

## 氮化硅性能表

Shocktech Si<sub>3</sub>N<sub>4</sub> Data Sheet

特性项目(Item)		单位 (unit)	SKT-ND70	SKT-NC100	SKT-EC90	
颜色(Color)		-	灰黑(Black)	灰黑(Black)	灰白(Gray)	
密度(Bulk Density)		g/cm <sup>3</sup>	≥3.24	≥3.24	≥3.22	
机械性能 (Mechanical Characteristics)	维氏硬度 Vickers Hardness (Load 10kg)	MPa	≥1480	≥1520	≥1450	
	抗弯强度 (Flexural Strength)	MPa	≥750	≥950	≥680	
	断裂韧性 (Fracture Toughness)	MPa·m <sup>1/2</sup>	≥6.2	≥6.5	≥6.5	
	杨氏模量 (Young's Modulus of Elasticity)	GPa	290	300	300	
	泊松比 (Poisson's Ratio)	-	0.28	0.28	0.28	
电学性能 (Electrical Characteristics)	介电常数 (Dielectric constant) (1MHz)	-	9.6	9.6	9.6	
	介电损耗 (Loss Tangent)	(×10 <sup>-4</sup> )	19	19	19	
	击穿强度 (Dielectric Strength)	KV/mm	≥15	≥15	≥15	
	体积电阻率 (Volume Resistivity)	Ω·cm	≥10 <sup>14</sup>	≥10 <sup>14</sup>	≥10 <sup>14</sup>	
热学性能 (Thermal Characteristics)	热导率 (Thermal Conductivity)	W/(m·K)	25	25	90	
	热膨胀系数 (coefficient of Linear Thermal Expansion)	×10 <sup>-6</sup> /°C	3.3	3.3	3.3	
	抗热冲击能力 (Thermal Shocking Resistance)	°C	800	800	800	
	比热 (Specific Heat)	J/(Kg·K) ×10 <sup>3</sup>	0.66	0.66	0.66	
化学特性 (Chemical Characteristics)	硝酸 Nitric Acid(60%)	90°C	WT Loss (mg/cm <sup>2</sup> / day)	<1.0	<1.0	<1.0
	硫酸 Sulphuric Acid(95%)	95°C		<0.40	<0.40	<0.40
	氢氧化钠 Caustic Soda(30%)	80°C		<0.36	<0.36	<0.36