Device Material Content

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Package: **324 ftBGA** **with SnAgCu Solder Balls**
Total Device Weight **1.14** **Grams**

Copper Wire Version
MSL: 3
Peak Reflow Temp: 260°C

December, 2012	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	0.87%	0.0099			Silicon chip	7440-21-3	Die size: 4.08 x 3.85 mm
Mold	46.36%	0.5285					Mold Compound: Sumitomo EME-G750
			39.40%	0.4492	Silica	60676-86-0	75 to 95% Fused silica filler (LSC uses 85% in our calculation)
			2.78%	0.0317	Epoxy Resin	-	2 to 8% Epoxy resin (LSC uses 6% in our calculation)
			3.24%	0.0370	Phenol Resin	-	2 to 10% Phenal resin (LSC uses 7% in our calculation)
			0.70%	0.0079	Metal Hydroxide	-	0.5 to 2.5% Metal hydroxide (LSC uses 1.5% in our calculation)
			0.23%	0.0026	Carbon Black	1333-86-4	0.1 to 0.5% Carbon Black (LSC uses 0.5% in our calculation)
D/A Epoxy	0.14%	0.0016					Die attach: Ablebond 2100A
			0.11%	0.0013	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.03%	0.0003	Organic esters and resins	-	0 to 40% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	0.39%	0.0044					Pd coated Copper, 0.8 mil diameter
			0.38%	0.00433	Copper	7440-50-8	98.5%
			0.01%	0.00007	Palladium	7440-05-3	1.5%
Solder Balls	29.04%	0.3311					
			28.06%	0.3198	Tin (Sn)	7440-31-5	Solder ball composition Sn96.5%/Ag3.0%/Cu0.5%
			0.87%	0.0099	Silver (Ag)	7440-22-4	
			0.15%	0.0017	Copper (Cu)	7440-50-8	
Substrate	17.78%	0.2027					
			12.09%	0.1379	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			5.69%	0.0649	BT Resins	-	
Foil	5.42%	0.0618			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.
Constituent substances and proportions in epoxy materials are before curing.
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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