



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com		Package: 132 ucBGA Total Device Weight 0.067 Grams			Package Code: UMN132	Assembly: ASEM Size (mm): 6 x 6 Lead pitch (mm): 0.4 MSL: 3 Reflow max (°C): 260		
June, 2022					Products: LC4kZE			
	% 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% 2.57% 2.57% 0.26% 42.44%	0.0024 0.0017 0.0017 0.0002 0.0284	Epoxy Resin Phenol Novolac Metal Hydroxide Carbon Black Silica Fused	- 9003-35-4 - 1333-86-4 60676-86-0	7.00% 5.00% 5.00% 0.50% 82.50%	Mold Compound: Sumitomo G750SE
D/A Epoxy	0.53%	0.0004	0.42% 0.11%	0.00028 0.00007	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	1.76%	0.0012	1.74% 0.03%	0.00116 0.00002	Copper Palladium	7440-50-8 7440-05-3	98.50% 1.50%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	12.37%	0.0083	11.94% 0.37% 0.06%	0.00800 0.00025 0.00004	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	96.50% 3.00% 0.50%	SAC305
Substrate	19.01%	0.0127	6.08% 12.93%	0.0041 0.0087	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	6.39%	0.0043	5.24% 0.96% 0.19%	0.00351 0.00065 0.00012	Copper Nickel Gold	7440-50-8 7440-02-0 7440-57-5	82.00% 15.10% 2.91%	
Solder Mask	5.22%	0.0035	2.94% 0.84% 1.15% 0.16% 0.15%	0.00197 0.00056 0.00077 0.00010 0.00010	Quartz 3-methoxy-3-methylbutylacetate Barium Sulfate Talc (containing no asbestiform fibers) Trade secret ingredients	14808-60-7 103429-90-9 7727-43-7 14807-96-6 -	56.20% 16.00% 22.00% 3.00% 2.80%	Solder mask PSR4000 AUS 308

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