FLH

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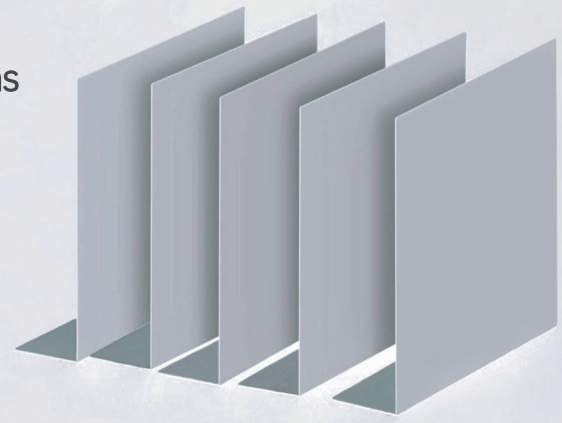
Silicon nitride ceramic sheet

Provide reliable core solutions for high-performance electronic heat dissipation



30+
Specially focus on copper bonded ceramic substrate process R&D about 30 years

300+
More than 300 patents

20+
The sales network covers more than 20 countries

360°
"360° One-stop" group service

HIGH thermal conductivity
HIGH insulation

Thermal Conductivity
110W

Product introduction

Ferrotec silicon nitride ceramic sheet adopts advanced preparation technology, which not only retains the high hardness, high wear resistance, high thermal stability and good chemical inertness of silicon nitride, but also optimizes the microstructure and performance, with higher strength, toughness and thermal conductivity.

Application fields

Power modules, Automotive electronics, LED lighting, 5G communication, etc.

Features

1. Excellent high thermal conductivity: the thermal conductivity can reach above **110W/(m·K)**
2. Excellent mechanical strength: the bending strength can reach above **700MPa**
3. High electrical insulation
4. Low thermal expansion coefficient
5. High fracture toughness

Characteristic Values

Item		Unit	Typical value
Material		-	Si_3N_4
Color		-	grey
Density		g/cm^3	3.20
Surface roughness Ra		μm	0.6
Mechanical	Bending strength	MPa	650
	Modulus of elasticity	GPa	310
	Vickers hardness	GPa	14.0
	Fracture toughness	$MPa \cdot m^{1/2}$	>7
Thermal	Coefficient of Thermal Expansion (20℃-400℃)	$10^{-6}/K$	2.6
	Thermal conductivity (25℃)	W/(m·K)	110
	Specific heat	J/(kg·K)	680
Electrical	Dielectric constant (1MHz)	-	7.8
	Dielectric loss factor (1MHz)	10^{-3}	1.0
	Volume resistivity	Ω·cm	$\geqslant 10^{14}$
	Breakdown strength (AC)	kV/mm	>20

NOTE: The above data are typical values only and do not represent the specification values.

General Dimension

Item	Unit	Specification
Standard Size	mm	190*138
	Tolerance	±1.0%
Thickness	mm	0.25 0.32
	Tolerance	±0.02/±0.03
Warpage	mm	1.52