



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com					Package Code: BG381		Assembly: ASEM Size (mm): 17 x 17	
Package: 381 caBGA		Total Device Weight 1.020 Grams		Products: LAE5		Lead pitch (mm): 0.8 MSL: 3 Reflow max (°C): 260		
June, 2022	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.54%	0.0157	1.54%	0.0157	Silicon chip	7440-21-3	100.00%	Die size: 5.02 x 5.42mm
Mold Compound	42.22%	0.4306	2.11%	0.0215	Epoxy Resin A	-	5.00%	Mold Compound: Sumitomo G750SE (ULA)
			0.63%	0.0065	Epoxy Resin B	-	1.50%	
			2.11%	0.0215	Phenol Novolac	9003-35-4	5.00%	
			2.11%	0.0215	Metal Hydroxide	-	5.00%	
			0.13%	0.0013	Carbon Black	1333-86-4	0.30%	
			35.13%	0.3583	Silica Fused	60676-86-0	83.20%	
			D/A Epoxy	0.22%	0.0023	0.18% 0.04%	0.00183 0.00046	
Wire	0.65%	0.0067	0.65%	0.0066	Gold	7440-57-5	99.00%	0.8 mil diameter; 1 wire per solder ball
			0.01%	0.0001	Palladium	7440-05-3	1.00%	
Solder Balls	9.31%	0.0949	8.98%	0.0916	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.28%	0.0028	Silver (Ag)	7440-22-4	3.00%	
			0.05%	0.0005	Copper (Cu)	7440-50-8	0.50%	
			Substrate	29.43%	0.3002	9.42% 20.02%	0.0961 0.2041	
Foil	11.68%	0.1191	9.95%	0.1015	Copper	7440-50-8	85.21%	
			1.64%	0.0168	Nickel	7440-02-0	14.08%	
			0.08%	0.0008	Gold	7440-57-5	0.71%	
			Solder Mask	4.93%	0.0503	2.77%	0.0283	
0.79%	0.0080	3-methoxy-3-methylbutylacetate				103429-90-9	16.00%	
1.08%	0.0111	Barium Sulfate				7727-43-7	22.00%	
0.15%	0.0015	Talc (containing no asbestiform fibers)				14807-96-6	3.00%	
0.14%	0.0014	Trade secret ingredients				-	2.80%	

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