Device Material Content

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Package: **676 fpBGA** **with SnPb Solder Balls**

Total Device Weight **4.10** **Grams**

MSL: 3
Peak Reflow Temp: 225°C

October, 2004	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	2.24%	0.092			Silicon	7440-21-3	Die size: 9.63 x 11.36 mm
Mold	39.67%	1.626					Mold Compound composition:
			31.14%	1.277	Silica	60676-86-0	65 to 95% Silica (LSC uses 78.5% in our calculation)
			5.55%	0.228	Epoxy/Phenol Resin	-	5 to 22% Epoxy/Phenol Resin (LSC uses 14% in our calculation)
			0.40%	0.016	Brominated Epoxy Resin	68928-70-1	0 to 2% Brominated Epoxy Resin (LSC uses 1% in our calculation)
			0.99%	0.041	Antimony Trioxide	1309-64-4	0 to 5% Antimony Trioxide (LSC uses 2.5% in our calculation)
			0.40%	0.016	Antimony Pentoxide	1314-60-9	0 to 1.5% Antimony Pentoxide (LSC uses 1% in our calculation)
			0.99%	0.041	Siloxanes	-	0 to 5% Siloxanes (LSC uses 2.5% in our calculation)
			0.20%	0.008	Carbon Black	1333-86-4	0 to 1% Carbon Black (LSC uses 0.5% in our calculation)
							Mold Compound Density between 1.8 and 2.1 grams/cc
D/A Epoxy	0.27%	0.011					Die attach epoxy Density: 4 grams/cc
			0.22%	0.009	Silver (Ag)	7440-22-4	60 to 100% Silver (LSC uses 80% in our calculation)
			0.05%	0.002	Organic esters and resins	-	0 to 30% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	0.48%	0.020			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball
Solder Balls	16.41%	0.673					
			8.59%	0.352	Tin (Sn)	7440-31-5	Solder ball composition Sn63/Pb37
			7.82%	0.321	Lead (Pb)	7439-92-1	
Substrate	17.34%	0.711			BT Resin	-	
Foil	23.58%	0.967			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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