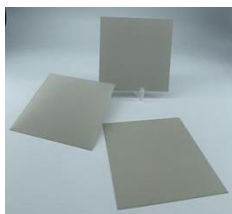


Technical Data Sheet

Aluminum Nitride Substrates

Product ID:	130700SB001 - 130700SB012		
Formular:	AlN	Molecular weight:	40.99 g/mol
CAS No.:	24304-00-5	EINECS No.:	246-140-8
Color:	Beige gray		
Description:	Our AlN substrates are manufactured using tape casting and dry pressing methods, offering flexibility in design and performance.		
Application:	Thermal management substrates, LED packaging substrates, Semiconductor substrates, Thin film circuit substrates, Power resistor substrates.		

**Product
Image:**



1. Specifications

Item	Specifications	Tolerances
Substrate size	114.3*114.3, 120*120, 130*130, 138*190.5, 150*200, 150*150, 203*203, 300*300, Ø100, Ø150, Ø200, Ø300, Various small-sized cutting discs	± 0.1mm
Substrate thickness	0.17, 0.2, 0.25, 0.381, 0.635, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0	± 10% NLT: ±0.04 mm

2. Features

- ❖ About 7 times higher thermal conductivity compared to alumina.
- ❖ Thermal expansion coefficient close to silicon, ensuring high reliability for large silicon chip mounting and thermal cycling.
- ❖ Excellent electrical insulation with a low dielectric constant.
- ❖ Superior mechanical strength compared to alumina.
- ❖ Good corrosion resistance to molten metals.
- ❖ Extremely low impurity content, non-toxic, and high purity.

3. Performance

Item	Standard	Inspection tools
Density	$\geq 3.30 \text{ g/cm}^3$	Density tester
Thermal conductivity	$> 170 \text{ W/(m.k)}$	Thermal conductivity analyzer
Flexural Strength	$\geq 400 \text{ Mpa}$	Microcomputer-controlled universal testing machine
Vickers hardness	$\geq 1100 \text{ HV}$	Vickers hardness tester
warpage	$\leq 2\text{‰ mm}$	Warpage inspection fixture
Surface roughness	$\leq 0.8 \text{ }\mu\text{m}$	Roughness measuring instrument (accuracy 0.001mm)
Coefficient of thermal expansion	$4.1 \sim 5.1 \times 10^{-6} / ^\circ\text{C}$ (400 $^\circ\text{C}$)	Thermal expansion tester
Breakdown strength	$\geq 15 \text{ Kv/mm}$	Power supply breakdown tester
Dielectric constant	5~7(1mm thickness) ϵ_r	Dielectric constant and dielectric loss tester
Volume resistivity	$\geq 1 \times 10^{14} \text{ }\Omega \cdot \text{cm}$	Insulation resistance tester

4. Packaging

Packaging with anti-static PP foam boxes.
Outer layer typically wrapped in foam-lined cardboard boxes.
Customized packaging is available

5. Period of Validity

It is recommended to use this product within 12 months. If it is overdue, the product quality status should be re-evaluated.

6. Handling and Storage

When using, wear a dust mask, operate in a clean, dry environment to avoid scratches and contamination.

Store in a dry, well-ventilated area, preferably in protective packaging to prevent moisture and physical damage.

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