Device Material Content

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Package: **132 ucBGA** **with SnAgCu Solder Balls**
Total Device Weight **0.067** **Grams**

MSL: 3
Peak Reflow Temp: 260°C

November, 2009	**% of Total Pkg. Wt.**	**Weight (g)**	**% of Total Pkg. Wt.**	**Weight (g)**	**Substance**	**CAS #**	**Notes / Assumptions:**
Die	7.96%	0.0053			Silicon chip	7440-21-3	Die size: 3.07 x 2.76 mm
Mold	45.93%	0.0308					Mold Compound composition:
			39.96%	0.0268	Silica	60676-86-0	75 to 95% Fused silica filler (LSC uses 87% in our calculation)
			2.30%	0.0015	Epoxy Resin	-	2 to 10% Epoxy resin (LSC uses 5% in our calculation)
			2.30%	0.0015	Phenol Resin	-	2 to 10% Phenol resin (LSC uses 5% in our calculation)
			1.26%	0.0008	Metal Hydroxide	-	0.5 to 5% Metal hydroxide (LSC uses 2.75% in our calculation)
			0.11%	0.00008	Carbon Black	1333-86-4	0.1 to 0.5% Carbon Black (LSC uses 0.25% in our calculation)
							Mold Compound Density ranges between 1.9 and 2.1 grams/cc
D/A Epoxy	1.28%	0.0009			Silver filled epoxy		Die attach epoxy Density: 4 grams/cc
			1.03%	0.0007	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.26%	0.0002	Organic esters & resins	-	0 to 40% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	2.47%	0.0017			Gold (Au)	7440-57-5	0.80 mil diameter; 1 wire per solder ball
Solder Balls	11.95%	0.0080					
			11.53%	0.0077	Tin (Sn)	7440-31-5	Solder ball composition Sn96.5/Ag3/Cu0.5 (SAC305)
			0.36%	0.00024	Silver (Ag)	7440-22-4	
			0.06%	0.00004	Copper (Cu)	7440-50-8	
Substrate	18.91%	0.0127					
			12.86%	0.0086	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			6.05%	0.0041	BT Resin	-	
Foil	11.50%	0.0077			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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