

Material Datasheet

Aluminum Nitride (AlN) – CeramAlum™

PCAN1000S Substrate



Material webpage



Overview

PCAN1000S 170 W/mK is our standard high thermal conductivity substrate material. This material can be conveniently laser cut to shape.

Primary Advantages

- 6x Alumina Thermal Conductivity
- Excellent Electrical Insulation
- Good Plasma Resistance
- Excellent Thermal Shock
- Good Mechanical Properties

Applications

- Heat Sinks
- Heat Spreaders
- Power Electronics
- Aerospace Components

	Properties	Units	PCAN1000S
Mechanical	Compressive Strength	MPa	3000
	Density	g/cm ³	3.30
	Flexural Strength @25°C	MPa	400
	Fracture Toughness K _{IC}	MPa.m ^{1/2}	3
	Hardness	GPa	11
	Modulus of Elasticity	GPa	320
	Poisson's Ratio	-	0.22
Thermal	Thermal Conductivity	W/mK	170
	CTE @ 25°C - 400°C	10 ⁻⁶ /K	4.6
	Maximum Temperature (Air)	°C	1200
	Maximum Temperature (Inert)	°C	1200
Electrical	Dielectric Constant @ 1MHz	-	8.5
	Dielectric Strength @ 25°C	kV/mm	14
	Volume Resistivity @ 25°C	ohm-cm	>10 ¹⁴

Disclaimer: The values presented are mean and typical of those resulted from test samples. They are provided as an indication only to serve as guidance in the design of ceramic components and are not guaranteed in any way. The actual values can vary according to the shape and size of the envisioned component.



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