Device Material Content

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Package: 132 ucBGA
Total Device Weight 0.067 Grams

Package Code: UMN132
Products: LC4kZE

Assembly: ASEM
Size (mm): 6 x 6
Lead pitch (mm): 0.4
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	3.27%	0.0022	3.27%	0.0022	Silicon chip	7440-21-3	100.00%	Die size: 1.77 x 1.91 mm
Mold Compound	51.45%	0.0345	3.60%	0.0024	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE
			2.57%	0.0017	Phenol Novolac	9003-35-4	5.00%	
			2.57%	0.0017	Metal Hydroxide	-	5.00%	
			0.26%	0.0002	Carbon Black	1333-86-4	0.50%	
			42.44%	0.0284	Silica Fused	60676-86-0	82.50%	
D/A Epoxy	0.53%	0.0004	0.42%	0.00028	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.11%	0.00007	Esters & resins	-	20.00%	
Wire	1.76%	0.0012	1.74%	0.00116	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.03%	0.00002	Palladium	7440-05-3	1.50%	
Solder Balls	12.37%	0.0083	11.94%	0.00800	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.37%	0.00025	Silver (Ag)	7440-22-4	3.00%	
			0.06%	0.00004	Copper (Cu)	7440-50-8	0.50%	
Substrate	19.01%	0.0127	6.08%	0.0041	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A*
			12.93%	0.0087	Glass fiber	65997-17-3	68.00%	
Foil	6.39%	0.0043	5.24%	0.00351	Copper	7440-50-8	82.00%	
			0.96%	0.00065	Nickel plating	7440-02-0	15.10%	
			0.19%	0.00012	Gold plating	7440-57-5	2.91%	
Solder Mask	5.22%	0.0035	2.84%	0.00190	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308
			0.38%	0.00026	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.17%	0.00012	Morpholine derivative**	71868-10-5	3.32%	
			0.16%	0.00010	Silicon dioxide	7631-86-9	3.00%	
			0.16%	0.00010	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.00001	Carbon black	1333-86-4	0.24%	
			1.50%	0.00101	Trade secret ingredients	-	28.74%	

Notes: SVHC:
* 0.19% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.
** 0.17% max. concentration of Morpholine derivative (CAS# 71868-10-5), contained in solder mask material.

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