Device Material Content

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

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Package: 324 csfBGA
Total Device Weight 0.1704 Grams

Package Code: MG324
Products: XO3

Assembly: ATP
Size (mm): 9 x 9
Lead pitch (mm): 0.5
MSL: 3
Reflow max (ºC): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	3.51%	0.0060	3.51%	0.0060	Silicon chip	7440-21-3	100.00%	Die size: 3.7 x 3.8 x 0.177mm
Mold Compound	46.46%	0.0792	8.36%	0.01425	Epoxy Resin	-	18.00%	Hitachi(Nitto) GE-110BH83-FC
			38.10%	0.06492	Silica filler	60676-86-0	82.00%	
Substrate	29.91%	0.0510	14.30%	0.0244	Laminate*	-	47.80%	CCL-HL 832NS
			4.70%	0.0080	Solder mask	-	15.70%	
			7.03%	0.0120	Copper (Cu)	7440-50-8	23.50%	
			2.57%	0.0044	Nickel Plating	7440-02-0	8.60%	
			0.60%	0.0010	Gold Plating	7440-57-5	2.00%	
Cu Pillar	0.212%	0.00036			Pillar:			Oval Type
			0.128%	0.00022	Copper (Cu)	7440-50-8	60.39%	
					Cap:			
			0.084%	0.00014	Tin (Sn)	7440-31-5	39.42%	
			0.002%	0.0000026	Silver (Ag)	7440-22-4	0.72%	
Sputter 1	0.002%	0.000003	0.000%	0.0000001	Titanium (Ti)	7440-32-6	4.98%	
			0.001%	0.0000012	Tungsten (W)	7440-33-7	44.84%	
			0.001%	0.0000013	Copper (Cu)	7440-50-8	50.18%	
Sputter 2	0.015%	0.000026	0.001%	0.000002	Titanium (Ti)	7440-32-6	7.74%	
			0.014%	0.000024	Copper (Cu)	7440-50-8	92.26%	
RDL	0.140%	0.000238	0.14%	0.0002	Copper (Cu)	7440-50-8	100.00%	
Polymide & PBO	0.095%	0.000162	0.086%	0.000146	Proprietary Polymer	-	90.00%	
			0.010%	0.000016	Additives	-	10.00%	
Solder Balls	19.91%	0.0339	19.211%	0.03274	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.597%	0.00102	Silver (Ag)	7440-22-4	3.00%	
			0.100%	0.00017	Copper (Cu)	7440-50-8	0.50%	

Notes: * 0.14% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

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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Rev. C