Device Material Content

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Package: **128 TQFP (1.4mm)** **with matte Sn Plating**

Total Device Weight **0.66** **Grams**

Halogen Free
MSL: 3
Peak Reflow Temp: 240°C

November, 2010	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	5.34%	0.035			Silicon chip	7440-21-3	Die size: 5.84 x 7.19 mm
Mold	70.91%	0.468					Mold Compound Density between 1.7 and 2.1 grams/cc
			60.27%	0.398	Silica Fused	60676-86-0	75 to 95% (LSC uses 85% in our calculation)
			4.25%	0.028	Epoxy Resin	-	3 to 10% (LSC uses 6% in our calculation)
			3.55%	0.023	Phenol Resin	-	2 to 8% (LSC uses 5% in our calculation)
			0.28%	0.002	Carbon Black	1333-86-4	0.1 to 0.5% (LSC uses 0.4% in our calculation)
			2.55%	0.017	Other (trade secret)	-	0 to 5% (LSC uses 3.6% in our calculation)
D/A Epoxy	0.65%	0.004					
			0.52%	0.003	Silver (Ag)	7440-22-4	Die attach epoxy Density: 4 grams/cc
			0.13%	0.001	other	-	(silver content: 70-90%; LSC uses 80% in our calculation)
Wire	0.57%	0.004			Gold (Au)	7440-57-5	0.8 to 1.2 mil diameter; 1 wire per package lead; wire length 3 mm
Lead Plating	1.88%	0.012			Tin (Sn)	7440-31-5	Plating is 100% Sn; thickness is 0.015mm
Leadframe	20.66%	0.136					Leadframe thickness is nominal (per Case Outline)
			19.88%	0.1312	Copper (Cu)	7440-50-8	96.2% Cu
			0.62%	0.0041	Nickel (Ni)	7440-02-0	3% Ni
			0.13%	0.00089	Silicon (Si)	7440-21-3	0.65% Si
			0.03%	0.00020	Magnesium (Mg)	7439-95-4	0.15% Mg

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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