

BGA Series				
	Item	Material	Property/Condition	Metric Value
1	Substrate	BT Bismaleimide Triazine	Glass Transition Temperature	
			Tg - DSC	205°C
			Tg - TMA	175°C
			X/Y CTE [-40°C ~ 125°C]	10~14 ppm/°C
			Z Axis Expansion [50°C ~ 260°C]	3.6%
			Z Axis CTE [60°C ~ 120°C]	32 ppm/°C
			Z Axis CTE [240°C ~ 260°C]	170 ppm/°C
			Young's Modulus (X / Y)	23.1 / 22.4 GN/M²
			Poisson Ratio (X / Y)	0.21 / 0.21
			Moisture Absorption	< 0.05 Wt. %
2	Die	Silicon	CTE [25°C]	2.6 ppm/°C
			Young's Modulus	110 GPa
			Poisson Ratio	0.24
3	Die Attach Adhesive	Non-Conductive	Glass Transition Temperature	
			Tg - TMA	85°C
			CTE [Below Tg]	40 ppm/°C
			CTE [Above Tg]	100 ppm/°C
			Lap Shear Strength	18 N/mm²
			Appearance	Blue
4	Solder Ball RoHS	SAC305 Sn96.5/Ag3.0/Cu0.5 Pb-Free	Temperature Solidus	217°C
			Liquidus	220°C
			CTE	23.5 ppm/°C
			Young's Modulus	51 GPa
			Tensile Strength	50 MPa
			Density	7.4 gm/cm³
			Tensile Strength	23 MPa
Density	10.5 gm/cm³			
5	Encapsulation	EMC Molding Compound	Glass Transition Temperature Tg	143°C
			CTE	
			Below Tg	8 ppm/°C
			Above Tg	34 ppm/°C
			Specific Gravity	2.0
			Flexural Strength	17.3 kg/mm² 170 MN/m²
			Flexural Modulus	2650 kg/mm² 26 GN/m²

Source: www.TopLine.tv/BGA.html