High Temperature Sensor Pt200 HT1100°C Ø4.5x18 ctss

Technical data

Resistance at 0°C	200 Ω
Temperature coefficient (0 °C up to +100 °C)	3.85 · 10^{-3} K^{-1}
Tolerance class according to DIN EN 60751	F 0,6 (up to +600°C) (sensor element)
Operating temperature range	-50°C up to +1100°C
Measurement current (DC) at 25 °C	1.0 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.2 K/mW
Thermal response time Flowing air	$T_{0.5} \leq 5$ s, $T_{0.9} \leq 9$ s
Thermal shock resistance	280 °C
Resistance value of Pt temperature sensor element	
at 0 °C (class F 0,6)	200.00 Ω ± 0.48 Ω
at 100 °C (class F 0,6)	277.01 Ω ± 1.21 Ω
	(each resistance value plus lead resistance)
Leads	
Material / Material number	2.4867
Ø d	0.3 mm
Resistivity at 20°C	111 µΩ · cm
	(Sources: Product information of the lead manufacturer)

Operating conditions

Unprotected application only in dry environments without any contamination. Any compressive and tensile stresses of the leads have to be avoided.

Remark

For high temperature applications the sensor element has to be protected applicable against contaminations of substances (heavy metals, Si, P, Cl, Na, Ka etc.) which could destroy for example the pattern structure caused by chemical or electro-chemical reactions.

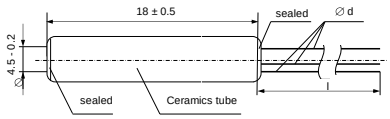
Technology

Chip - advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer), assembled in a sealed ceramic protective tube

Conformity

2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)

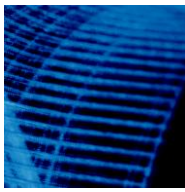
Dimensions [mm]

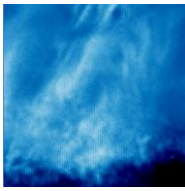


Ø d: 0.3 mm
l: 1500 mm ± 10 mm

Pin assignment
Bottom view

1… Pt200
2… Control
3… Common

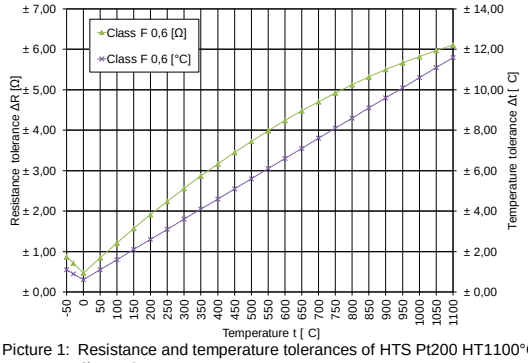




Functional performance

(Platinum temperature sensor element)

according to DIN EN 60751 (-50 °C up to 600 °C)



Picture 1: Resistance and temperature tolerances of HTS Pt200 HT1100°C Ø4.5x18

Temperature range from -50 °C up to 0 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3)$

Temperature range from 0 °C up to +850 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2)$

Tolerance class (-50 °C up to 600 °C):

Class F 0,6: $\Delta t = \pm 2 \cdot (0.3 + 0.005 \cdot |t|)$

whereby:

R_t … Resistance [Ω] at temperature t

R_o … Resistance [Ω] at 0 °C

t … Temperature [°C]

Δt …Permissible temperature deviation at t [°C]

A = 3.9083 · 10^{-3} $°C^{-1}$

B = - 5.775 · 10^{-7} $°C^{-2}$

C = - 4.183 · 10^{-12} $°C^{-4}$

Fields of application

- Automotive electronics
- Industrial electronics
- Building automation
- Energy and environmental engineering
- Safety and medical engineering

Ordering example

Please use the following code/article description:

HTS Pt200, HT1100°C, class F 0,6/0°C, ceramics tube sealed on both sides (ctss) Ø4.5x18 mm, Leads 2.4867, Ø 0,3 mm, variant l=1500 mm

(Other wire lengths are available on request.)

UST Umweltsensortechnik GmbH is certified according to

Made in Germany

UST Umweltsensortechnik GmbH
Dieselstr. 2, 98716 Geschwenda, Germany
Phone: 0523-88155558
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micsensor@yeah.net
www.mic-sensor.com

High Temperature Sensor Pt200 HT1000 °C Ø2.6x8

Technical data

Resistance at 0 °C	200 Ω
Temperature coefficient (0 °C up to +100 °C)	3.85 · 10^{-3} K^{-1}
Tolerance classes to DIN EN 60751	F 0,3 (up to +400 °C) F 0,6 (up to +600 °C)
Operating temperature range	-50 °C up to +1000 °C
Measurement current (DC) at 25 °C	1.0 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.2 K/mW
Thermal response time Flowing air	$T_{0.5} \leq 5$ s, $T_{0.9} \leq 9$ s
Thermal shock resistance	280 °C
Resistance value at 0 °C (class F 0,3) at 100 °C (class F 0.3)	200.00 Ω ± 0.24 Ω 277.01 Ω ± 0.61 Ω (each resistance value plus lead resistance)

Leads		
Material	HT-Pt	Kanthal
Ø d [mm]	0.2	0.25
Resistivity at 20 °C	10,6 µΩ · cm	139 µΩ · cm

(Sources: Product information of the lead manufacturers)

Operating conditions

Unprotected application only in dry environments without any contamination. Any compressive and tensile stresses of the leads have to be avoided.

Remark

For high temperature applications the sensor element has to be protected applicable against contaminations of substances (heavy metals, Si, P, Cl, Na, Ka etc.) which could destroy for example the pattern structure caused by chemical or electro-chemical reactions.

Technology

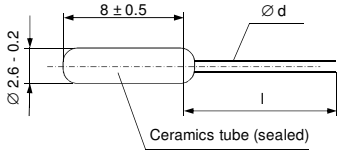
Chip - advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer), assembled in a sealed ceramic protective tube

Conformity

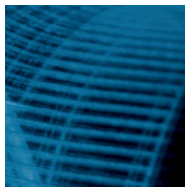
2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)

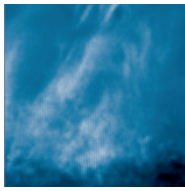
Dimensions [mm]

Schematic diagram



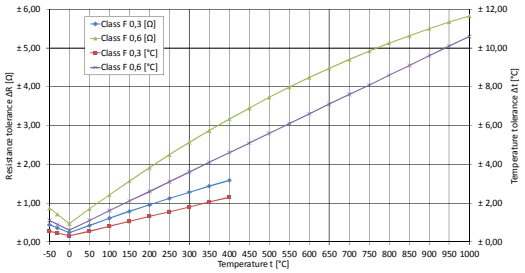
Ø d… depending on lead material (please see left table);
Lead material: Kanthal l ≥ 10 mm / HT-Pt l = 3mm





Functional performance (Sensor element)

according to DIN EN 60751 (up to 600 °C)



Picture 1: Resistance and temperature tolerances of HTS Pt200 HT1000 °C Ø2.6x8

Temperature range from -50 °C up to 0 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3)$

Temperature range from 0 °C up to +850 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2)$

Tolerance classes:

Class F 0,3: $\Delta t = \pm (0.3 + 0.005 \cdot |t|)$ (up to 400 °C)

Class F 0,6: $\Delta t = \pm 2 \cdot (0.3 + 0.005 \cdot |t|)$ (up to 600 °C)

whereby:

R_t … Resistance [Ω] at temperature t

R_o … Resistance [Ω] at 0 °C

t … Temperature [°C]

Δt …Permissible temperature deviation at t [°C]

A = 3.9083 · 10^{-3} $°C^{-1}$

B = - 5.775 · 10^{-7} $°C^{-2}$

C = - 4.183 · 10^{-12} $°C^{-4}$

Fields of application

- Automotive electronics
- Industrial electronics
- Building automation
- Energy and environmental engineering
- Safety and medical engineering

Ordering example

Please use the following code/article description:

HTS Pt200 HT1000 °C, Ceramics tube Ø2.6x8 mm sealed, Kanthal-Leads Ø0,25 mm, variant l=10 mm

(Other wire lengths are available on request.)

UST Umweltsensortechnik GmbH is certified according to

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micsensor@yeah.net
www.mic-sensor.com

Technical data

Resistance at 0 °C	200 Ω
Temperature coefficient (0 °C up to +100 °C)	3.85 · 10^{-3} K^{-1}
Tolerance classes to DIN EN 60751	F 0,3 (up to +400 °C) F 0,6 (up to +850 °C)
Operating temperature range	-50 °C up to +850 °C
Measurement current (DC) at 25 °C	1.0 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.2 K/mW
Thermal response time Flowing air	$T_{0.5} \leq 5$ s, $T_{0.9} \leq 9$ s
Thermal shock resistance	280 °C
Resistance value at 0 °C (class F 0,3) at 100 °C (class F 0.3)	200.00 Ω ± 0.24 Ω 277.01 Ω ± 0.61 Ω (each resistance value plus lead resistance)

Leads		
Material	NiSi	Kanthal
Ø d [mm]	0.3	0.25
Resistivity at 20 °C	34 µΩ · cm	139 µΩ · cm

(Sources: Product information of the lead manufacturers)

Operating conditions

Unprotected application only in dry environments without any contamination. Any compressive and tensile stresses of the leads have to be avoided.

Remark

For high temperature applications the sensor element has to be protected applicable against contaminations of substances (heavy metals, Si, P, Cl, Na, Ka etc.) which could destroy for example the pattern structure caused by chemical or electro-chemical reactions.

Technology

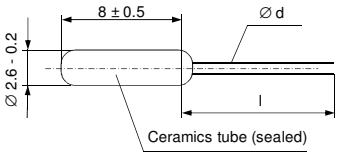
Chip - advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer), assembled in a sealed ceramic protective tube

Conformity

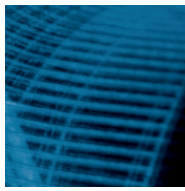
2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)

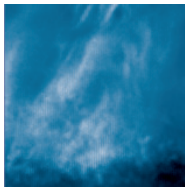
Dimensions [mm]

Schematic diagram



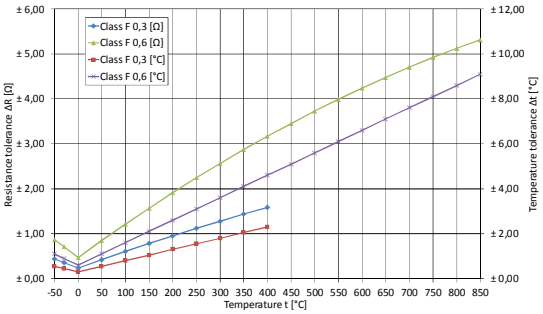
Ø d… depending on lead material (please see left table);
l ≥ 10 mm, variable





Functional performance (Sensor element)

according to DIN EN 60751



Picture 1: Resistance and temperature tolerances of HTS Pt200 HT850 °C Ø2.6x8

Temperature range from -50 °C up to 0 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3)$

Temperature range from 0 °C up to +850 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2)$

Tolerance classes:

Class F 0,3: $\Delta t = \pm (0.3 + 0.005 \cdot |t|)$

Class F 0,6: $\Delta t = \pm 2 \cdot (0.3 + 0.005 \cdot |t|)$

whereby:

R_t … Resistance [Ω] at temperature t

R_o … Resistance [Ω] at 0 °C

t … Temperature [°C]

Δt …Permissible temperature deviation at t [°C]

A = 3.9083 · 10^{-3} $°C^{-1}$

B = - 5.775 · 10^{-7} $°C^{-2}$

C = - 4.183 · 10^{-12} $°C^{-4}$

Fields of application

- Automotive electronics
- Industrial electronics
- Building automation
- Energy and environmental engineering
- Safety and medical engineering

Ordering example

Please use the following code/article description:

HTS Pt200 class F 0,3/0 °C, F 0,6/850 °C, Ceramics tube Ø2.6x8 mm sealed, NiSi-Leads Ø0,3 mm, variant l=100mm

(Other wire lengths are available on request.)

UST Umweltsensortechnik GmbH is certified according to

TÜV NORD ISO/TS 16949

TÜV NORD ISO 14001

Made in Germany

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www.mic-sensor.com

High Temperature Sensor Pt200 HT850°C Ø2.6x8 ctss

Technical data

Resistance at 0°C	200 Ω
Temperature coefficient (0 °C up to +100 °C)	3.85 · 10^{-3} K^{-1}
Tolerance class according to DIN EN 60751	F 0,6 (up to +600 °C) (sensor element)
Operating temperature range	-50 °C up to +850 °C
Measurement current (DC) at 25 °C	1.0 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.2 K/mW
Thermal response time Flowing air	$T_{0.5} \leq 5$ s, $T_{0.9} \leq 9$ s
Thermal shock resistance	280 °C
Resistance value of Pt temperature sensor element	
at 0 °C (class F 0,6)	200.00 Ω ± 0.48 Ω
at 100 °C (class F 0,6)	277.01 Ω ± 1.21 Ω
	(each resistance value plus lead resistance)
Leads	
Material	NiSi
Ø d	0.3 mm
Resistivity at 20°C	34 µΩ · cm
	(Sources: Product information of the lead manufacturer)

Operating conditions

Unprotected application only in dry environments without any contamination. Any compressive and tensile stresses of the leads have to be avoided.

Remark

For high temperature applications the sensor element has to be protected applicable against contaminations of substances (heavy metals, Si, P, Cl, Na, Ka etc.) which could destroy for example the pattern structure caused by chemical or electro-chemical reactions.

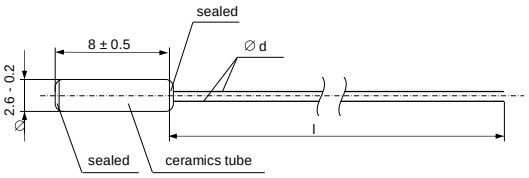
Technology

Chip - advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer), assembled in a sealed ceramic protective tube

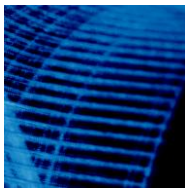
Conformity

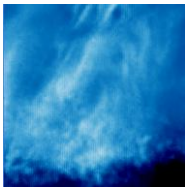
2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)

Dimensions [mm]



Ø d: 0.3 mm
l: 1500 mm ± 10 mm

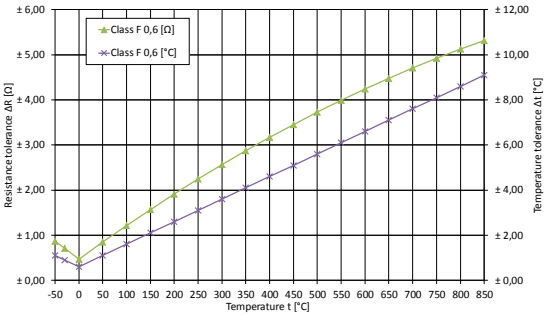




Functional performance

(Platinum temperature sensor element)

according to DIN EN 60751 (-50 °C up to 600 °C)



Picture 1: Resistance and temperature tolerances of HTS Pt200 HT850°C Ø2.6x8

Temperature range from -50 °C up to 0 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3)$

Temperature range from 0 °C up to +850 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2)$

Tolerance class (-50 °C up to 600 °C):

Class F 0,6: $\Delta t = \pm 2 \cdot (0.3 + 0.005 \cdot |t|)$

whereby:

R_t … Resistance [Ω] at temperature t

R_o … Resistance [Ω] at 0 °C

t … Temperature [°C]

Δt …Permissible temperature deviation at t [°C]

A = 3.9083 · 10^{-3} °C^{-1}

B = - 5.775 · 10^{-7} °C^{-2}

C = - 4.183 · 10^{-12} °C^{-4}

Fields of application

- Automotive electronics
- Industrial electronics
- Building automation
- Energy and environmental engineering
- Safety and medical engineering

Ordering example

Please use the following code/article description:

HTS Pt200, HT850°C, class F 0,6, ceramics tube sealed on both sides (ctss) Ø2.6x8 mm, Leads NiSi Ø0,3 mm, variant l=1500 mm

(Other wire lengths are available on request.)

UST Umweltsensortechnik GmbH is certified according to

Made in Germany

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Mobile: 13701245182
micsensor@yeah.net
www.mic-sensor.com

High Temperature Sensor Pt200 HT850°C Ø2.6x8 ctbs

Technical data

Resistance at 0°C	200 Ω
Temperature coefficient (0 °C up to +100 °C)	3.85 · 10^{-3} K^{-1}
Tolerance class according to DIN EN 60751	F 0,6 (up to +600 °C) (sensor element)
Operating temperature range	-50 °C up to +850 °C
Measurement current (DC) at 25 °C	1.0 mA
Insulation resistance	> 10 MΩ
Self-heating at 0 °C	< 0.2 K/mW
Thermal response time Flowing air	$T_{0.5} \leq 5$ s, $T_{0.9} \leq 9$ s
Thermal shock resistance	280 °C
Resistance value of Pt temperature sensor element	
at 0 °C (class F 0,6)	200.00 Ω ± 0.48 Ω
at 100 °C (class F 0,6)	277.01 Ω ± 1.21 Ω
	(each resistance value plus lead resistance)
Leads	
Material	NiSi
Ø d	0.3 mm
Resistivity at 20°C	34 µΩ · cm
	(Sources: Product information of the lead manufacturer)

Operating conditions

Unprotected application only in dry environments without any contamination. Any compressive and tensile stresses of the leads have to be avoided.

Remark

For high temperature applications the sensor element has to be protected applicable against contaminations of substances (heavy metals, Si, P, Cl, Na, Ka etc.) which could destroy for example the pattern structure caused by chemical or electro-chemical reactions.

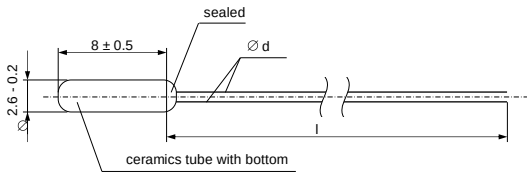
Technology

Chip - advanced thin-film-technology (ceramic carrier with a structured platinum layer, covered with a passivating layer), assembled in a sealed ceramic protective tube

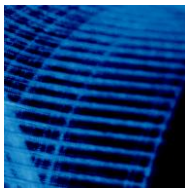
Conformity

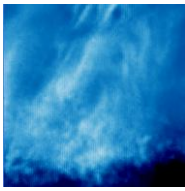
2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)

Dimensions [mm]



Ø d: 0.3 mm
l: 1500 mm ± 10 mm

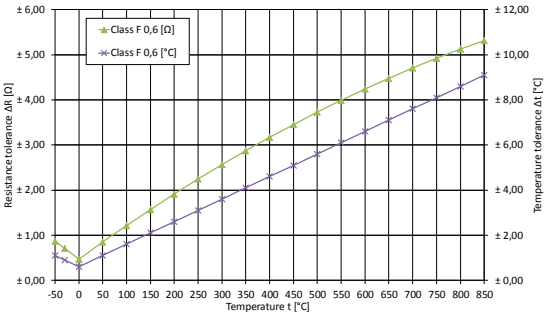




Functional performance

(Platinum temperature sensor element)

according to DIN EN 60751 (-50 °C up to 600 °C)



Picture 1: Resistance and temperature tolerances of HTS Pt200 HT850°C Ø2.6x8

Temperature range from -50 °C up to 0 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2 + C \cdot (t - 100\ °C) \cdot t^3)$

Temperature range from 0 °C up to +850 °C:

$R_t = R_o \cdot (1 + A \cdot t + B \cdot t^2)$

Tolerance class (-50 °C up to 600 °C):

Class F 0,6: $\Delta t = \pm 2 \cdot (0.3 + 0.005 \cdot |t|)$

whereby:

R_t … Resistance [Ω] at temperature t

R_o … Resistance [Ω] at 0 °C

t … Temperature [°C]

Δt …Permissible temperature deviation at t [°C]

A = 3.9083 · 10^{-3} °C^{-1}

B = - 5.775 · 10^{-7} °C^{-2}

C = - 4.183 · 10^{-12} °C^{-4}

Fields of application

- Automotive electronics
- Industrial electronics
- Building automation
- Energy and environmental engineering
- Safety and medical engineering

Ordering example

Please use the following code/article description:

HTS Pt200, HT850°C, class F 0,6, ceramics tube with bottom/sealed (ctbs) Ø2.6x8 mm, Leads NiSi Ø0,3 mm, variant l=1500 mm

(Other wire lengths are available on request.)

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