



## BEST TECHNOLOGY CO., LIMITED

Tel: +86-755-2909 1601/1602/1603    Fax: +86-755-8949 2899

Email: sales@bestpcbs.com

Http://www.bestpcbs.com

9E, Jingdacheng Building, Center Rd., Shajing Town, Bao'an District, Shenzhen, 518104, China

### Ceramic PCB Substrate (96% & 99% Al<sub>2</sub>O<sub>3</sub>) Parameters

Item	Testing Condition	Unit	99% Al <sub>2</sub> O <sub>3</sub>	96% Al <sub>2</sub> O <sub>3</sub>	Testing Method/Condition
Alumina content		%	99	96	MH-600C Precision Ceramic Electronic
Density		g/cm <sup>3</sup>	≥3.85	≥3.65	GB2413-81
Average grain size		um	3-5	3-5	Q/GTT002
Surface Roughness (Ra)		um	≤0.75	≤0.75	Q/GTT002
Colour			White	White	Q/GTT002
Rockwell Hardness		HRA	90	85	HV-1000 Ceramic Hardness Tester
Flexural strength	Bening Distance	MPa	≥350	≥300	Q/GTT002
Max Operation Temp		℃	1700	1500	1800 ℃ Testing Oven
AirTightness			PASS	PASS	DSY Permeability tester
Water absorption		%	0	0	GB/T3299-1996
Thermal expansivity		10 <sup>-6</sup> /k	5.3	5.3	RT-400 C/PCY High Temp Expansivity Tester
Coefficient of linear thermal expansion	200-500℃	10 <sup>-6</sup> mm/℃	7.0-8.0	6.5-7.5	GB5594.3
	200-800℃		7.5-8.5	6.5-8.0	
Dielectric constant	1MHz, 20℃		9.2+/-10%	9.0+/-10%	Q/GTT002
	1GHz, 20℃		10.0+/-10%	9.8+/-10%	
Dielectric strength		KV/mm	≥12	≥12	Q/GTT002
Dielectric loss	1MHz		3*10 <sup>-4</sup>	3*10 <sup>-4</sup>	Q/GTT002
Thermal conductivity	1MHz, 20℃	W/m.k	≥26	≥20	Q/GTT002
Volume Resistivity	20℃	Ω.cm	≧10 <sup>14</sup>	≧10 <sup>14</sup>	Q/GTT002
	300℃		≧10 <sup>11</sup>	≧10 <sup>11</sup>	
	500℃		≧10 <sup>9</sup>	≧10 <sup>9</sup>	
Thermal shock	850℃	Times	≥7	≥5	Q/GTT002
Bow & twist rate		um	≤120	≤120	Q/GTT002
pinhole	height of pinhole	mm	≤0.018	≤0.018	Q/GTT002
RoHS			Yes	Yes	Q/GTT002