Lattice Semiconductor Corporation

Device Material Content

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Package: **516 fpBGA** **with SnAgCu Solder Balls**
Total Device Weight **4.10** **Grams**

December, 2005	**% of Total Pkg. Wt.**	**Weight (g)**	**% of Total Pkg. Wt.**	**Weight (g)**	**Substance**	**CAS #**	**Notes / Assumptions:**
Die	1.93%	0.079			Silicon	7440-21-3	Die size: 9.63 x 11.36 mm
Mold	36.71%	1.505					Mold Compound composition:
			33.04%	1.355	Silica (Fused or Amorphous)	60676-86-0	84 to 92% Silica Fused or Amorphous (LSC uses 90% in our calculation)
			1.84%	0.075	Epoxy resin	129915-35-1	5 to 9% Epoxy resin (LSC uses 5% in our calculation)
			1.84%	0.075	Phenol resin	26834-02-6	4 to 8% Phenol resin (LSC uses 5% in our calculation)
							Mold Compound Density between 1.8 and 2.1 grams/cc
D/A Epoxy	0.27%	0.011			Silver-Filled Epoxy	7440-22-4	Die attach epoxy Density: 4 grams/cc 60 to 100% Silver (LSC uses 80% in our calculation)
Wire	0.37%	0.015			Gold (Au)	7440-57-5	1.00 mil diameter; 1 wire per solder ball
Solder Balls	12.53%	0.514					Qualified Solder ball compositions:
			12.03%	0.493	Tin (Sn)	7440-31-5	Sn95.5/Ag4/Cu0.5
			0.44%	0.018	Silver (Ag)	7440-22-4	Sn96.5/Ag3/Cu0.5
			0.06%	0.003	Copper (Cu)	7440-50-8	LSC uses: Sn96/Ag3.5/Cu0.5 for calculations
Substrate	19.60%	0.803				129915-35-1	BT Resin
Foil	28.60%	1.173			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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