



Device Material Content

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

Package: 128 TQFP (1.4mm) with matte Sn Plating
Total Device Weight 0.66 Grams

MSL: 3
Peak Reflow Temp: 240°C

August, 2008	% 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	60.27%	0.398	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)
			3.55%	0.023	Epoxy Resin	-	
			3.55%	0.023	Phenol Resin	-	
			0.71%	0.005	Antimony Trioxide	1309-64-4	
			0.43%	0.003	Carbon Black	1333-86-4	
			2.41%	0.016	Other	-	
D/A Epoxy	0.65%	0.004	0.52%	0.003	Silver (Ag)	7440-22-4	Die attach epoxy Density: 4 grams/cc (silver content: 70-90%; LSC uses 80% in our calculation)
			0.13%	0.001	other	-	
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	20.15%	0.1330	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)
			0.08%	0.00055	Silicon (Si)	7440-21-3	
			0.02%	0.00014	Zinc (Zn)	7440-66-6	
			0.04%	0.00027	Tin (Sn)	7440-31-5	
			0.04%	0.00027	Chromium (Cr)	7440-47-3	
			0.31%	0.0020	Nickel (Ni)	7440-02-0	
			0.02%	0.00014	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.

www.latticesemi.com

