



Device Material Content

5555 NE Moore Ct. Hillsboro OR 97124 custreq@latticesemi.com		Package: 1152 fpBGA Total Device Weight 5.50 Grams			Package Code: FN1152	Assembly: ASEM Size (mm): 35 x 35 Lead pitch (mm): 1.0 MSL: 3 Reflow max (°C): 250		
June, 2022					Products: FE2			
	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	4.04%	0.2222	4.04%	0.2222	Silicon chip	7440-21-3	100.00%	Die size: 5.66 x 6.71mm
Mold Compound	34.46%	1.8951	2.41% 1.72% 1.72% 0.17% 28.43%	0.1327 0.0948 0.0948 0.0095 1.5634	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	0.57%	0.0314	0.46% 0.11%	0.02508 0.00627	Silver Esters & resins	7440-22-4 -	80.00% 20.00%	Die attach epoxy: Henkel (Ablebond) 2100A
Wire	0.18%	0.0100	0.18% 0.00%	0.0098 0.0001	Copper Palladium	7440-50-8 7440-05-3	98.50% 1.50%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	20.33%	1.1181	19.62% 0.61% 0.10%	1.0790 0.0335 0.0056	Tin (Sn) Silver (Ag) Copper (Cu)	7440-31-5 7440-22-4 7440-50-8	96.50% 3.00% 0.50%	SAC305
Substrate	21.65%	1.1909	6.93% 14.72%	0.3811 0.8098	BT Resins Glass fiber	- 65997-17-3	32.00% 68.00%	BT Resin CCL-HL832NX-A
Foil	14.44%	0.7941	13.64% 0.72% 0.07%	0.7503 0.0398 0.0040	Copper Nickel plating Gold plating	7440-50-8 7440-02-0 7440-57-5	94.48% 5.01% 0.50%	
Solder Mask	4.33%	0.2381	2.43% 0.69% 0.95% 0.13% 0.12%	0.1338 0.0381 0.0524 0.0071 0.0067	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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Rev. K1