Device Material Content

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Package: 381 caBGA
Total Device Weight 1.020 Grams

Package Code: BG381
Products: LAE5

Assembly: ASEM
Size (mm): 17 x 17
Lead pitch (mm): 0.8
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	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%	0.00183	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.04%	0.00046	Esters & resins	-	20.00%	
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%	0.0961	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A*
			20.02%	0.2041	Glass fiber	65997-17-3	68.00%	
Foil	11.68%	0.1191	25.08%	0.2558	Copper	7440-50-8	85.21%	
			4.14%	0.0423	Nickel plating	7440-02-0	14.08%	
			0.21%	0.0021	Gold plating	7440-57-5	0.71%	
Solder Mask	4.93%	0.0503	2.68%	0.0273	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308
			0.36%	0.0037	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.16%	0.0017	Morpholine derivative	71868-10-5	3.32%	
			0.15%	0.0015	Silicon dioxide	7631-86-9	3.00%	
			0.15%	0.0015	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.0001	Carbon black	1333-86-4	0.24%	
			1.42%	0.0145	Trade secret ingredients	-	28.74%	

Notes: * 0.29% max. concentration (of total pkg wt.) of Bisphenol A (CAS# 80-05-7), contained 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. B