Device Material Content

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Package: **680 fpBGA** **with SnPb Solder Balls**

Total Device Weight **5.16** **Grams**

January, 2004	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	4.28%	0.221			Silicon	7440-21-3	Die size: 17.25 x 17.72 mm
Mold	36.85%	1.901					Mold Compound composition:
			28.92%	1.493	Silica	60676-86-0	65 to 95% silica filler (LSC uses 78.5% in our calculation)
			4.61%	0.238	Epoxy resin	129915-35-1	5 to 20% Epoxy resin (LSC uses 12.5% in our calculation)
			0.55%	0.029	Phenolic resin	26834-02-6	0 to 3% Phenolic resin (LSC uses 1.5% in our calculation)
			0.74%	0.038	Brominated resin	68928-70-1	2% to unspecified maximum Brominated resin (LSC uses 2% in our calculation)
			0.92%	0.048	Mixed siloxanes	-	0 to 5% Mixed siloxanes (LSC uses 2.5% in our calculation)
			0.92%	0.048	Antimony Pent/Trioxide	1309-64-4	0.6 to 5% Antimony Pent/Trioxide (LSC uses 2.5% in our calculation)
			0.18%	0.010	Carbon black	1333-86-4	0.1 to1% Carbon black (LSC uses 0.5% in our calculation)
							Mold Compound Density between 1.8 and 2.1 grams/cc
D/A Epoxy	0.60%	0.031			Silver filled epoxy	7440-22-4	Die attach epoxy Density: 4 grams/cc
Wire	0.39%	0.020			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball
Solder Balls	15.55%	0.802					
			8.14%	0.420	Tin (Sn)	7440-31-5	Solder ball composition Sn63/Pb37
			7.41%	0.383	Lead (Pb)	7439-92-1	
Substrate	19.85%	1.024				129915-35-1	BT Resin
Foil	22.49%	1.160			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.

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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