

Glass-encapsulated sensors

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Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated, heat-resistive and highly stable
- For temperature measurement up to 250 °C
- Fast response
- Small dimensions
- Leads: dumet wires (copper-clad FeNi)

Options

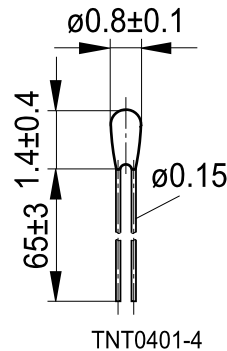
Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

Delivery mode

Bulk

General technical data

Climatic category	(IEC 60068-1)		55/250/56	
Max. power	(at 25 °C)	P_{25}	18	mW
Resistance tolerance		$\Delta R_R/R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 0.4	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 3	s
Heat capacity		C_{th}	approx. 1.3	mJ/K

Dimensional drawing


Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
5 k	8402	3480	$3450 \pm 1\%$	3497	B57540G0502+00*
10 k	8407	3480	$3450 \pm 1\%$	3497	B57540G0103+00*
20 k	8415	3992	$3970 \pm 1\%$	4006	B57540G0203+00*
30 k	8415	3992	$3970 \pm 1\%$	4006	B57540G0303+00*
50 k	8403	3992	$3970 \pm 1\%$	4006	B57540G0503+00*
100 k	8404	4066	$4036 \pm 1\%$	4085	B57540G0104+00*

+ = Resistance tolerance
 F = $\pm 1\%$
 G = $\pm 2\%$
 H = $\pm 3\%$
 J = $\pm 5\%$

* = Leads
 0 = dumet wires
 2 = nickel-plated wires

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
230 k	8405	4240	$4537 \pm 2^{1) \%}$	4264	B57540G0234+00*
1400 k	8406	4557	$5133 \pm 2^{2) \%}$	4581	B57540G0145+00*

+ = Resistance tolerance

F = $\pm 1\%$

G = $\pm 2\%$

H = $\pm 3\%$

J = $\pm 5\%$

* = Leads

0 = dumet wires

2 = nickel-plated wires

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 250 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-67	Temperature of air: 85 °C Relative humidity of air: 85% Duration: 56 days	< 2%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage

1) $B_{100/200}$

2) $B_{200/300}$

Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated, heat-resistive and highly stable
- For temperature measurement up to 300 °C
- Fast response
- Small dimensions
- Leads: dumet wires (copper-clad FeNi)

Options

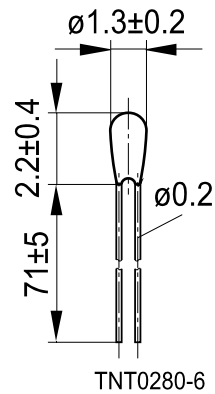
Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

Delivery mode

Bulk

General technical data

Climatic category	(IEC 60068-1)		55/300/56	
Max. power	(at 25 °C)	P_{25}	32	mW
Resistance tolerance		$\Delta R_R/R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 0.75	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 7	s
Heat capacity		C_{th}	approx. 5	mJ/K

Dimensional drawing


Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
2 k	8401	3420	$3390 \pm 1\%$	3436	B57550G0202+00*
5 k	8402	3480	$3450 \pm 1\%$	3497	B57550G0502+00*
10 k	8407	3480	$3450 \pm 1\%$	3497	B57550G0103+00*
20 k	8415	3992	$3970 \pm 1\%$	4006	B57550G0203+00*
30 k	8415	3992	$3970 \pm 1\%$	4006	B57550G0303+00*
50 k	8403	3992	$3970 \pm 1\%$	4006	B57550G0503+00*
100 k	8404	4066	$4036 \pm 1\%$	4085	B57550G0104+00*

+ = Resistance tolerance
 F = $\pm 1\%$
 G = $\pm 2\%$
 H = $\pm 3\%$
 J = $\pm 5\%$

* = Leads
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 2 = nickel-plated wires

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
230 k	8405	4240	$4537 \pm 1^{1)\%}$	4264	B57550G0234+00*
1400 k	8406	4557	$5133 \pm 2^{2)\%}$	4581	B57550G0145+00*

+ = Resistance tolerance

F = $\pm 1\%$

G = $\pm 2\%$

H = $\pm 3\%$

J = $\pm 5\%$

* = Leads

0 = dumet wires

2 = nickel-plated wires

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 300 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-67	Temperature of air: 85 °C Relative humidity of air: 85% Duration: 56 days	< 2%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage

1) $B_{100/200}$

2) $B_{200/300}$

Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated, heat-resistive and highly stable
- For temperature measurement up to 300 °C
- Fast response
- Leads: dumet wires (copper-clad FeNi)

Options

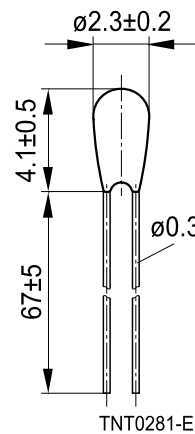
Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

Delivery mode

Bulk

General technical data

Climatic category	(IEC 60068-1)		55/300/56	
Max. power	(at 25 °C)	P_{25}	50	mW
Resistance tolerance		$\Delta R_R/R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 1.3	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 15	s
Heat capacity		C_{th}	approx. 20	mJ/K

Dimensional drawing


Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
2 k	8401	3420	$3390 \pm 1\%$	3436	B57560G0202+00*
5 k	8402	3480	$3450 \pm 1\%$	3497	B57560G0502+00*
10 k	8407	3480	$3450 \pm 1\%$	3497	B57560G0103+00*
20 k	8415	3992	$3970 \pm 1\%$	4006	B57560G0203+00*
30 k	8415	3992	$3970 \pm 1\%$	4006	B57560G0303+00*
50 k	8403	3992	$3970 \pm 1\%$	4006	B57560G0503+00*
100 k	8404	4066	$4036 \pm 1\%$	4085	B57560G0104+00*
230 k	8405	4240	$4537 \pm 1^{(1)}\%$	4264	B57560G0234+00*

+ = Resistance tolerance
 F = $\pm 1\%$
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 J = $\pm 5\%$

* = Leads
 0 = dumet wires
 2 = nickel-plated wires

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
1400 k	8406	4557	$5133 \pm 2^{2\%}$	4581	B57560G0145+00*

+ = Resistance tolerance

F = $\pm 1\%$

G = $\pm 2\%$

H = $\pm 3\%$

J = $\pm 5\%$

* = Leads

0 = dumet wires

2 = nickel-plated wires

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 300 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-67	Temperature of air: 85 °C Relative humidity of air: 85% Duration: 56 days	< 2%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage

1) $B_{100/200}$

2) $B_{200/300}$

Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated NTC thermistor, heat-resistant and highly stable
- Coating of glass body and leads for electrical insulation
- For temperature measurement up to 250 °C
- Fast response
- Small dimensions
- Leads: dumet wires (copper-clad FeNi)

Options

Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

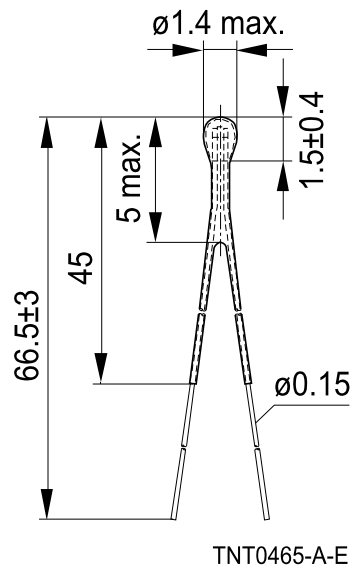
Delivery mode

Bulk

General technical data

Climatic category	(IEC 60068-1)		55/250/56	
Max. power	(at 25 °C)	P_{25}	18	mW
Resistance tolerance		$\Delta R_R / R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 0.5	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 4	s
Heat capacity		C_{th}	approx. 2	mJ/K
Insulation resistance ¹⁾	(V = 100 VDC)	R_{ins}	≥ 100	M Ω
Test voltage ¹⁾	(t = 1 s)	V_{test}	500	VDC

1) Medium: NaCl-solution; Temperature: Room temperature

Dimensional drawing


Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
10 k	8407	3480	$3450 \pm 1\%$	3497	B57541G0103+00*

+ = Resistance tolerance

 F = $\pm 1\%$

 G = $\pm 2\%$

 H = $\pm 3\%$

 J = $\pm 5\%$

* = Leads

0 = dumet wires

2 = nickel-plated wires

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 250 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-67	Temperature of air: 85 °C Relative humidity of air: 85% Duration: 56 days	< 2%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage

Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated NTC thermistor, heat-resistant and highly stable
- Coating of glass body and leads for electrical insulation
- For temperature measurement up to 260 °C
- Fast response
- Small dimensions
- Leads: dumet wires (copper-clad FeNi)

Options

Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

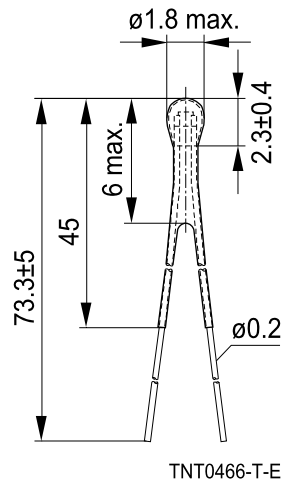
Delivery mode

Bulk

General technical data

Climatic category	(IEC 60068-1)		55/260/56	
Max. power	(at 25 °C)	P_{25}	32	mW
Resistance tolerance		$\Delta R_R/R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 0.8	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 9	s
Heat capacity		C_{th}	approx. 7.2	mJ/K
Insulation resistance ¹⁾	(V = 100 VDC)	R_{ins}	≥ 100	M Ω
Test voltage ¹⁾	(t = 1 s)	V_{test}	500	VDC

1) Medium: NaCl-solution; Temperature: Room temperature

Dimensional drawing


Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
10 k	8407	3480	$3450 \pm 1\%$	3497	B57551G0103+00*

+ = Resistance tolerance

 F = $\pm 1\%$

 G = $\pm 2\%$

 H = $\pm 3\%$

 J = $\pm 5\%$

* = Leads

0 = dumet wires

2 = nickel-plated wires

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 260 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-67	Temperature of air: 85 °C Relative humidity of air: 85% Duration: 56 days	< 2%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage

Applications

- Automotive electronics
- Industrial electronics
- Home appliances

Features

- Glass-encapsulated NTC thermistor, heat-resistant and highly stable
- Coating of glass body and leads for electrical insulation
- For temperature measurement up to 260 °C
- Fast response
- Leads: dumet wires (copper-clad FeNi)

Options

Leads: nickel-plated dumet wires.
Alternative dimensions available on request.

Delivery mode

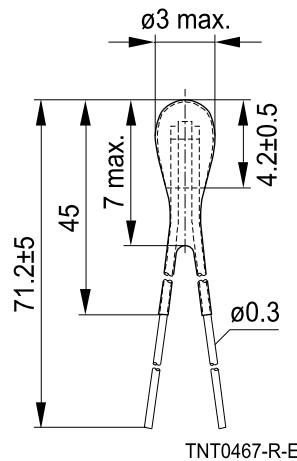
Bulk

General technical data

Climatic category	(IEC 60068-1)		55/260/56	
Max. power	(at 25 °C)	P_{25}	50	mW
Resistance tolerance		$\Delta R_R/R_R$	$\pm 1, \pm 2, \pm 3, \pm 5$	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 1.5	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 18	s
Heat capacity		C_{th}	approx. 27	mJ/K
Insulation resistance ¹⁾	(V = 100 VDC)	R_{ins}	≥ 100	M Ω
Test voltage ¹⁾	(t = 1 s)	V_{test}	500	VDC

1) Medium: NaCl-solution; Temperature: Room temperature

Dimensional drawing



Dimensions in mm

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/85}$ K	$B_{0/100}$ K	$B_{25/100}$ K	Ordering code
10 k	8407	3480	$3450 \pm 1\%$	3497	B57561G0103+00*

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Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
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Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: -55 °C Upper test temperature: 200 °C Number of cycles: 1000	< 2%	No visible damage