

Aluminum nitride heater

(AlN) (Light version)



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Components and Systems

Heating elements, thermal sensors and process control – hotset is your partner for the realization of intelligent product and service solutions in the field of industrial heat technology. Based on our international presence and our own production sites, we operate as a component supplier and development service provider for customers in all industries.

We supply you with components for your series production, we implement complex system solutions for you or we take over entire value chains: your requirements, your goals and your wishes always form the centre of our actions. You benefit from flexible production and logistics structures, an interdisciplinary engineering and over four decades of technology experience.

hotset – components. systems. projects.

An advanced value-added product

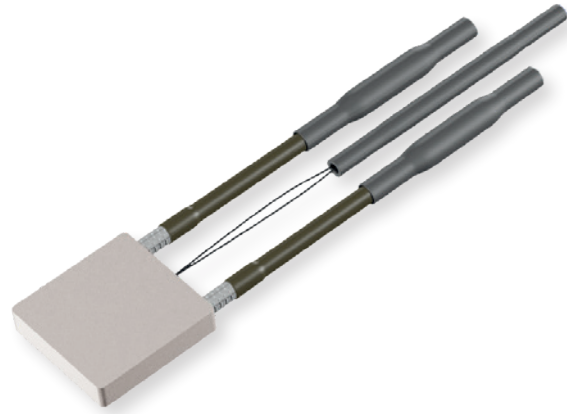
Watty Corporation with its headquarter in Tokyo develops, produces and supplies industrial heating elements, temperature controllers and special gas piping systems for many sectors such as semiconductor, medical care, aerospace, railway and many more.

Hi-Watty Light is a high-quality product which is able to heat up ultra-rapidly by using ceramic (AIN) to be able to fulfill a wide range of different customer requirements. This advanced value-added product contributes to add even more value to your own products/systems.

Watty and hotset are connected by a long-lasting partnership so that both companies are proud to offer the Hi-Watty Light through hotset.

Aluminum nitride heater (AlN) (Light version)

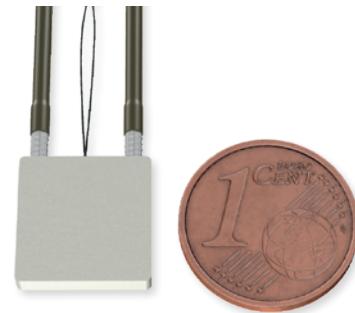
- For heating of
 - Gas
 - Liquid
 - Piping, container
- Fast heating and fast cooling are possible
- Thermal conductivity is close to that of metallic aluminum
- Small coefficient of thermal expansion
- Remarkable electrical insulation
- Excellent corrosion resistance
- High power density
- Low cost
- Short lead time



AlN heater – 12.0 x 2.5 mm

Technical Key Features

Max. operating temperature	400 °C / 752 °F
Heating material	Tungsten
Thermal conductivity	180 W / m · K or higher
Thermal expansion rate	4.8×10^{-6} / °C
Volume resistivity	2.6×10^{14} Ω · cm (25 °C / 77 °F)



Size comparison

Options

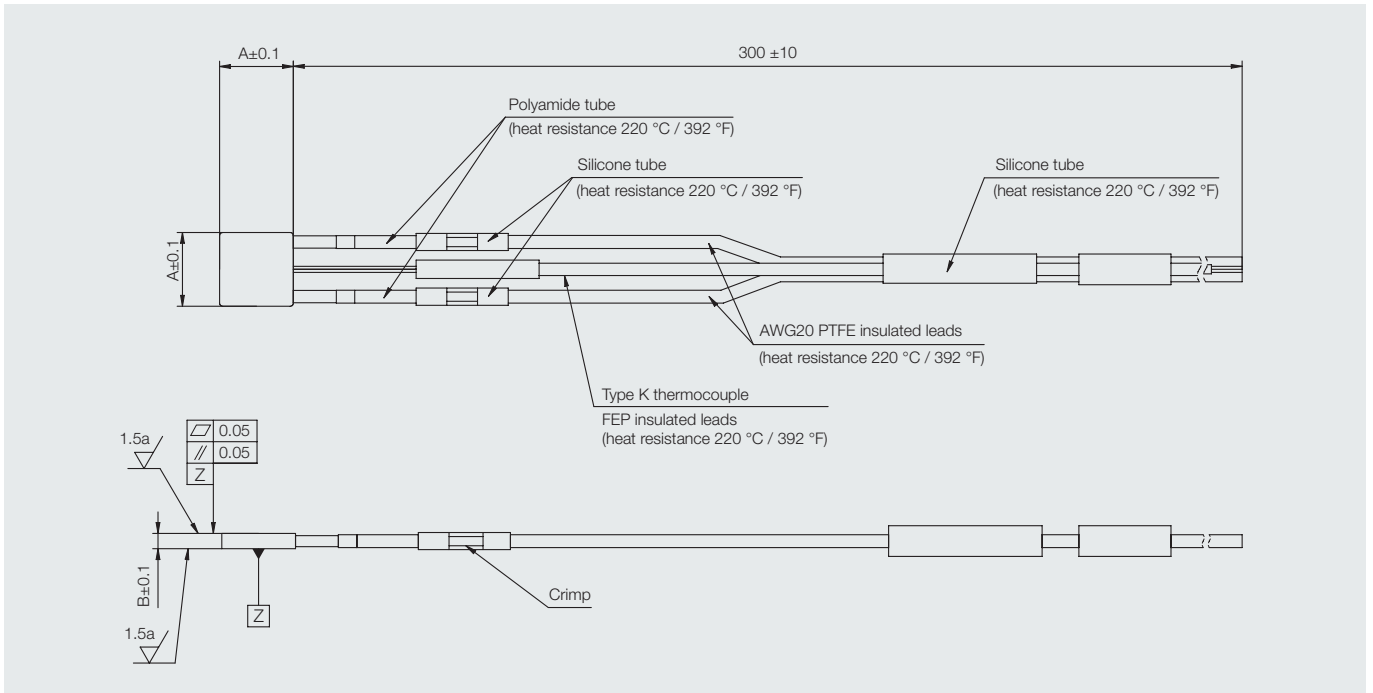
- Thermocouple, 300 mm, Type K

Connection Leads

- PTFE insulated, 300 mm, white

Fields of application

- Semiconductor manufacturing industry
- Automotive
- Medicals
- Packaging machines
- Railway industry



Performance range

Dimensions (A x B) [mm]	Voltage [V]	Wattage [W]	Power density [W/cm ²]	Resistance value* [Ω]
□ 12.0 x 2.5	100 or 200	45 or 100	31 or 69	222 or 400
□ 20.0 x 2.5	100 or 200	100 only	25	100 or 400
□ 25.0 x 2.5	100 – 200	150 – 600	24 – 96	67
□ 50.0 x 2.5	100 – 200	400 – 1600	16 – 64	25

* tested at environmental temperature

Precautions

- Be sure to adhere the heater onto the object to be heated.
- Be careful with warping or deformation under rapid temperature change.
- Be sure to use heaters within specification range, i.e. temperature range, voltage range.
- Do not damage surface of the heater or lead wires.
- Do not bend or pull damaged lead wires excessively.
- Do not use damaged heaters.
- Do not tighten the heaters too much during installation since it can cause damages to the heaters.
- If you find out that the heater is damaged, please terminate operation immediately.
- Do not put low thermal durability components near your heater in a long operation.
- For purpose of improvement, specification and appearance of the heater may be changed without prior notice.
- There may be a gap in appearance between actual heaters and the photos in brochures.



hotset

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