2 + \frac{B}{2.303} \left(\frac{T_2 - T_1}{T_2 T_1} \right)$$

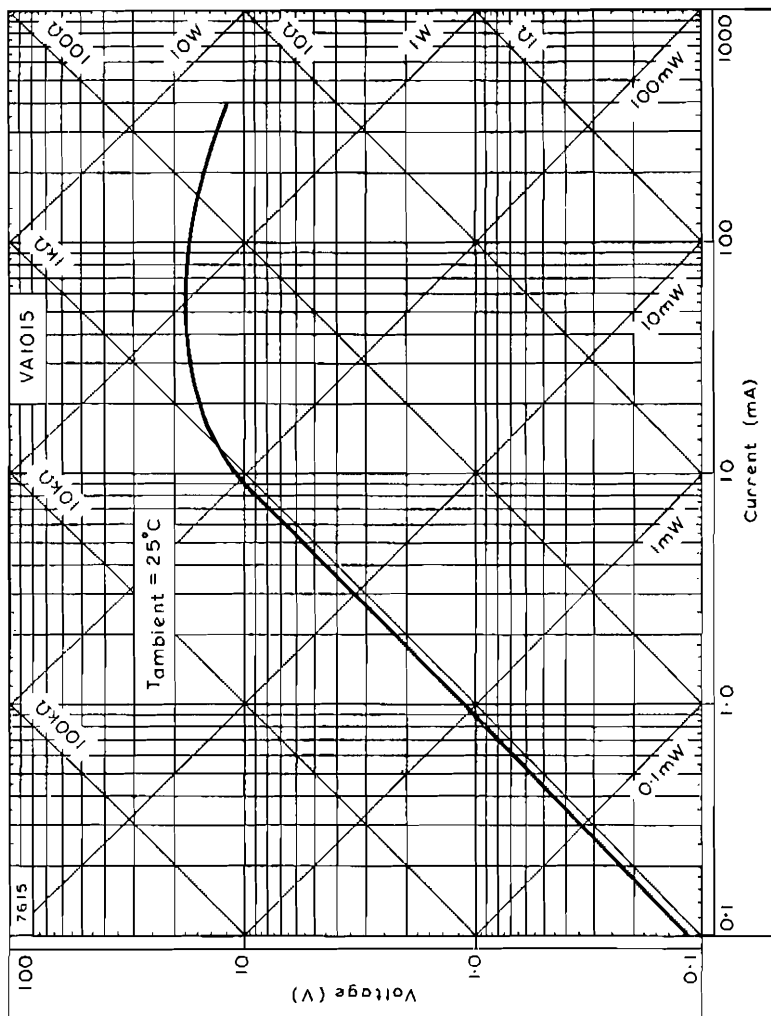
where R_1 is the resistance at a temperature of $T_1(^{\circ}\text{K})$ and

R_2 is the resistance at a temperature of $T_2(^{\circ}\text{K})$

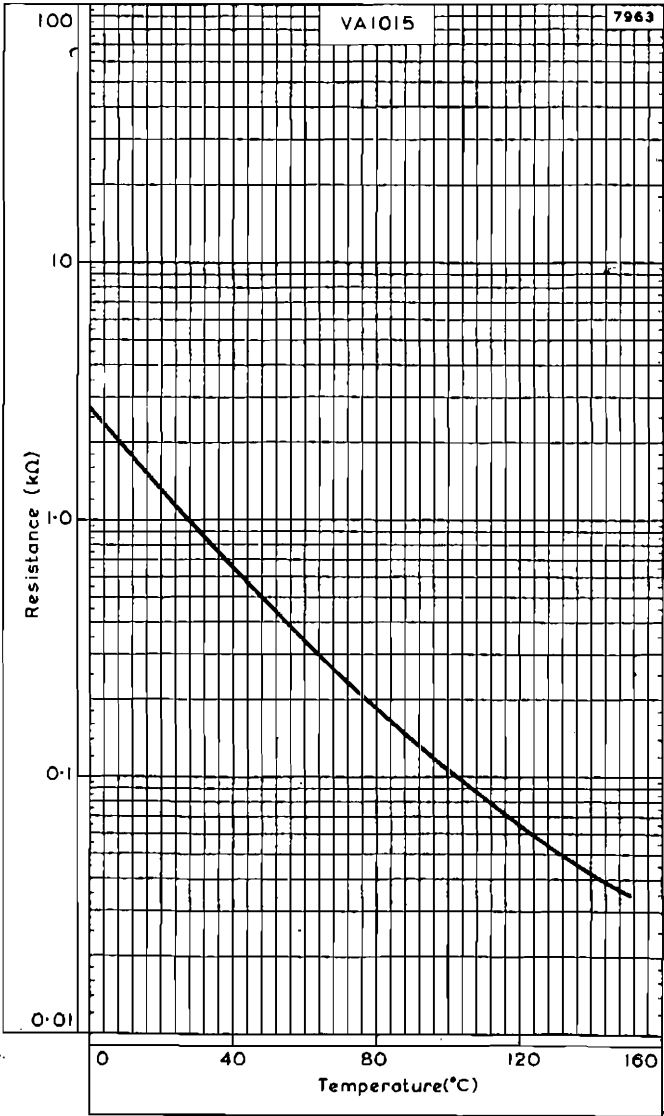
2. The dissipation constant is the power required to raise the temperature by 1°C . It can be used to estimate the rise in temperature of a thermistor for a given dissipation.
3. The recovery time is the time taken by a thermistor to reach half its resistance value at 25°C after it has been operating at maximum dissipation for some time and is allowed to cool in still air at 25°C .



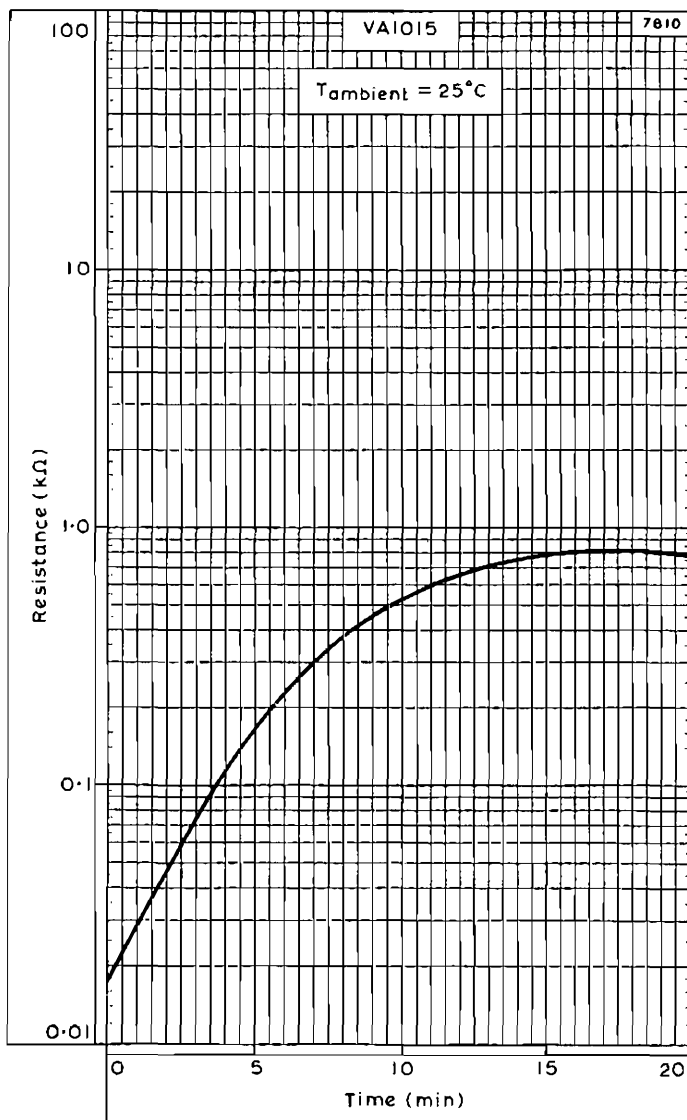
VARIATION OF RESISTANCE WITH TIME UNDER SELF-HEATING CONDITIONS



VOLTAGE/CURRENT CHARACTERISTIC



RESISTANCE/TEMPERATURE CHARACTERISTIC

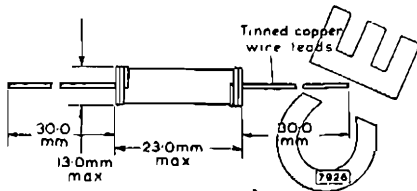


VARIATION OF RESISTANCE WITH TIME UNDER NORMAL COOLING CONDITIONS

VARITE THERMISTOR

VA1026

Surge limiting thermistor for use in television receivers employing a 300mA series heater chain.



The connecting wires have a diameter of 1.0mm (19s.w.g. approx.)

GENERAL

Varite thermistors are thermally sensitive semiconductors. They are characterised by a large negative temperature coefficient of resistance.

The variation of resistance of a thermistor may be caused by self heating due to power dissipated in the device, by a change in ambient temperature, or by a combination of these factors.

ELECTRICAL DATA

Resistance (at 25°C)	400 ± 100	Ω
B factor (Note 1)	3700 ± 10%	°K
Maximum dissipation	2.5	W
Resistance at maximum dissipation	25 to 32	Ω
Current at maximum dissipation	300	mA
Temperature at maximum dissipation ($T_{\text{ambient}} = 25^{\circ}\text{C}$)	150	°C
Dissipation constant (Note 2)	30	mW/°C
Recovery time (Note 3)	350	s

NOTES

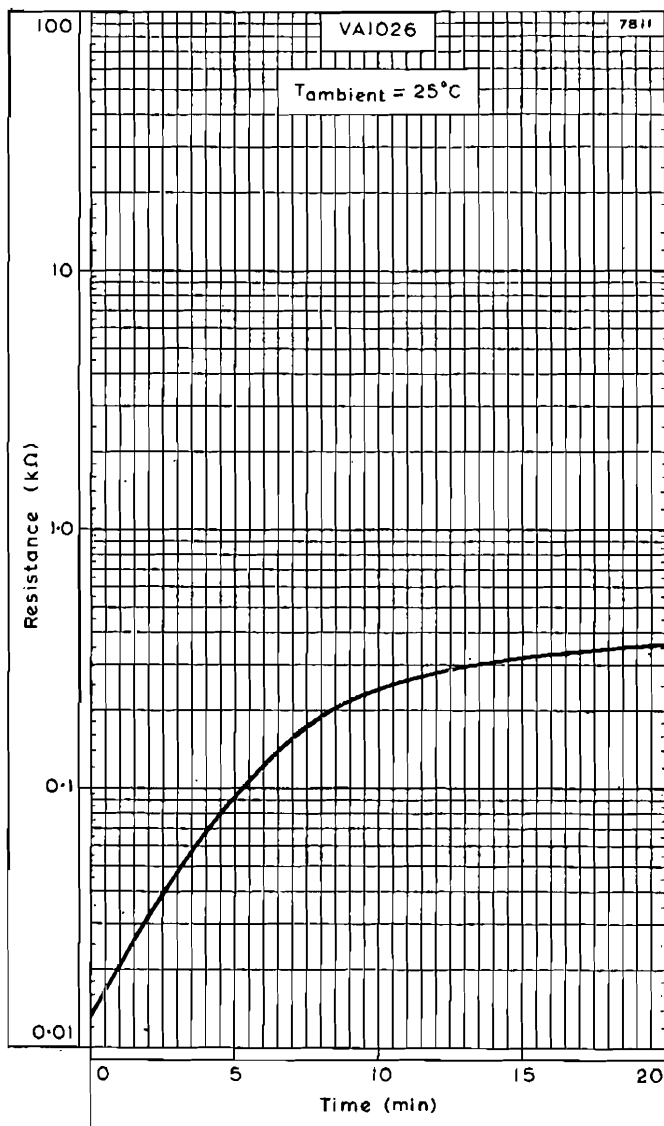
1. The B factor is used to determine the resistance at any temperature from the formula:

$$\log_{10}R_1 = \log_{10}R_2 + \frac{B}{2.303} \left(\frac{T_2 - T_1}{T_2 T_1} \right)$$

where R_1 is the resistance at a temperature of $T_1(^{\circ}\text{K})$ and

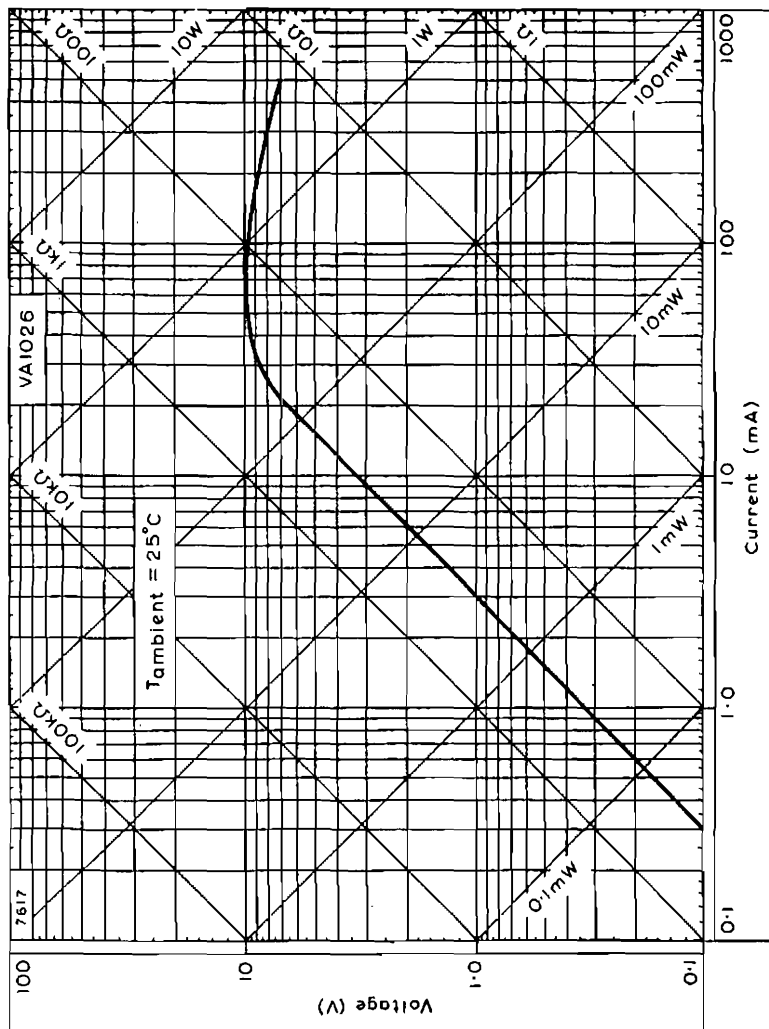
R_2 is the resistance at a temperature of $T_2(^{\circ}\text{K})$

2. The dissipation constant is the power required to raise the temperature by 1°C . It can be used to estimate the rise in temperature of a thermistor for a given dissipation.
3. The recovery time is the time taken by a thermistor to reach half its resistance value at 25°C after it has been operating at maximum dissipation for some time and is allowed to cool in still air at 25°C .

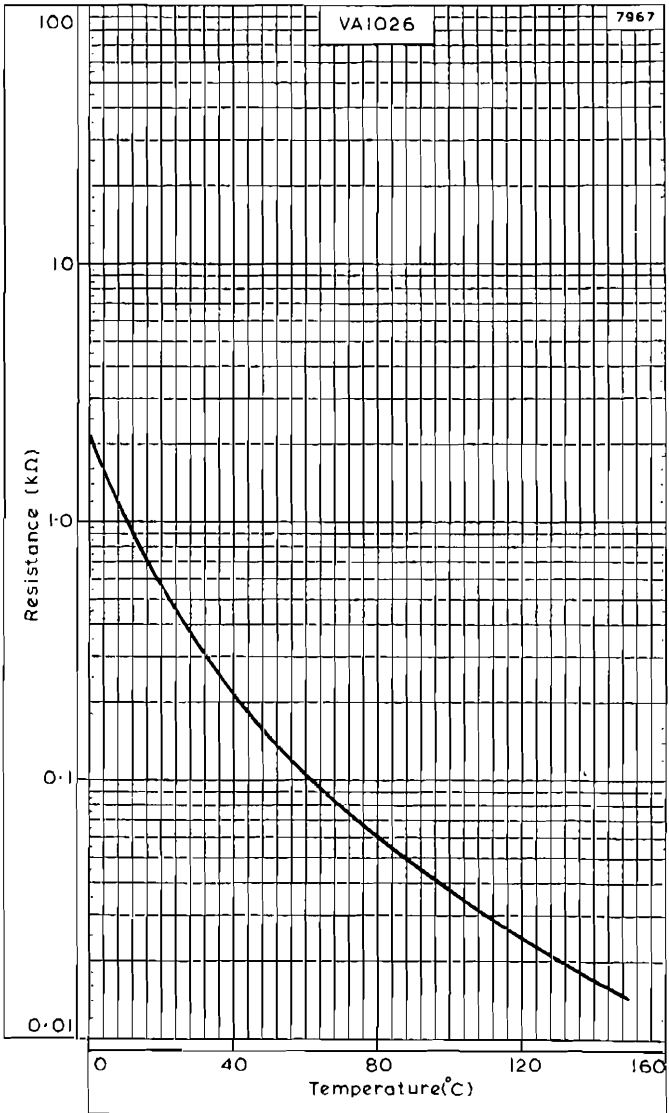


VARIATION OF RESISTANCE WITH TIME UNDER NORMAL COOLING CONDITIONS





VOLTAGE/CURRENT CHARACTERISTIC

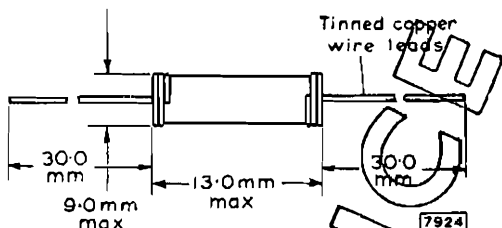


RESISTANCE/TEMPERATURE CHARACTERISTIC

VARITE THERMISTOR

VA1027

Compensating thermistor for use with cathode ray tube focusing coils and similar applications.



The connecting wires have a diameter of 0.8mm (21s.w.g. approx.)

GENERAL

Varite thermistors are thermally sensitive semiconductors. They are characterised by a large negative temperature coefficient of resistance.

The variation of resistance of a thermistor may be caused by self heating due to power dissipated in the device, by a change in ambient temperature, or by a combination of these factors.

ELECTRICAL DATA

Resistance (at 25°C)	1.07 ± 0.25	kΩ
B factor (Note 1)	3800 ± 10%	°K
Maximum dissipation	2.0	W
Resistance at 200mA	36 to 52	Ω
Current at maximum dissipation	300	mA
Temperature at maximum dissipation (T _{ambient} = 25°C)	150	°C
Dissipation constant (Note 2)	16	mW/°C
Recovery time (Note 3)	160	s

NOTES

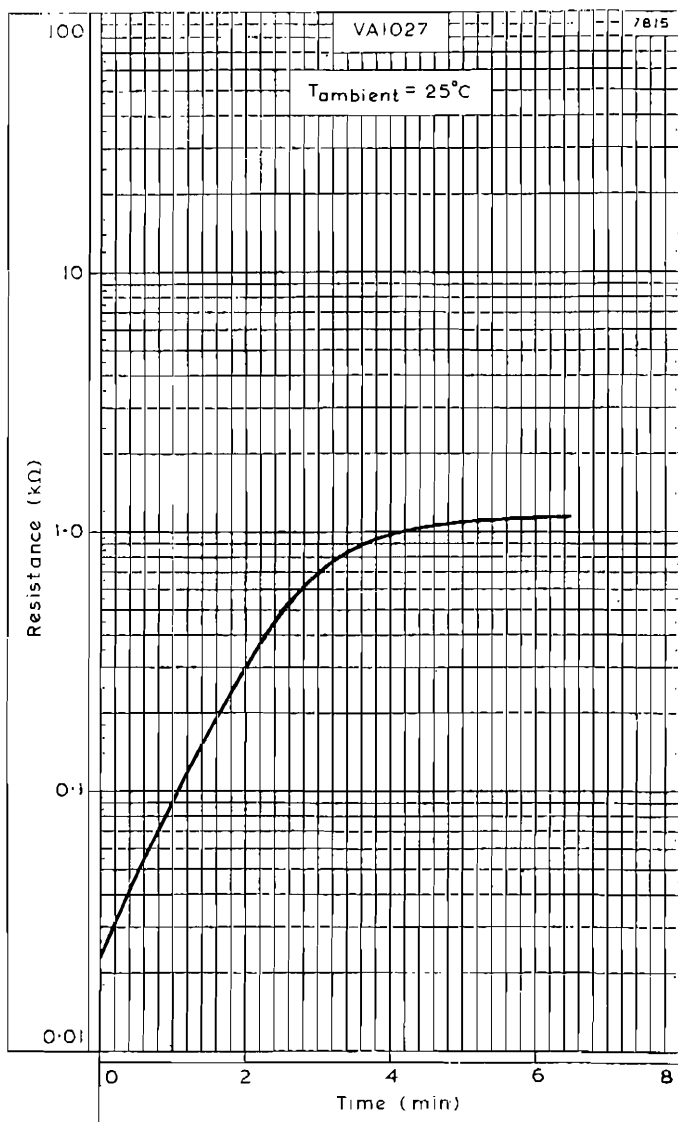
1. The B factor is used to determine the resistance at any temperature from the formula:

$$\log_{10}R_1 = \log_{10}R_2 + \frac{B}{2.303} \left(\frac{T_2 - T_1}{T_2 T_1} \right)$$

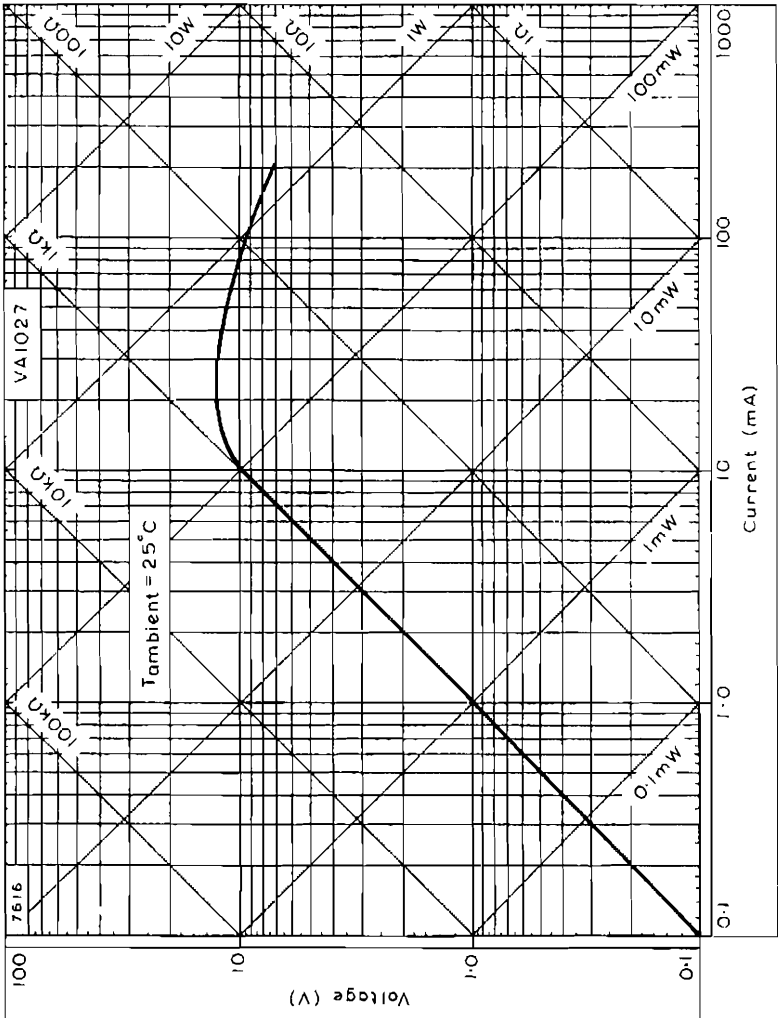
where R_1 is the resistance at a temperature of $T_1(^{\circ}\text{K})$ and

R_2 is the resistance at a temperature of $T_2(^{\circ}\text{K})$

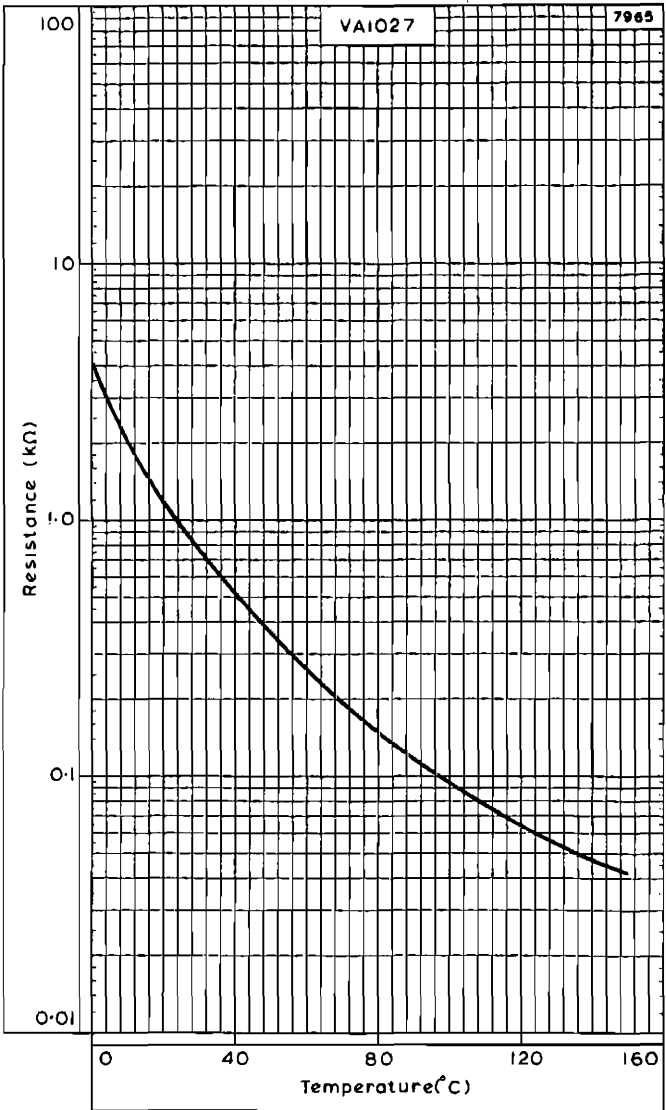
2. The dissipation constant is the power required to raise the temperature by 1°C . It can be used to estimate the rise in temperature of a thermistor for a given dissipation.
3. The recovery time is the time taken by a thermistor to reach half its resistance value at 25°C after it has been operating at maximum dissipation for some time and is allowed to cool in still air at 25°C .



VARIATION OF RESISTANCE WITH TIME UNDER NORMAL COOLING CONDITIONS



VOLTAGE/CURRENT CHARACTERISTIC



RESISTANCE/TEMPERATURE CHARACTERISTIC

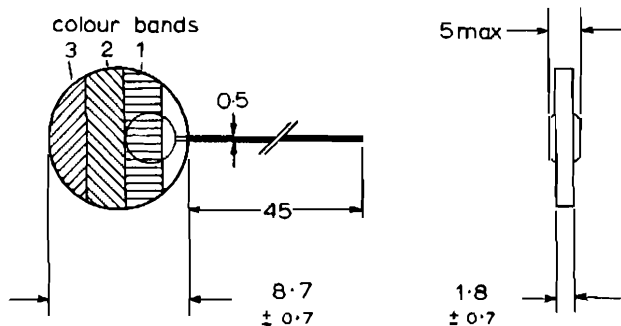
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	4.0 ± 0.8	Ω
B factor	$2800 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	0.3	Ω
Current at maximum dissipation (approx)	2.0	A
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	10	$\text{mW}/^{\circ}\text{C}$
Recovery Time	70	s

MECHANICAL DATA



All dimensions in mm

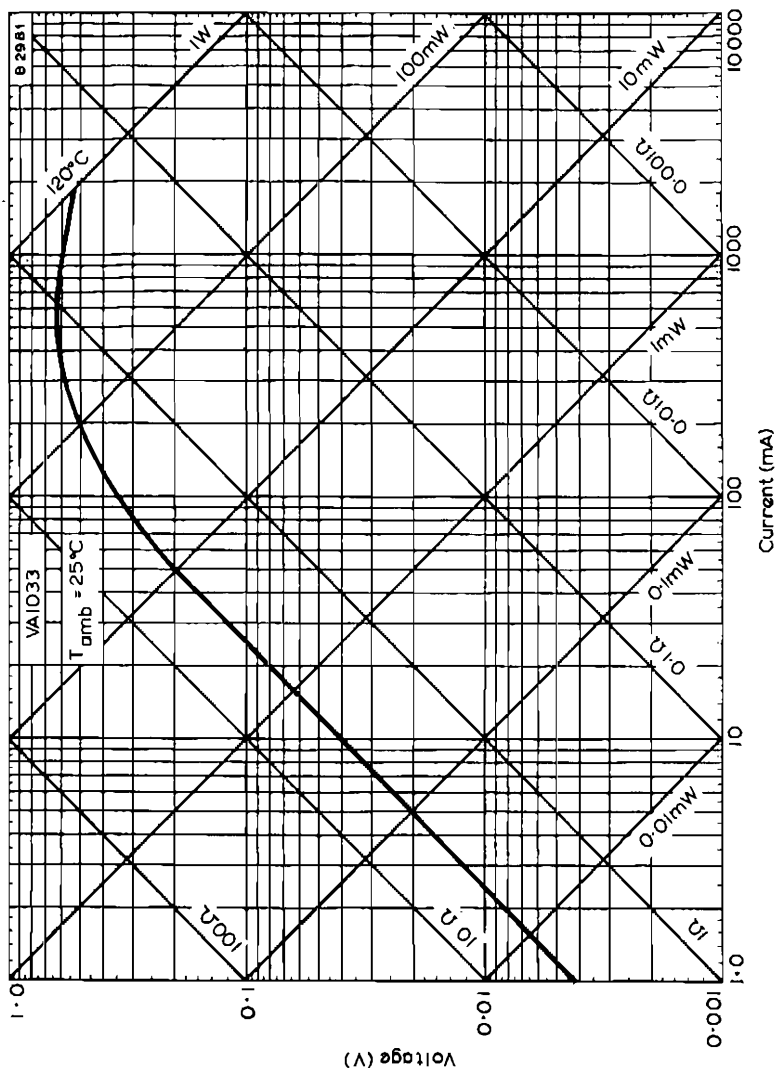
B 2681

For a plate type without leads see type VA1013

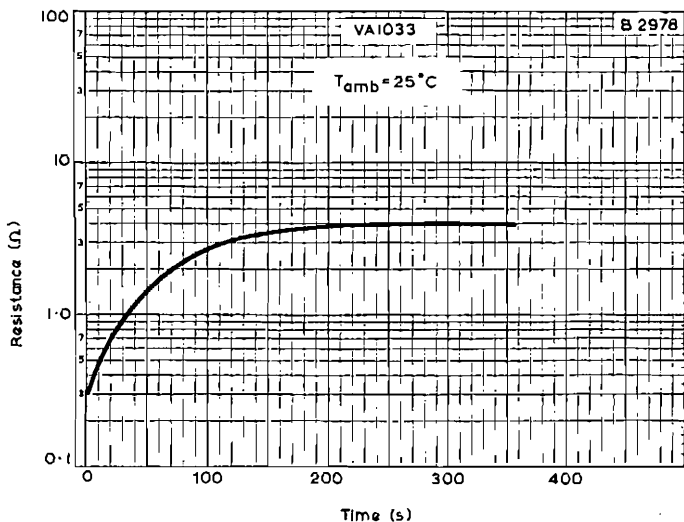
MARKING

The VA1033 is distinguished from other types in this range by the following colour bands:

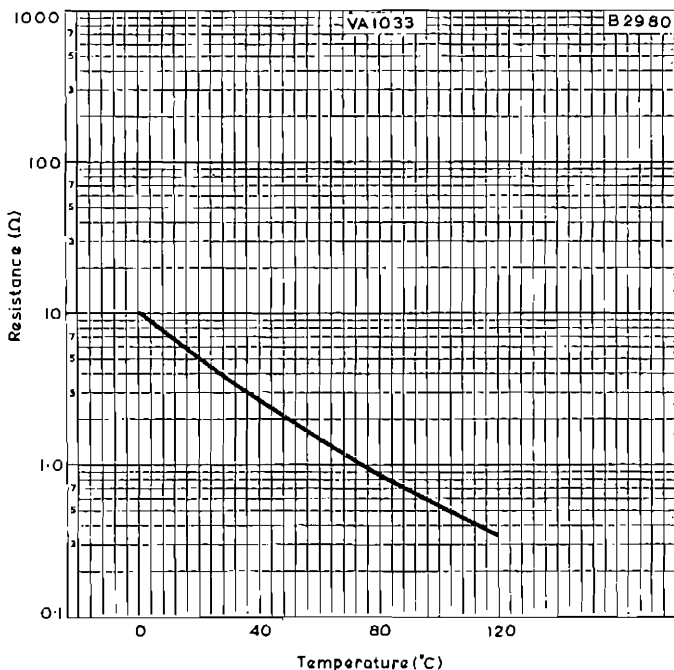
- Band 1. Yellow
- Band 2. Black
- Band 3. Gold



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
 NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE



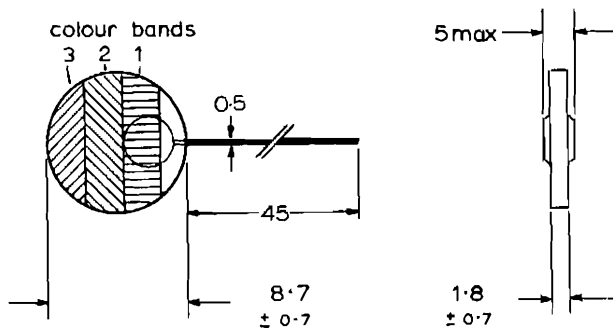
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	50 ± 10	Ω
B factor	$3300 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	3.0	Ω
Current at maximum dissipation (approx)	600	mA
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	10	mW/ $^{\circ}\text{C}$
Recovery Time	80	s

MECHANICAL DATA



All dimensions in mm

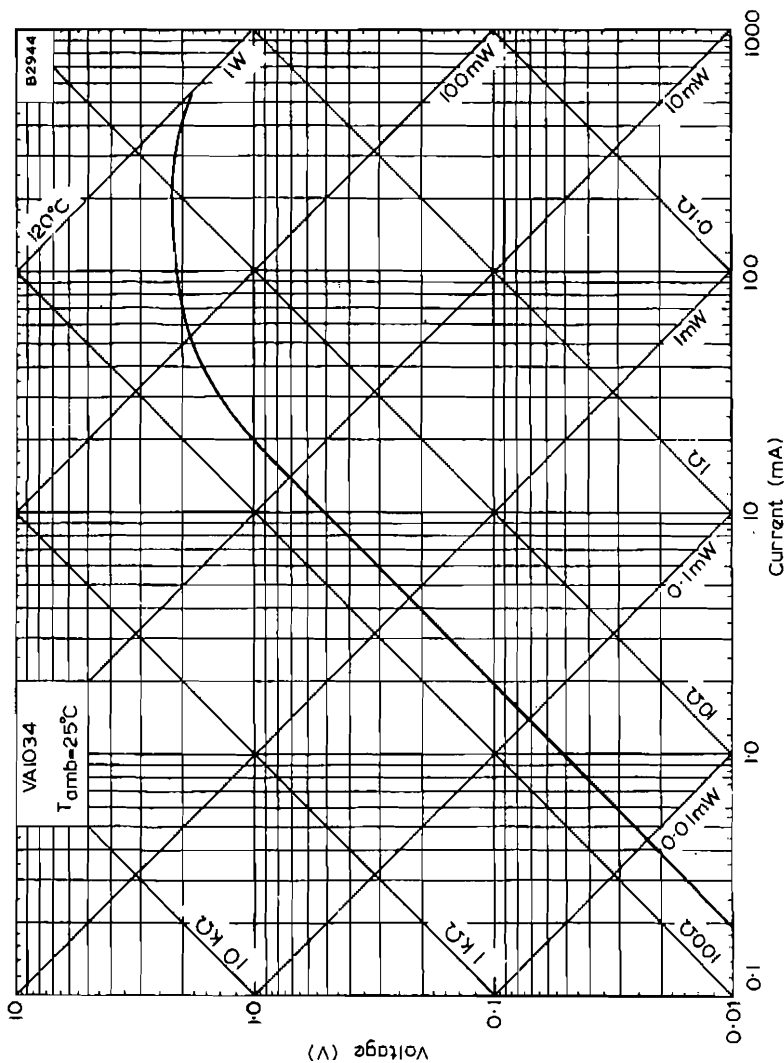
B 2681

For a plate type without leads see type VA1024

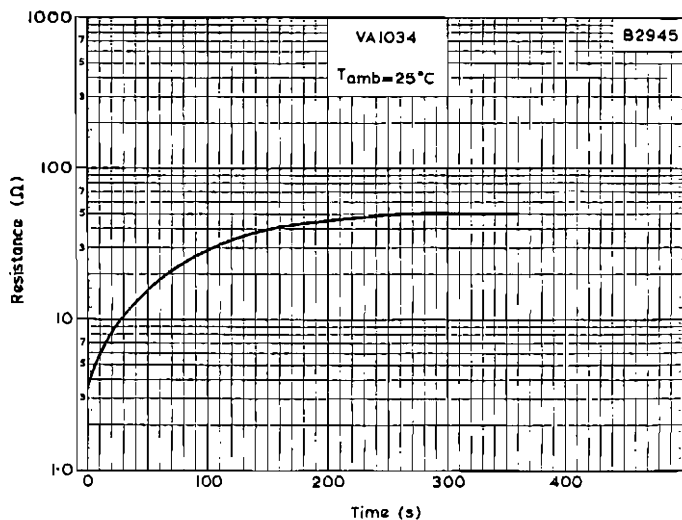
MARKING

The VA1034 is distinguished from other types in this range by the following colour bands:

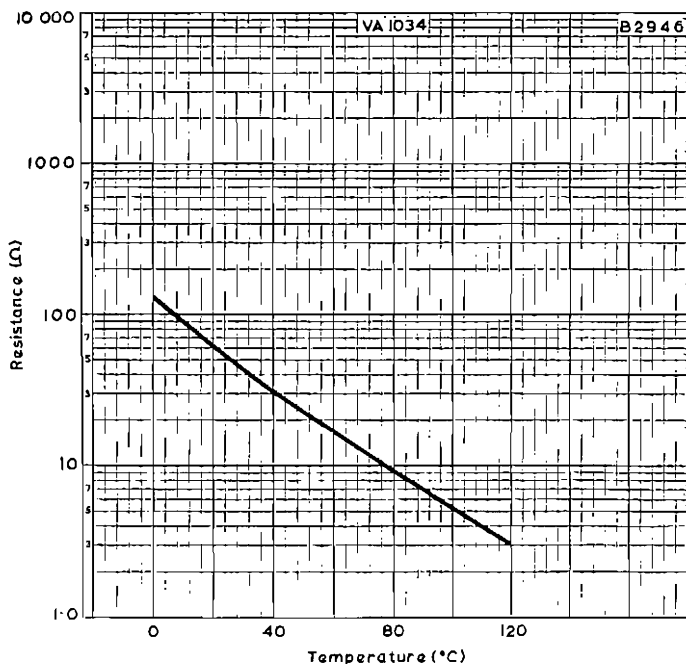
Band 1.	Green
Band 2.	Black
Band 3.	Black



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^\circ\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
 NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE

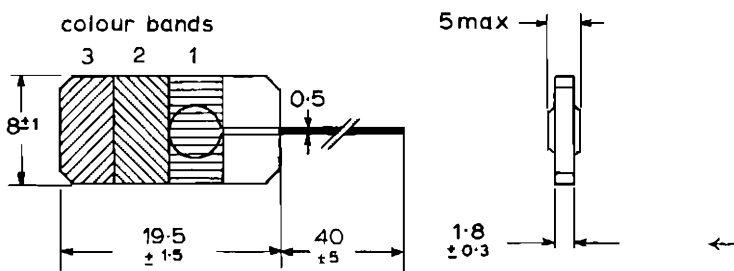
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	1.10 ± 0.22	Ω
B factor	$2650 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	0.2	Ω
Current at maximum dissipation (approx)	2.2	A
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	14	$\text{mW}/^{\circ}\text{C}$
Recovery Time	70	μs

MECHANICAL DATA



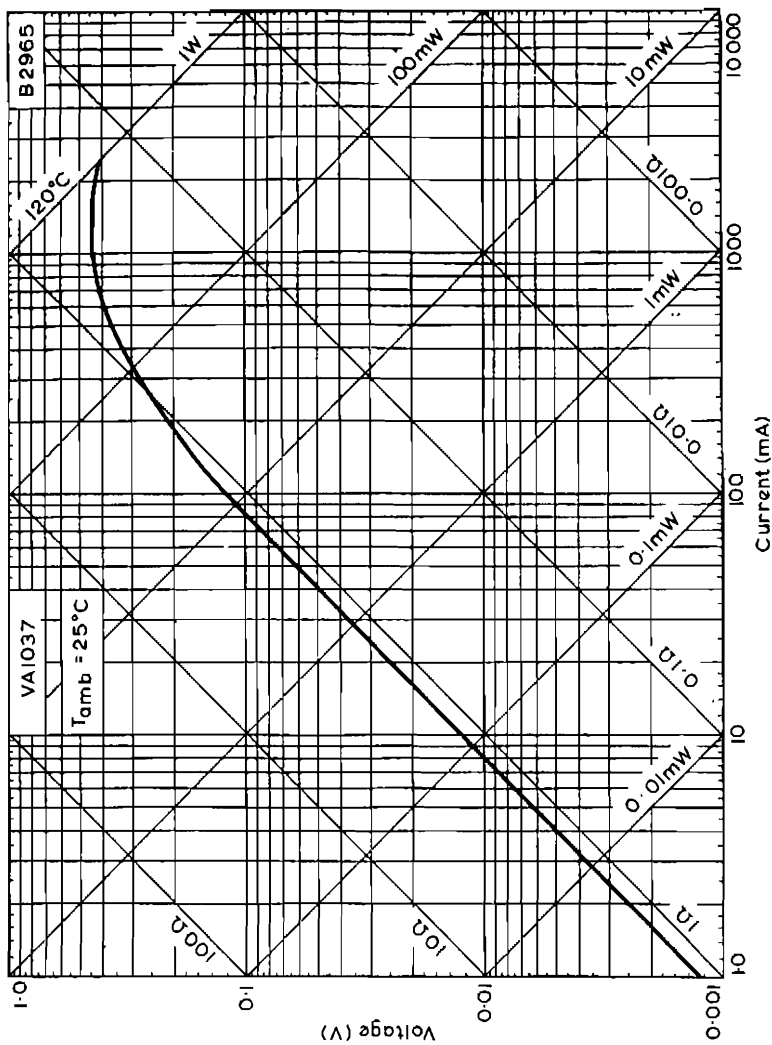
All dimensions in mm

B3866

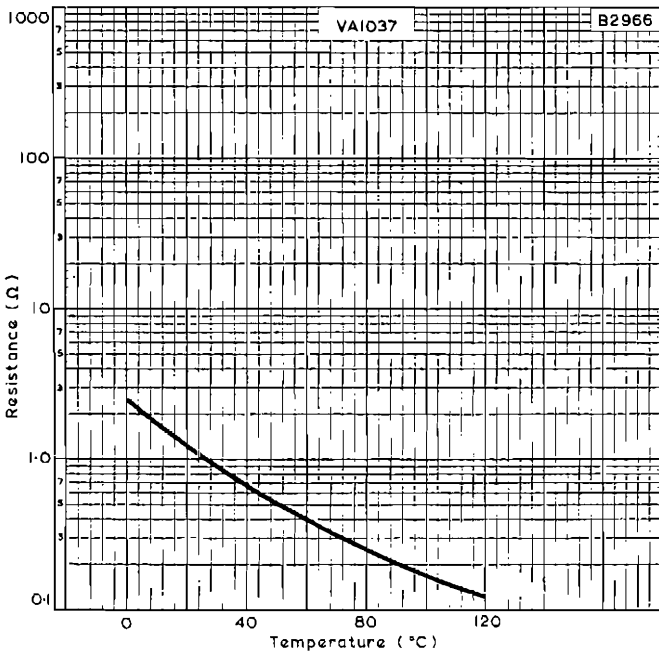
MARKING

The VA1037 is distinguished from other types in this range by the following colour bands:

Band 1.	Brown
Band 2.	Brown
Band 3.	Gold



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^\circ\text{C}$



VARIATION OF RESISTANCE WITH TEMPERATURE

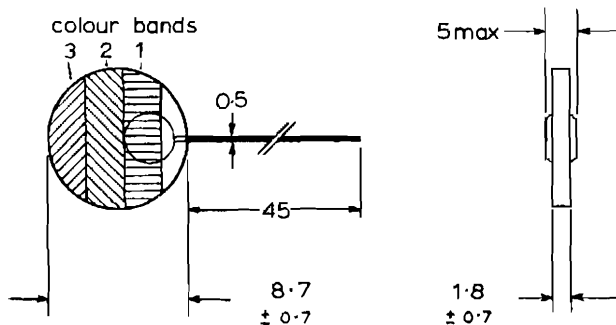
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	1.3 ± 0.26	$\text{k}\Omega$
B factor	$5450 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	12	Ω
Current at maximum dissipation (approx)	300	mA
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	10	$\text{mW}/^{\circ}\text{C}$
Recovery Time	100	s

MECHANICAL DATA



All dimensions in mm

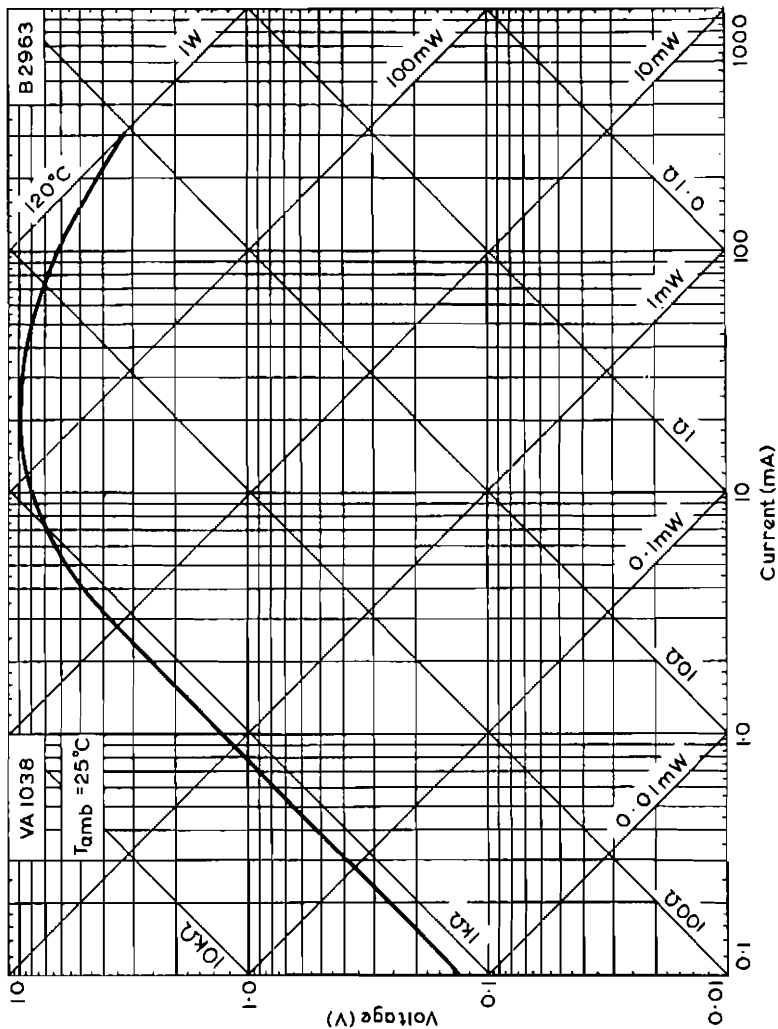
B 2681

For a plate type without leads see type VA1018

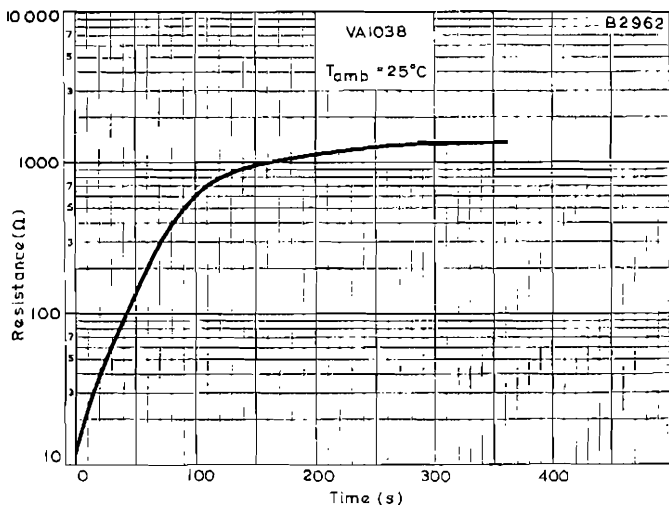
MARKING

The VA1038 is distinguished from other types in this range by the following colour bands:

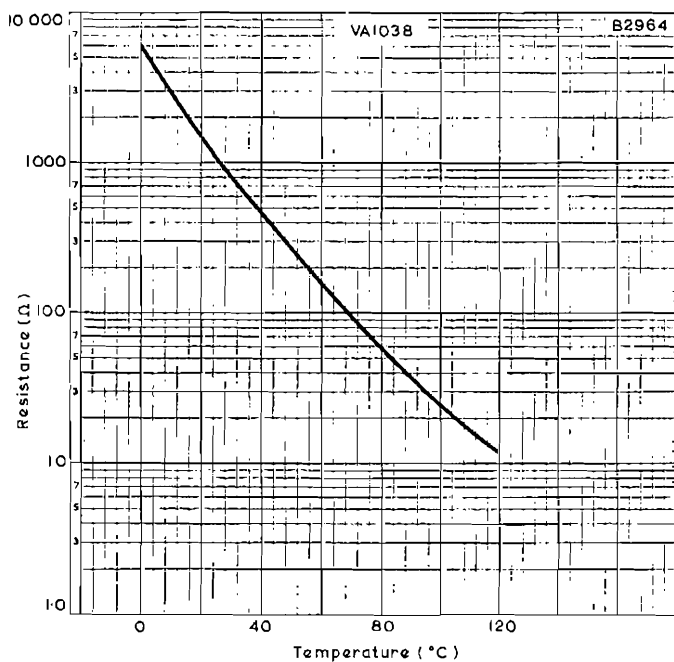
- Band 1. Brown
- Band 2. Orange
- Band 3. Red



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
 NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE

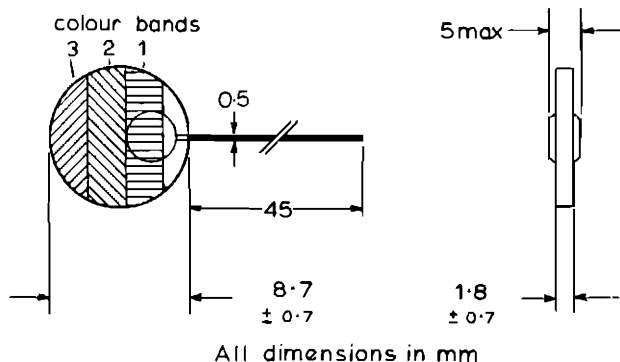
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	500 ± 100	Ω
B factor	$5200 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	7.0	Ω
Current at maximum dissipation (approx)	400	mA
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	10	mW/ $^{\circ}\text{C}$
Recovery Time	100	s

MECHANICAL DATA



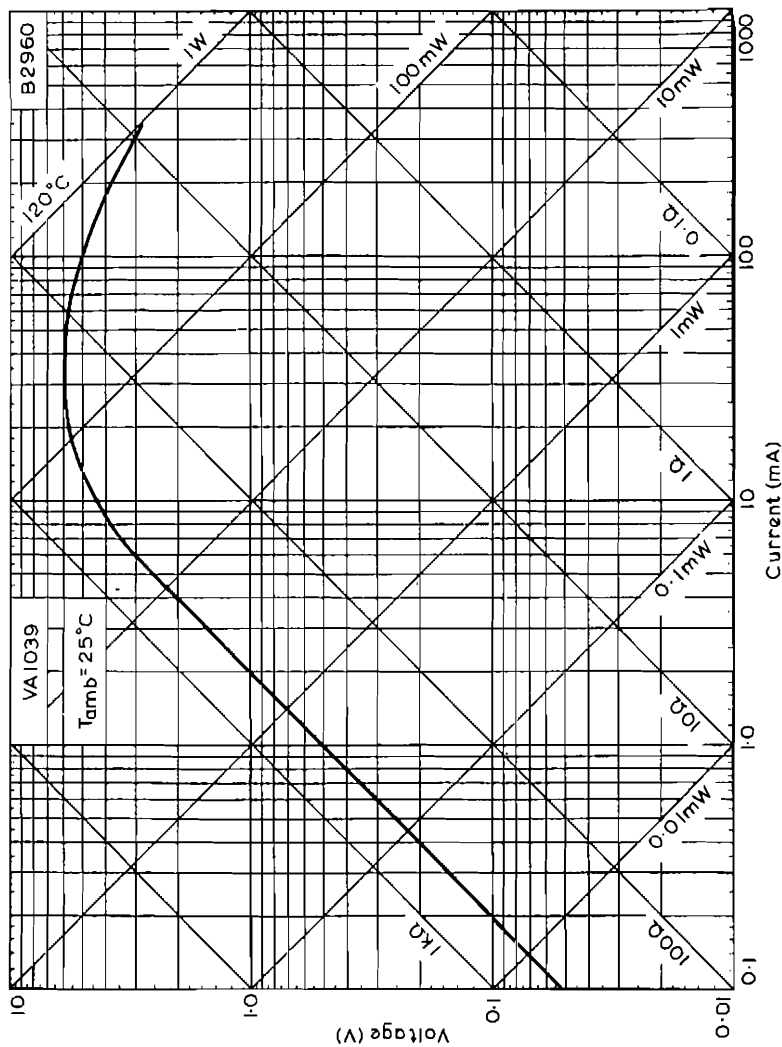
B 2681

For a plate type without leads see type VA1019

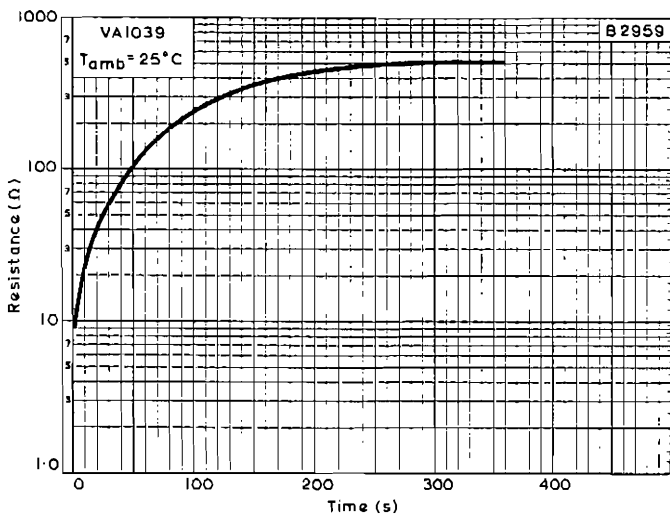
MARKING

The VA1039 is distinguished from other types in this range by the following colour bands:

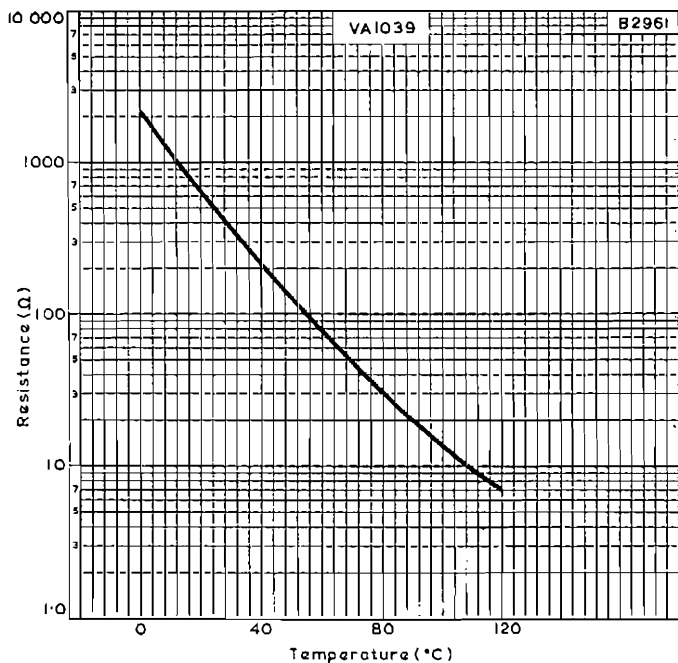
- Band 1. Green
- Band 2. Black
- Band 3. Brown



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE

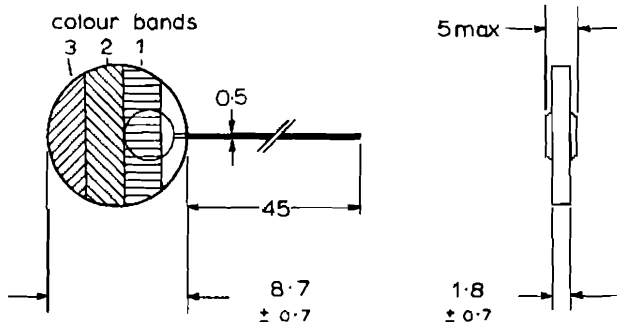
Plate type thermistor for use in transistor and similar circuits for temperature compensation.

This data should be read in conjunction with Introductory Notes - Thermistors

ELECTRICAL DATA (at $T_{amb} = 25^{\circ}\text{C}$)

Resistance (at 25°C)	130 ± 26	Ω
B factor	$4400 \pm 5\%$	$^{\circ}\text{K}$
Maximum dissipation	1.0	W
Resistance at maximum dissipation (approx)	3.0	Ω
Current at maximum dissipation (approx)	600	mA
Temperature at maximum dissipation (approx)	120	$^{\circ}\text{C}$
Dissipation constant	10	$\text{mW}/^{\circ}\text{C}$
Recovery Time	100	s

MECHANICAL DATA



All dimensions in mm

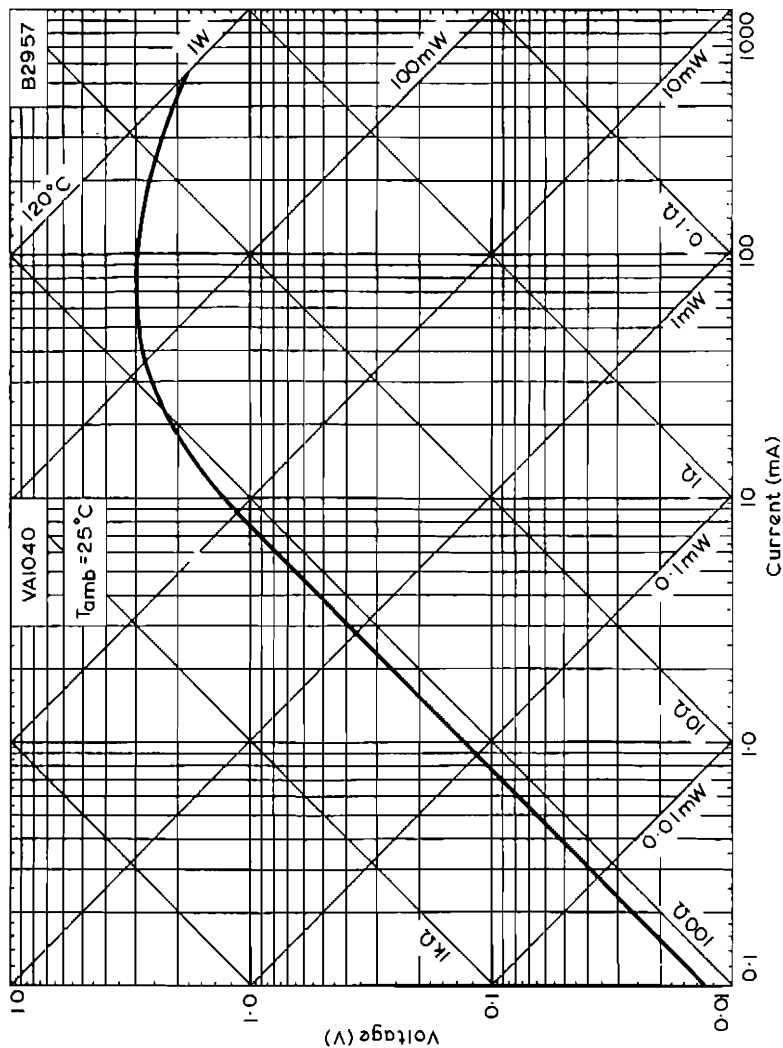
B 2681

For a plate type without leads see type VA1020

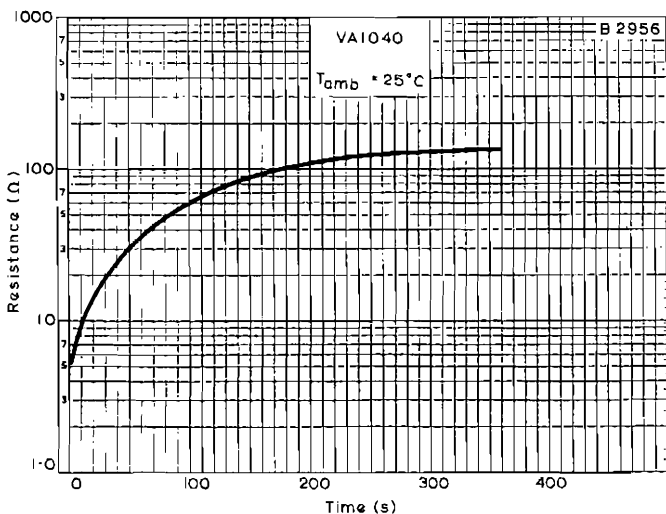
MARKING

The VA1040 is distinguished from other types in this range by the following colour bands:

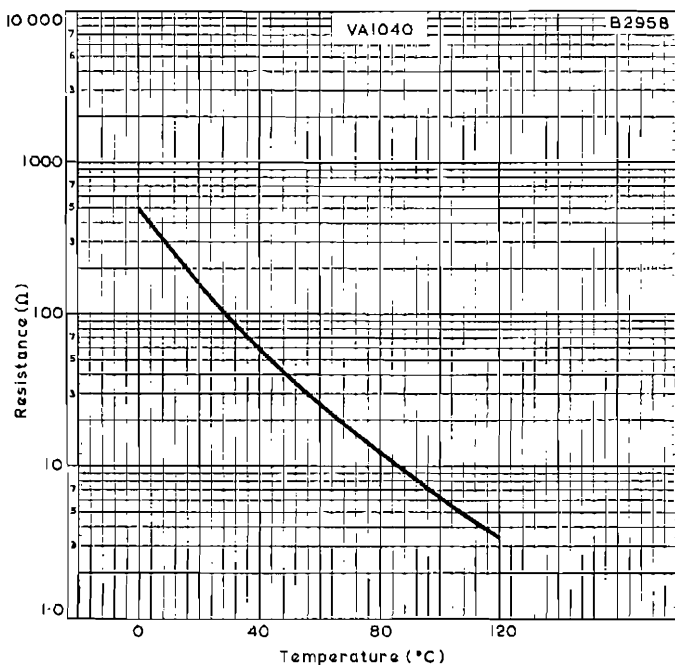
Band 1.	Brown
Band 2.	Orange
Band 3.	Brown



VOLTAGE/CURRENT CHARACTERISTIC AT $T_{amb} = 25^{\circ}\text{C}$



VARIATION OF RESISTANCE WITH TIME UNDER
 NORMAL COOLING CONDITIONS



VARIATION OF RESISTANCE WITH TEMPERATURE