Device Material Content

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Package: 64 TQFP (1.4mm) with matte Sn Plating

Total Device Weight 0.34 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	2.07%	0.007			Silicon chip	7440-21-3	Die size: 2.8 x 3.0 mm
Mold	75.35%	0.256					Mold Compound Density between 1.7 and 2.1 grams/cc
			64.04%	0.218	Silica Fused	60676-86-0	80 to 90% Silica Fused (LSC uses 85% in our calculation)
			3.77%	0.013	Epoxy Resin	-	5 to 10% Epoxy Resin (LSC uses 5% in our calculation).
			3.77%	0.013	Phenol Resin	-	5 to 10% Phenol Resin (LSC uses 5% in our calculation).
			0.75%	0.003	Antimony Trioxide	1309-64-4	0.1% to 1% Antimony Trioxide (LSC uses 1% in our calculation)
			0.45%	0.002	Carbon black	1333-86-4	0.1 to 1% Carbon black (LSC uses 0.6% in our calculation)
			2.56%	0.009	Other (trade secret)	-	1 to 4% Other (LSC uses 3.4% in our calculation)
D/A Epoxy	0.25%	0.0009					
			0.20%	0.0007	Silver (Ag)	7440-22-4	Die attach epoxy Density: 4 grams/cc
			0.05%	0.0002	other	-	(silver content: 70-90%; LSC uses 80% in our calculation).
Wire	0.55%	0.002			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per package lead; wire length 3 mm
Plating	3.02%	0.010					
			3.02%	0.010	Tin (Sn)	7440-31-5	Plating is 100% Sn; thickness is 0.015mm
Leadframe	18.76%	0.064					Leadframe thickness is nominal (per Case Outline)
			18.29%	0.0622	Copper (Cu)	7440-50-8	Cu (LSC uses 97.5% in our calculation)
			0.08%	0.00026	Silicon (Si)	7440-21-3	0 to 0.65% Si (LSC uses 0.4% in our calculation)
			0.02%	0.00006	Zinc (Zn)	7440-66-6	0 to 0.2% Zn (LSC uses 0.1% in our calculation)
			0.04%	0.00013	Tin (Sn)	7440-31-5	0 to 0.25% Sn (LSC uses 0.2% in our calculation)
			0.04%	0.00013	Chromium (Cr)	7440-47-3	0 to 0.3% Cr (LSC uses 0.2% in our calculation)
			0.28%	0.0010	Nickel (Ni)	7440-02-0	0 to 3% Ni (LSC uses 1.5% in our calculation)
			0.02%	0.00006	Magnesium (Mg)	7439-95-4	0 to 0.15% Mg (LSC uses 0.1% in our calculation)
							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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