



JOVY SYSTEMS LIMITED

Technology Versus Future

JOVY SYSTEMS® BGA sphere balls
diameter details

Alloy	Diameter (mm)	Tolerances +/- mm	CPK	Spheres / Bottle
63Sn – 37Pb Series Eutectic composition (183°C)	0.760	0.020	≥ 1.33	250,000
	0.650			
	0.600			
	0.550	0.015		
	0.500			
	0.450			
	0.400	0.010		
	0.350			
	0.300			
0.250				
96.5Sn –3.5Ag Series (221°C)	0.650	0.020	≥ 1.33	250,000
	0.600			
	0.500	0.015		
	0.450			
	0.400			
	0.300	0.010		
	0.250			



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Physical Properties of BGA sphere Balls

	96.5Sn – 3.5Ag	63Sn – 36Pb
Thermal Properties:		
Solidus (°C)	221	183
Liquids (°C)	221	183
Thermal Conductivity (W/cm °C)	0.33	0.50
Thermal Expansion Coefficient (PPM/°C)	30	25
Mechanical Properties:		
Specific Gravity (g/cm ³)	7.36	8.40
Tensile strength (psi)	5620-8900	7500-7700
Elongation (%)	45-73	28-53
Shear strength (psi)	4600-6200	5400
Brinell Hardness	40	17
Electrical Properties:		
Electrical Conductivity (%IACS)	14.0-16.0	11.5
Electrical Resistivity(μΩ-cm)	12.31	14.99