Device Material Content

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Package: **256 ftBGA** **with SnAgCu Solder Balls** **Option 2 (ECP3)**

Total Device Weight **1.234** **Grams**

MSL: 3
Peak Reflow Temp: 260°C

April, 2011	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.22%	0.0151			Silicon chip	7440-21-3	Die size: 4.64 x 5.16 mm
Mold	36.72%	0.453					Mold Compound composition:
			33.05%	0.4078	Silica	60676-86-0	86 to 93% Silica Fused or Amorphous (LSC uses 90% in our calculation)
			2.20%	0.0272	Epoxy Resin	-	1.5 to 7% Epoxy resin (LSC uses 6% in our calculation)
			1.47%	0.0181	Phenol Resin	-	1 to 6% Phenol resin (LSC uses 4% in our calculation)
			0.07%	0.0009	Carbon Black	1333-86-4	0.2% Carbon Black
							Mold Compound Density ranges between 1.99 and 2.09 grams/cc
D/A Epoxy	0.17%	0.0021			Silver-filled epoxy		Die attach epoxy Density: 4 grams/cc
			0.14%	0.0017	Silver (Ag)	7440-22-4	70 to 90% Silver (LSC uses 80% in our calculation)
			0.03%	0.0004	Organic esters and resins	-	10 to 30% Organic Esters and Resins (LSC uses 20% in our calculation)
Wire	0.71%	0.0088			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per package lead
Solder Balls	20.18%	0.249					
			19.37%	0.2390	Tin (Sn)	7440-31-5	Solder ball composition Sn96.5/Ag3/Cu0.5
			0.71%	0.0087	Silver (Ag)	7440-22-4	
			0.10%	0.0012	Copper (Cu)	7440-50-8	
Substrate	21.36%	0.264					
			14.52%	0.1792	Glass fiber	65997-17-3	60 to 75% glass fiber (LSC uses 68% in our calculation)
			6.83%	0.0843	BT Resins	-	
Foil	19.64%	0.242			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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lead-free RoHS 2002/95/EC

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