

SPECIFICATIONS

- ▶ Chemical formula: Al_2O_3
- ▶ Chemical name: Aluminium oxide
- ▶ Appearance: Dense sintered aluminum oxide
- ▶ Main characteristics: High mechanical strength, high temperature resistance, high frequency insulation, high chemical resistance, good surface smoothness
- ▶ Main applications: Hybrid IC substrates
- ▶ Colour: White

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density		[g/cm ³]	JIS R 1634	3.7
Water absorption		[%]	JIS C 2141	0
Vickers hardness HV9.807N		[GPa]	JIS R 1610	13.7
Flexural strength 3 P.B.		[MPa]	JIS R 1601	350
Compressive strength		[MPa]	JIS R 1608	-
Young's modulus of elasticity		[GPa]	JIS R 1602	320
Poisson's ratio		[-]	JIS R 1602	0.23
Fracture toughness (SEPB)		[MPa*m ^{0.5}]	JIS R 1607	-
Coefficient of linear thermal expansion	40 - 400 °C	[*10 ⁻⁶ /K]	JIS R 1618	7.2
	40 - 800 °C			7.9
Thermal conductivity		[W/(m*K)]	JIS R 1611	24
Specific heat capacity		[J/(g*K)]	JIS R 1611	0.78
Thermal shock temperature difference		[°C]	JIS R 1648	200
Dielectric strength		[kV/mm]	JIS C 2141	15
Volume resistivity	20 °C	[Ω*cm]	JIS C 2141	>10 ¹⁴
	300 °C			10 ¹⁰
	500 °C			10 ⁸
Dielectric constant		-	JIS C 2141	9.4
Dielectric loss angle		[*10 ⁻⁴]	JIS C 2141	4
Loss factor		[*10 ⁻⁴]	JIS C 2141	38

The values are typical material properties and may vary according to products configuration and manufacturing process. For more details, please feel free to contact us.