Device Material Content

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Package: **100 caBGA** **with SnPb Solder Balls**

Total Device Weight **0.275** **Grams**

MSL: 3
Peak Reflow Temp: 240°C

November, 2009	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	3.37%	0.0093			Silicon chip	7440-21-3	Die size: 3.53 x 4.17 mm
Mold	51.19%	0.1408					Mold Compound composition:
			37.88%	0.1042	Silica	60676-86-0	67 to 85% Fused silica filler (LSC uses 74% in our calculation)
			10.24%	0.0282	Epoxy/Phenol Resins	-	15 to 28% Epoxy/Phenol resins (LSC uses 20% in our calculation)
			0.26%	0.0007	Antimony Trioxide	1309-64-4	0.1 to 1% Antimony Trioxide (LSC uses 0.5% in our calculation)
			0.51%	0.0014	Antimony Pentoxide	1314-60-9	1% Antimony Pentoxide (LSC uses 1% in our calculation)
			0.51%	0.0014	Brominated Epoxy Resin	-	<2% Brominated Epoxy Resin (LSC uses 1% in our calculation)
			1.54%	0.0042	Siloxanes	-	1 to 5% Siloxanes (LSC uses 3% in our calculation)
			0.26%	0.0007	Carbon Black	1333-86-4	0.1 to 1% Carbon Black (LSC uses 0.5% in our calculation)
							Mold Compound Density ranges between 1.8 and 2.1 grams/cc
D/A Epoxy	0.54%	0.0015			Silver filled epoxy		Die attach epoxy Density: 4 grams/cc
			0.44%	0.001	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.11%	0.0003	Organic esters and resins	-	0 to 40% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	1.07%	0.0029			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per solder ball; wire length 3 mm
Solder Balls	16.31%	0.0449					
			10.28%	0.0283	Tin (Sn)	7440-31-5	Solder ball composition Sn63/Pb37
			6.04%	0.0166	Lead (Pb)	7439-92-1	
Substrate	21.29%	0.0586					
			14.48%	0.0398	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			6.81%	0.0187	BT Resins	-	
Foil	6.23%	0.0171			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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Rev. A3