



Device Material Content

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Package: **144 TQFP (1.4mm)** with **matte Sn Plating**
Total Device Weight 1.40 Grams

MSL: 3
Peak Reflow Temp: 260°C

August, 2008	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.21%	0.017			Silicon chip	7440-21-3	Die size: 4.00 x 5.05 mm
Mold	79.42%	1.112	67.51%	0.945	Silica Fused	60676-86-0	Mold Compound Density between 1.7 and 2.1 grams/cc 80 to 90% Silica Fused (LSC uses 85% in our calculation) 5 to 10% Epoxy Resin (LSC uses 5% in our calculation). 5 to 10% Phenol Resin (LSC uses 5% in our calculation). 0.1% to 1% Antimony Trioxide (LSC uses 1% in our calculation) 0.1 to 1% Carbon black (LSC uses 0.6% in our calculation) 1 to 4% Other (LSC uses 3.4% in our calculation)
			3.97%	0.056	Epoxy Resin	-	
			3.97%	0.056	Phenol Resin	-	
			0.79%	0.011	Antimony Trioxide	1309-64-4	
			0.48%	0.007	Carbon black	1333-86-4	
			2.70%	0.038	Other (trade secret)	-	
D/A Epoxy	0.15%	0.0021	0.12%	0.0016	Silver filled epoxy	7440-22-4	(silver content: 70-90%; LSC uses 80% in our calculation) Die attach epoxy Density: 4 grams/cc
			0.03%	0.0004	Silver Esters & resins	-	
Wire	0.21%	0.003			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per package lead; wire length 3 mm
Lead Plating	0.79%	0.011			Tin (Sn)	7440-31-5	Plating is 100% Sn; thickness is 0.015mm
Leadframe	18.22%	0.255	17.77%	0.249	Copper (Cu)	7440-50-8	Leadframe thickness is nominal (per Case Outline) Cu (LSC uses 97.5% in our calculation) 0 to 0.65% Si (LSC uses 0.4% in our calculation) 0 to 0.2% Zn (LSC uses 0.1% in our calculation) 0 to 0.25% Sn (LSC uses 0.2% in our calculation) 0 to 0.3% Cr (LSC uses 0.2% in our calculation) 0 to 3% Ni (LSC uses 1.5% in our calculation) 0 to 0.15% Mg (LSC uses 0.1% in our calculation)
			0.07%	0.0010	Silicon (Si)	7440-21-3	
			0.02%	0.0003	Zinc (Zn)	7440-66-6	
			0.04%	0.0005	Tin (Sn)	7440-31-5	
			0.04%	0.0005	Chromium (Cr)	7440-47-3	
			0.27%	0.0038	Nickel (Ni)	7440-02-0	
			0.02%	0.0003	Magnesium (Mg)	7439-95-4	

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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