

### 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, light intercepting, high heat dissipation
- ▶ Main applications: IC packages
- ▶ Colour: Dark brown

### MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density		[g/cm <sup>3</sup> ]	JIS R 1634	3.8
Water absorption		[%]	JIS C 2141	0
Vickers hardness HV9.807N		[GPa]	JIS R 1610	12.7
Flexural strength 3 P.B.		[MPa]	JIS R 1601	320
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 <sup>0.5</sup> ]	JIS R 1607	-
Coefficient of linear thermal expansion	40 - 400 °C	[*10 <sup>-6</sup> /K]	JIS R 1618	7.3
	40 - 800 °C			8.1
Thermal conductivity		[W/(m*K)]	JIS R 1611	12
Specific heat capacity		[J/(g*K)]	JIS R 1611	0.75
Thermal shock temperature difference		[°C]	JIS R 1648	-
Dielectric strength		[kV/mm]	JIS C 2141	12
Volume resistivity	20 °C	[Ω*cm]	JIS C 2141	10 <sup>11</sup>
	300 °C			10 <sup>7</sup>
	500 °C			10 <sup>5</sup>
Dielectric constant		-	JIS C 2141	9.8
Dielectric loss angle		[*10 <sup>-4</sup> ]	JIS C 2141	20
Loss factor		[*10 <sup>-4</sup> ]	JIS C 2141	190

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.