



## Device Material Content

5555 NE Moore Ct.  
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**Package: 100 fpBGA with SnPb Solder Balls**  
**Total Device Weight 0.31 Grams**

November, 2009	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
<b>Die</b>	2.77%	0.0086			Silicon chip	7440-21-3	Die size: 4.71 x 2.90 mm
<b>Mold</b>	50.42%	0.1563	42.85%	0.1329	Fused silica	60676-86-0	Mold Compound composition: 75 to 95% Fused silica filler (LSC uses 83% in our calculation) 2 to 10% Epoxy resin (LSC uses 7.5% in our calculation) 2 to 10% Phenol resin (LSC uses 7.5% in our calculation) 0.5 to 2.5% Metal hydroxide (LSC uses 1.5% in our calculation) 0.1 to 0.5% Carbon Black (LSC uses 0.5% in our calculation) Mold Compound Density ranges between 1.8 and 2.1 grams/cc
			3.03%	0.0094	Epoxy Resin	-	
			3.03%	0.0094	Phenol Resin	-	
			0.76%	0.0023	Metal Hydroxide	-	
			0.10%	0.0003	Carbon Black	1333-86-4	
<b>D/A Epoxy</b>	0.45%	0.0014	0.36%	0.001	Silver	7440-22-4	Die attach epoxy Density: 4 grams/cc 60 to 100% Silver (LSC uses 80% in our calculation) 0 to 40% Organic Esters and Resins (LSC uses 20% in our calculation)
			0.09%	0.000	Organic esters and resins	-	
<b>Wire</b>	0.95%	0.0029			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball; wire length 3 mm
<b>Solder Balls</b>	14.47%	0.0449	9.12%	0.0283	Tin (Sn)	7440-31-5	Solder ball composition Sn63/Pb37
			5.35%	0.0166	Lead (Pb)	7439-92-1	
<b>Substrate</b>	24.26%	0.0752	16.50%	0.0511	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			7.76%	0.0241	BT Resins	-	
<b>Foil</b>	6.68%	0.0207			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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