Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
custreq@lscc.com

Package: 176 TQFP (1.4mm) with matte Sn Plating
Total Device Weight 1.90 Grams

Halogen Free
MSL: 3
Peak Reflow Temp: 260°C

November, 2010	% 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	78.30%	1.488					Mold Compound Density between 1.7 and 2.1 grams/cc
			66.55%	1.264	Silica Fused	60676-86-0	75 to 95% (LSC uses 85% in our calculation)
			4.70%	0.089	Epoxy Resin	-	3 to 10% (LSC uses 6% in our calculation)
			3.91%	0.074	Phenol Resin	-	2 to 8% (LSC uses 5% in our calculation)
			0.31%	0.006	Carbon black	1333-86-4	0.1 to 0.5% (LSC uses 0.4% in our calculation)
			2.82%	0.054	Other (trade secret)	-	0 to 5% (LSC uses 3.6% in our calculation)
D/A Epoxy	0.11%	0.002					
			0.09%	0.0016	Silver (Ag)	7440-22-4	(silver content: 70-90%; LSC uses 80% in our calculation)
			0.02%	0.0004	Esters & resins	-	Die attach epoxy Density: 4 grams/cc
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			Tin (Sn)	7440-31-5	Plating is 100% Sn; thickness is 0.015mm
Leadframe	19.33%	0.367					Leadframe thickness is nominal (per Case Outline)
			18.60%	0.353	Copper (Cu)	7440-50-8	96.2% Cu
			0.58%	0.0110	Nickel (Ni)	7440-02-0	3% Ni
			0.13%	0.0024	Silicon (Si)	7440-21-3	0.65% Si
			0.03%	0.0006	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.
www.latticesemi.com

Rev. A