Device Material Content

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Package: **680 fpBGA** **with SnAgCu Solder Balls**

Total Device Weight **5.16** **Grams**

January, 2006	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	4.28%	0.221			Silicon	7440-21-3	Die size: 17.25 x 17.72 mm
Mold	39.30%	2.028					Mold Compound composition:
			35.37%	1.825	Silica (Fused or Amorphous)	60676-86-0	84 to 92% Silica filler (LSC uses 90% in our calculation)
			1.96%	0.101	Epoxy resin	129915-35-1	5 to 9% Epoxy resin (LSC uses 5% in our calculation)
			1.96%	0.101	Phenol resin	26834-02-6	4 to 8% Phenolic resin (LSC uses 5% in our calculation)
							Mold Compound Density between 1.8 and 2.1 grams/cc
D/A Epoxy	0.60%	0.031					Die attach epoxy Density: 4 grams/cc
			0.48%	0.025	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.12%	0.006	Organic esters and resins	-	0 to 30% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	0.39%	0.020			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball
Solder Balls	13.10%	0.676					Qualified Solder ball compositions:
			12.64%	0.652	Tin (Sn)	7440-31-5	Sn95.5/Ag4/Cu0.5
			0.39%	0.020	Silver (Ag)	7440-22-4	Sn96.5/Ag3/Cu0.5
			0.07%	0.003	Copper (Cu)	7440-50-8	LSC uses: Sn96/Ag3.5/Cu0.5 for calculations
Substrate	19.85%	1.024				129915-35-1	BT Resin
Foil	22.49%	1.160			Copper (Cu)	7440-50-8	

Notes:

The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.

The information provided above is representative of the package as of the date listed, and is subject to change at any time.

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