Device Material Content

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Package: **256 SBGA** **with SnPb Solder Balls**

Total Device Weight **4.30** **Grams**

May, 2004	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.52%	0.065			Silicon	7440-21-3	Die size: 9.5 x 9.5 mm
Encapsulation	6.66%	0.287					Encapsulation composition:
			4.87%	0.209	Silica	60676-86-0	70 to 76% Silica (LSC uses 73% in our calculation)
			0.60%	0.026	Cycloaliphatic Epoxy resin	2386-87-0	1 to 15% Cycloaliphatic Epoxy resin (LSC uses 9% in our calculation)
			0.60%	0.026	Epoxy resin	129915-35-1	1 to 15% Epoxy resin (LSC uses 9% in our calculation)
			0.60%	0.026	Methyl Hexahydrophthalic Anhydride	25550-51-0	1 to 15% Methyl Hexahydrophthalic Anhydride (LSC uses 9% in our calculation)
							Encapsulation Density ranges between 1.7 and 1.9 grams/cc
D/A Epoxy	0.21%	0.009			Silverfilled epoxy		
			0.16%	0.007	Silver (Ag)	7440-22-4	Die attach epoxy Density: 4 grams/cc
			0.05%	0.002	other	-	70 to 80% Ag (LSC uses 75% in our calculation)
Wire	0.17%	0.008			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball
Solder Balls	12.14%	0.522					
			6.35%	0.273	Tin (Sn)	7440-31-5	Solder ball composition Sn63/Pb37
			5.79%	0.249	Lead (Pb)	7439-92-1	
Substrate (BT)	9.50%	0.409			BT Resin	-	
Copper	69.04%	2.969			Copper (Cu)	7440-50-8	
Lid Plating	0.75%	0.032			Nickel (Ni)	7440-02-0	

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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