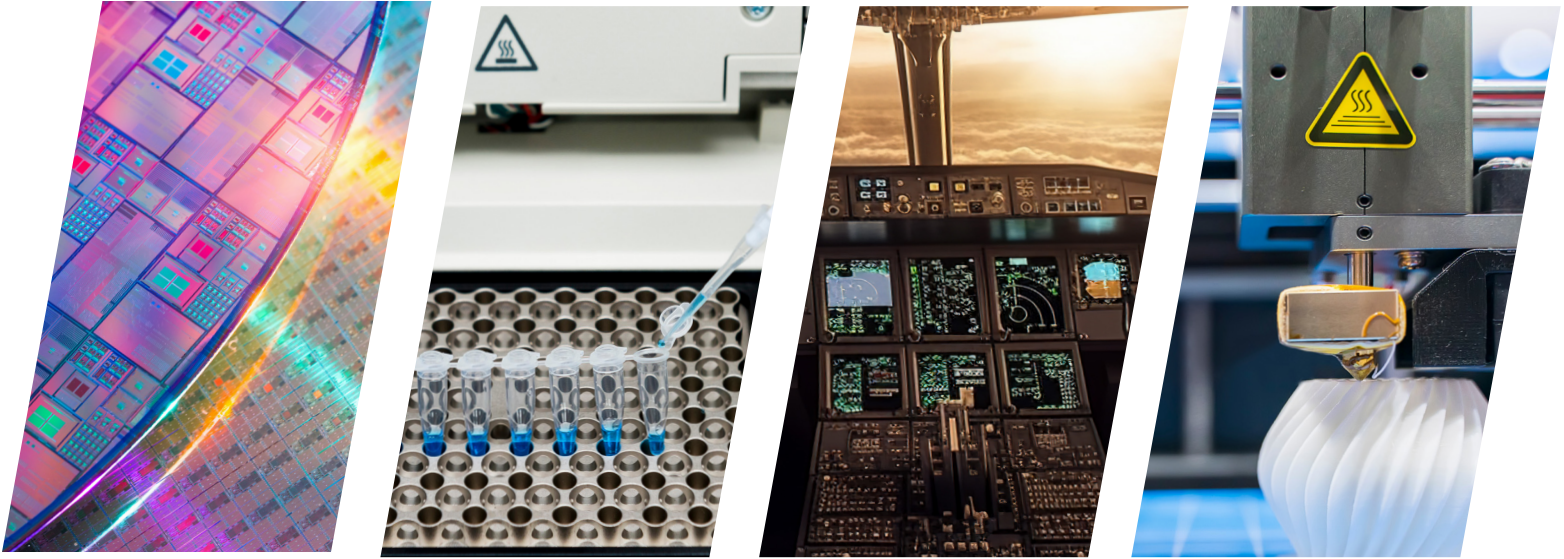


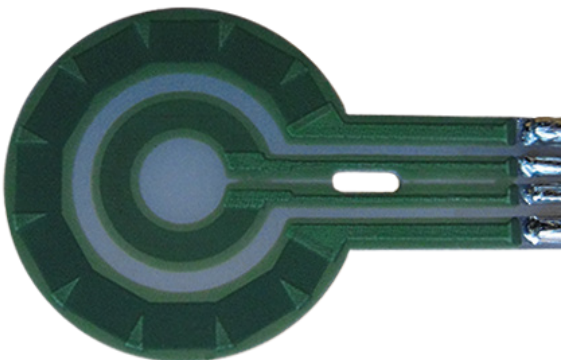
This fast-responding heater delivers uniform heat and high thermal conductivity.



About Aluminum Nitride (AlN)

Precision engineered to fit tight spaces and tolerances, Thick Film AlN heaters are found in the most critical medical, aerospace and commercial applications due to their fast ramp-up, low leakage current and excellent dielectric properties. AlN features excellent thermal conductivity with precise thermal distribution and temperature uniformity. A clean, non-contaminating heat source, AlN is durable, non-porous, and moisture and chemical resistant.

- For high temperature applications up to 1000°C.
- Power densities to 155 W/cm² (1000 W/in²).
- Superior thermal conductivity (220 W/mK).
- Excellent dielectric properties.
- Low coefficient of thermal expansion.
- Low mass: fast temperature ramp up and cool down.
- Low leakage current and no out-gassing with inorganic systems.



SPECIFICATIONS	
Maximum Temperature	1000 °C 1832 °F
Max Watt Density	155 W/cm ² 1000 W/in ²
Thermal Conductivity	220 W/mK
Ramp Up Rate	300 °C/second 572 °F/second
Coefficient of Thermal Expansion	4.6 x 10 ⁻⁶ /°C
Heat Capacity	0.72 J/g-K
Dielectric Strength	Greater than 5000 VAC
Dielectric Constant	9
UL Double Insulation	Yes at 1.0 mm or more
Density	3.26g/cm ³ 203.52 lb./ft ³
Substrate Thickness Range	1.27 mm x 5.08 mm .05 in. to 0.20 in.
Max Size	127 mm x 279 mm 5 in. x 11 in.



Case Study

Vaporized Medicine

ALN helped a medical OEM meet stringent neonatal and critical-care standards. Excellent thermal conductivity, high purity, and compact size brought this vaporizer to market.



Case Study

Aircraft Pitot Tube

The high configurability of ALN delivered precisely controlled, even heat to pitot tubes for icing prevention, increasing safety and accurately measuring air speed.



Additive Manufacturing

Fast ramp-up speeds and tight temperature controls for each heating application in 3D Printers.



Other Industries

Thick Film printed circuits and heating elements are found in hand-held devices, machinery and equipment applications in foodservice, security, and industrial applications.



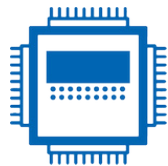
Medical and Life Sciences

Emission-free heaters with tight tolerances and the highest performance standards are ideal for medical applications.



Aerospace & Defense

Aerospace manufacturers rely on Heatron's thick film heaters for pitot tubes and other aerospace applications.



Semiconductor

Operating temperatures up to 1000°C and minimal out-gassing are ideal for wafer and gas line applications.



3000 Wilson Avenue Leavenworth, KS 66048
www.heatron.com | +1 913 651 4420 | sales1@heatron.com

