

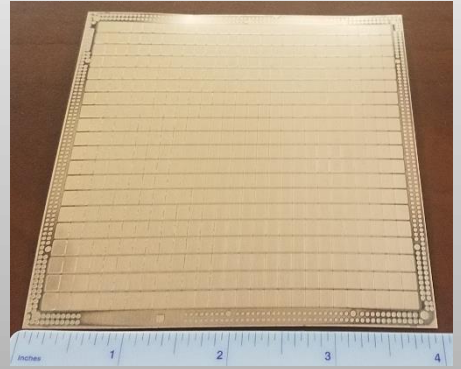


Nitride Solutions Inc.

Enabling Materials for Advanced Electronics

IMS- 50

Insulating Metal Substrate
Aluminum Nitride on Metal

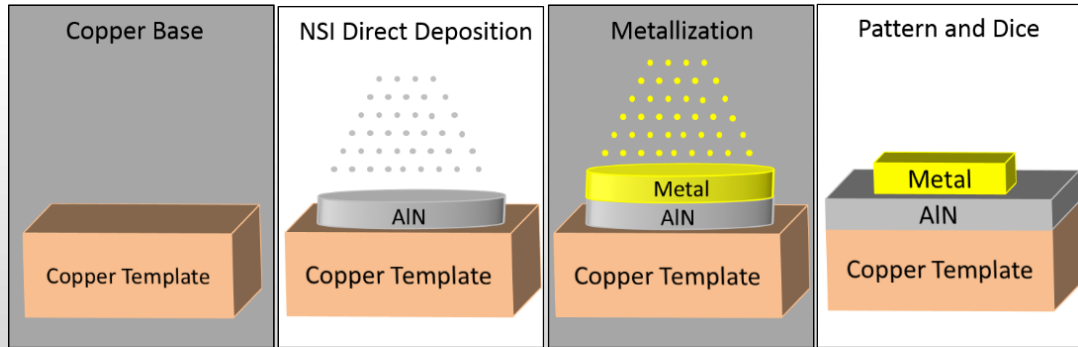


The IMS-50 is a new generation of Insulating Metal Substrates created by Nitride Solutions Inc. (NSI) proprietary direct deposition process. The resulting AlN possesses an outstanding mechanical and thermal bond as well as world leading thermal conductivity, and is ideal for next generation heat sink and thermoelectric systems.

Property	Specification
Carrier	Cu, Al, AlSi, W, Nb
Max substrate dimensions	200mm
Minimum substrate thickness	0.3 mm
AlN thickness range	1.0-100 μm
Breakdown voltage/micron of coating	250V/ μm
Heterogeneous thermal conductivity	>250 W/m·K
Resistance to thermal cycling	0-500°C demonstrated
Compatible plating processes	Electroless or Electroplating
Available plating metals	Cu, Au, Ag, Pt

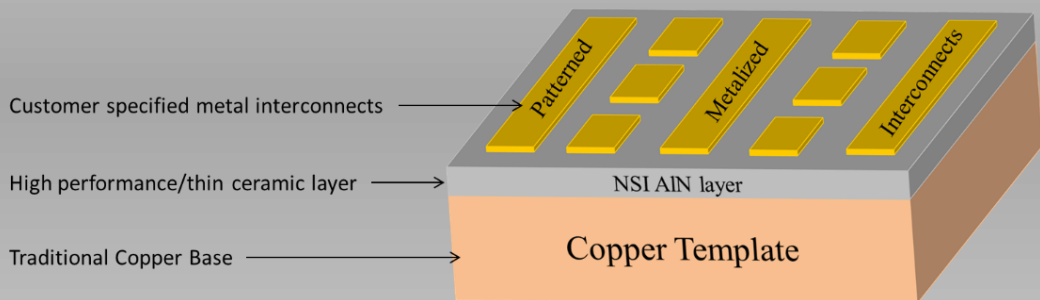
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The NSI Direct Deposition Process



Next-generation Direct Plated Copper (DPC)

- Customer-specified metallization, patterning
- Industry leading thermal resistance
- World-class thermal and mechanical durability



Material	AIN Thermal Conductivity (W/mK)	Thickness (um)	Thermal Resistance (°C/W)*
Market DPC	180-200	500	~ 0.11
NSI IMS	250	10	~0.003

* for 1mm² area