Device Material Content

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Package: 1704 fcBGA (organic) with Eu(Sn63/Pb37) Solder Balls

Total Device Weight 19.72 Grams

MSL: 4
Peak Reflow Temp: 225°C

December, 2010	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.69%	0.334			Silicon (Si)	7440-21-3	Die Size: SC80: 18.20x15.7mm
Bumps	0.070%	0.0138					
			0.068%	0.0134	Tin (Sn)	7440-31-5	97.4%
			0.002%	0.0004	Silver (Ag)	7440-22-4	2.6%
Lid	38.89%	7.668					
			38.691%	7.6300	Copper (Cu)	7440-50-8	99.5%
			0.194%	0.0383	Nickel (Ni)	7440-02-0	0.5%
Ring	26.06%	5.139					
			25.931%	5.1136	Copper (Cu)	7440-50-8	99.5%
			0.130%	0.0257	Nickel (Ni)	7440-02-0	0.5%
Adhesive	0.71%	0.140					
			0.639%	0.1260	Alumina	1344-28-1	90%
			0.071%	0.0140	Others	Trade Secret	10%
Underfill	0.35%	0.070					
			0.018%	0.0035	Bisphenol A type liquid epoxy resin	25068-38-6	5%
			0.035%	0.0070	Bisphenol F type liquid epoxy resin	9003-36-5	10%
			0.046%	0.0091	Naphthalene	27610-48-6	13%
			0.035%	0.0070	Amine type accelerator	Trade Secret	10%
			0.199%	0.0392	Silicon dioxide	60676-86-0	56%
			0.004%	0.0007	Carbon black	1333-86-4	1%
			0.018%	0.0035	Additives	Trade Secret	5%
Thermally conductive adhesive	0.58%	0.115					
			0.496%	0.0978	Aluminum	7429-90-5	85%
			0.087%	0.0173	Resin and additive mixture	Trade Secret	15%
Solder Balls	5.64%	1.113					
			3.555%	0.7010	Tin (Sn)	7440-31-5	63%
			2.088%	0.4117	Lead (Pb)	7439-92-1	37%
Substrate	26.00%	5.127					
			0.018%	1.1124	Glass fiber	65997-17-3	21.7%
			0.035%	2.0081	Resin and additive mixture	Trade Secret	39.2%
			0.046%	2.0066	Copper(Cu)	7440-50-8	39.1%

Notes:

The values listed above are nominal values based on the data provided by outside sources and have not been validated.

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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Rev. A