



Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
(503) 268-8000
custreq@lsc.com

Package: 256 caBGA with SnAgCu Solder Balls
Total Device Weight 0.532 Grams

MSL: 3
Peak Reflow Temp: 260°C

July, 2009	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	Notes / Assumptions:
Die	1.74%	0.009			Silicon chip	7440-21-3	Die size: 3.53 x 4.17 mm
Mold	50.42%	0.268	41.85%	0.223	Silica	60676-86-0	Mold Compound composition: 75 to 95% Fused silica filler (LSC uses 83% in our calculation) 2 to 10% Epoxy resin (LSC uses 7.5% in our calculation) 2 to 10% Phenal resin (LSC uses 7.5% in our calculation) 0.5 to 2.5% Metal hydroxide (LSC uses 1.5% in our calculation) 0.1 to 0.5% Carbon Black (LSC uses 0.5% in our calculation) Mold Compound Density ranges between 1.8 and 2.1 grams/cc
			3.78%	0.020	Epoxy Resin	-	
			3.78%	0.020	Phenol Resin	-	
			0.76%	0.004	Metal Hydroxide	-	
			0.25%	0.0013	Carbon Black	1333-86-4	
D/A Epoxy	0.28%	0.0015	0.22%	0.0012	Silver filled epoxy	7440-22-4	Die attach epoxy Density: 4 grams/cc 60 to 100% Silver (LSC uses 80% in our calculation) 0 to 40% Organic Resins (LSC uses 20% in our calculation)
			0.06%	0.0003	Silver (Ag) Organic esters and resins	-	
Wire	1.41%	0.008			Gold (Au)	7440-57-5	0.8 to 1.0 mil diameter; 1 wire per package lead
Solder Balls	18.26%	0.097	17.62%	0.0937	Tin (Sn)	7440-31-5	Solder ball composition Sn96.5/Ag3.0/Cu0.5%
			0.55%	0.0029	Silver (Ag)	7440-22-4	
			0.09%	0.0005	Copper (Cu)	7440-50-8	
Substrate	21.57%	0.115	14.67%	0.0780	BT Resin	-	60 to 75% glass fiber (LSC uses 68% in our calculation)
			6.90%	0.0367	Fibrous-glass-wool Resins	65997-17-3 -	
Foil	6.31%	0.034			Copper (Cu)	7440-50-8	

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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