Device Material Content

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Package: **144 TQFP (1.4mm)** **with matte Sn Plating**

Total Device Weight **1.40** **Grams**

Copper Bond Wire Version

MSL: 3

Peak Reflow Temp: 260°C

June, 2011	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.20%	0.0168			Silicon chip	7440-21-3	Die size: 4.0 x 5.0 mm
Mold	79.25%	1.1095					Mold Compound Density between 1.87 and 2.17 grams/cc
			68.79%	0.9630	Silica	60676-86-0	82 to 94% Silica (LSC uses 86.8% in our calculation)
			6.34%	0.0888	Epoxy resin	-	1.5 to 11% Epoxy Resin (LSC uses 8% in our calculation).
			3.17%	0.0444	Phenol resin	-	3 to 6% Phenol Resin (LSC uses 4% in our calculation).
			0.79%	0.0111	Other (trade secret)	-	2% Other (max), (LSC uses 1% in our calculation)
			0.16%	0.0022	Carbon black	1333-86-4	0.2% Carbon black(typical), (LSC uses 0.2% in our calculation)
D/A Epoxy	0.11%	0.0015			Silver filled epoxy		
			0.09%	0.0012	Silver (Ag)	7440-22-4	Die attach epoxy Density: 3 grams/cc
			0.02%	0.0003	Esters & resins	-	(silver content: 70-90%; LSC uses 80% in our calculation)
Wire	0.09%	0.0012			Copper (Cu)	7440-50-8	0.8 mil wire diameter; 1 wire for each package lead; wire length 3 mm
Lead Plating	0.79%	0.0110			Tin (Sn)	7440-31-5	Plating is 100% Sn; thickness is 0.015mm
Leadframe	18.22%	0.2551					Leadframe thickness is nominal (per Case Outline)
			17.53%	0.2454	Copper (Cu)	7440-50-8	Cu 96.2%
			0.55%	0.0077	Nickel (Ni)	7440-02-0	Ni 3.0%
			0.12%	0.0017	Silicon (Si)	7440-21-3	Si 0.65%
			0.03%	0.0004	Magnesium (Mg)	7439-95-4	Mg 0.15%
							Copper area is fixed at 55% package area

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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rev. A