



Device Material Content

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Package: 1152 fcBGA (organic) with SAC305 Solder Balls
Total Device Weight 10.59 Grams

SC80 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	3.15%	0.334			Silicon (Si)	7440-21-3	Die Size: SC80: 18.20 x 15.7mm
Bumps	0.13%	0.0138	0.1269% 0.0034%	0.0134 0.0004	Tin (Sn) Silver (Ag)	7440-31-5 7440-22-4	97.4% 2.6%
Lid	51.00%	5.403	50.741% 0.255%	5.376 0.027	Copper (Cu) Nickel (Ni)	7440-50-8 7440-02-0	99.5% 0.5%
Adhesive	0.85%	0.090	0.765% 0.085%	0.081 0.009	Alumina Others	1344-28-1 Trade Secret	90% 10%
Underfill	0.59%	0.062	0.029% 0.059% 0.076% 0.059% 0.328% 0.006% 0.029%	0.003 0.006 0.008 0.006 0.035 0.001 0.003	Bisphenol A type liquid epoxy resin Bisphenol F type liquid epoxy resin Naphthalene Amine type accelerator Silicon dioxide Carbon black Additives	25068-38-6 9003-36-5 27610-48-6 Trade Secret 60676-86-0 1333-86-4 Trade Secret	5% 10% 13% 10% 56% 1% 5%
Thermally conductive adhesive	1.09%	0.115	0.923% 0.163%	0.098 0.017	Aluminum (Al) Resin and additive mixture	7429-90-5 Trade Secret	85% 15%
Solder Balls	8.99%	0.952	8.717% 0.270% 0.045%	0.919 0.029 0.005	Tin (Sn) Silver (Ag) Copper(Cu)	7440-31-5 7440-22-4 7440-50-8	96.5% 3.0% 0.5%
Substrate	34.21%	3.625	7.424% 13.411% 13.377%	0.786 1.420 1.419	Glass fiber Resin and additive mixture Copper(Cu)	65997-17-3 Trade Secret 7440-50-8	21.7% 39.2% 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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