Technical Datasheet for Silicon Nitride Substrate

General	Properties	Unit	Value
			Silicon Nitride (Si3N4)
Pysical Properties	Density	g/cm^3	3.25
	Hardness	HV	1560~1700
	Bending strength (3-point)	Mpa	⩾800
	Fracture toughness	$Mpam^{1/2}$	6.7~8
Thermal Properties	Max. service temperature (In the air)	℃	1300
	Max. service temperature (Under reduced atmosphere)	℃	1700
	Thermal conductivity	W/m.k	84
	Coefficient of thermal expansion	1×10^{-6} /℃	3.2
Electrical Properties	Volume resistivity (25℃)	ohm.cm	1018
	Dielectric constant（20 °C)	(E)	4 ± 10%
Specification	Thickness	mm	0.32±0.05
	Length & width	mm	140 ±0.50 & 138 ±0.50
	Perpendicular angle	°	90±0.5
	Waiviness	μm	⩽0.25
	Surface roughness	μm	⩽ Ra0.50