Device Material Content

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Package: **100 csBGA** **with SnAgCu Solder Balls**
Total Device Weight **0.147** **Grams**

Cu 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	5.85%	0.0086			Silicon chip	7440-21-3	Die size: 4.71 x 2.90 mm
Mold	66.11%	0.0972					Mold Compound composition:
			56.19%	0.08260	Silica	60676-86-0	75 to 95% Fused silica filler (LSC uses 83% in our calculation)
			3.97%	0.00583	Epoxy Resin	-	2 to 10% Epoxy resin (LSC uses 7.5% in our calculation)
			3.97%	0.00583	Phenol Resin	-	2 to 10% Phenol resin (LSC uses 7.5% in our calculation)
			0.99%	0.00146	Metal Hydroxide	-	0.5 to 2.5% Metal hydroxide (LSC uses 1.5% in our calculation)
			0.13%	0.00019	Carbon Black	1333-86-4	0.1 to 0.5% Carbon Black (LSC uses 0.5% in our calculation)
			0.86%	0.00126	Other (trade secret)	-	
							Mold Compound Density ranges between 1.8 and 2.1 grams/cc
D/A Epoxy	0.94%	0.0014					Die attach epoxy Density: 4.0 grams/cc
			0.76%	0.00111	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.19%	0.00028	Organic esters and resins	-	0 to 40% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	0.92%	0.0014					Pd coated Copper, 0.8 mil diameter
			0.91%	0.00134	Copper	7440-50-8	98.5% Cu
			0.01%	0.00002	Palladium	7440-05-3	1.5% Pd
Solder Balls	7.16%	0.0105					
			6.91%	0.01016	Tin (Sn)	7440-31-5	Solder ball composition Sn96.5/Ag3/Cu0.5
			0.21%	0.00032	Silver (Ag)	7440-22-4	
			0.04%	0.00005	Copper (Cu)	7440-50-8	
Substrate	11.56%	0.0170					
			7.86%	0.01156	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			3.70%	0.0054	BT Resins	-	
Foil	7.46%	0.0110			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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Pb lead-free

RoHS 2002/95/EC

Rev. K