Device Material Content

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Package: **176 TQFP** **with SnPb Plating**

Total Device Weight **1.90** **Grams**

MSL: 3
Peak Reflow Temp: 225°C

August, 2008	**% of Total Pkg. Wt.**	**Weight (g)**	**% of Total Pkg. Wt.**	**Weight (g)**	**Substance**	**CAS #**	**Notes / Assumptions:**
Die	0.89%	0.017			Silicon chip	7440-21-3	Die size: 4.00 x 5.05 mm
Mold	78.29%	1.488					Mold Compound Density between 1.7 and 2.1 grams/cc
			66.55%	1.264	Silica Fused	60676-86-0	80 to 90% Silica Fused (LSC uses 85% in our calculation)
			3.91%	0.074	Epoxy Resin	-	3 to 10% Epoxy Resin (LSC uses 5% in our calculation).
			3.91%	0.074	Phenol Resin	-	2 to 10% Phenol Resin (LSC uses 5% in our calculation).
			0.47%	0.009	Antimony Trioxide	1309-64-4	0.1 to 1% Antimony Trioxide (LSC uses 0.6% in our calculation)
			0.47%	0.009	Carbon black	1333-86-4	0.1 to 1% Carbon black (LSC uses 0.6% in our calculation)
			2.98%	0.057	Other (trade secret)	-	0 to 5% Other (LSC uses 3.8% in our calculation)
D/A Epoxy	0.11%	0.002			Silver-filled epoxy		
			0.09%	0.002	Silver (Ag)	7440-22-4	Die attach epoxy Density: 4 grams/cc
			0.02%	0.0004	other	-	(silver content: 70-90%; LSC uses 80% in our calculation)
Wire	0.27%	0.005			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per package lead; wire length 3 mm
Lead Plating	1.10%	0.021					
			0.94%	0.018	Tin (Sn)	7440-31-5	Plating is 85% Sn, 15% Pb; thickness is 0.015mm
			0.17%	0.003	Lead (Pb)	7439-92-1	
Leadframe	19.33%	0.367					Leadframe thickness is nominal (per Case Outline)
			18.85%	0.358	Copper (Cu)	7440-50-8	Cu (LSC uses 97.5% in our calculation)
			0.08%	0.0015	Silicon (Si)	7440-21-3	0 to 0.65% Si (LSC uses 0.4% in our calculation)
			0.02%	0.0004	Zinc (Zn)	7440-66-6	0 to 0.2% Zn (LSC uses 0.1% in our calculation)
			0.04%	0.0007	Tin (Sn)	7440-31-5	0 to 0.25% Sn (LSC uses 0.2% in our calculation)
			0.04%	0.0007	Chromium (Cr)	7440-47-3	0 to 0.3% Cr (LSC uses 0.2% in our calculation)
			0.29%	0.0055	Nickel (Ni)	7440-02-0	0 to 3% Ni (LSC uses 1.5% in our calculation)
			0.02%	0.0004	Magnesium (Mg)	7439-95-4	0 to 0.15% Mg (LSC uses 0.1% in our calculation)

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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