Lattice Semiconductor Corporation

Device Material Content

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Package: **1152 fcBGA (organic)** **with SAC305 Solder Balls**
Total Device Weight **10.35** **Grams**

SC40 version
MSL: 4
Peak Reflow Temp: 245°C

December, 2010	**% of Total Pkg. Wt.**	**Weight (g)**	**% of Total Pkg. Wt.**	**Weight (g)**	**Substance**	**CAS #**	**Notes / Assumptions:**
Die	2.01%	0.208			Silicon (Si)	7440-21-3	Die Size: SC40: 13.60 x 13.07mm
Bumps	0.09%	0.0098					
			0.0923%	0.0134	Tin (Sn)	7440-31-5	97.4%
			0.0025%	0.0004	Silver (Ag)	7440-22-4	2.6%
Lid	52.12%	5.392					
			51.856%	5.365	Copper	7440-50-8	99.5%
			0.261%	0.027	Nickel	7440-02-0	0.5%
Adhesive	0.77%	0.080					
			0.696%	0.072	Alumina	1344-28-1	90%
			0.077%	0.008	Others	Trade Secret	10%
Underfill	0.38%	0.039					
			0.019%	0.0020	Bisphenol A type liquid epoxy resin	25068-38-6	5%
			0.038%	0.0039	Bisphenol F type liquid epoxy resin	9003-36-5	10%
			0.049%	0.0051	Naphthalene	27610-48-6	13%
			0.038%	0.0039	Amine type accelerator	Trade Secret	10%
			0.211%	0.0218	Silicon dioxide	60676-86-0	56%
			0.004%	0.0004	Carbon black	1333-86-4	1%
			0.019%	0.0020	Additives	Trade Secret	5%
Thermally conductive adhesive	0.68%	0.070					
			0.575%	0.060	Aluminum	7429-90-5	85%
			0.101%	0.011	Resin and additive mixture	Trade Secret	15%
Solder Balls	9.19%	0.951					
			8.915%	0.918	Tin (Sn)	7440-31-5	96.5%
			0.276%	0.029	Sliver(Ag)	7440-22-4	3.0%
			0.046%	0.005	Copper(Cu)	7440-50-8	0.5%
Substrate	34.21%	3.625					
			7.424%	0.780	Glass fiber	65997-17-3	21.7%
			13.411%	1.408	Resin and additive mixture	Trade Secret	39.2%
			13.377%	1.407	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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Pb lead-free
RoHS 2002/95/EC

Rev. A