Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
custreq@latticesemi.com

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Package: 132 csBGA
Total Device Weight 0.1061 Grams

Package Code: CB132
Products: ICE40HX

Assembly: ASEM
Size (mm): 8 x 8
Lead pitch (mm): 0.5
MSL: 3
Reflow max (^{o}C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	1.33%	0.0014	1.33%	0.0014	Silicon chip	7440-21-3	100.00%	Die size: 1.5 x 1.5 mm
Mold Compound	58.18%	0.0617	50.91%	0.0540	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G1250LKDS
			3.78%	0.0040	Epoxy resin	-	6.50%	
			3.20%	0.0034	Phenol Resin	-	5.50%	
			0.29%	0.0003	Carbon Black	1333-86-4	0.50%	
D/A Tape	0.22%	0.0002	0.03%	0.00004	Epoxy Resin	-	15.00%	Die attach tape: Hitachi FH-900 HR-9004 series
			0.03%	0.00004	Phenol Resin	-	15.00%	
			0.01%	0.00001	SiO2 Filler	99439-28-8	5.00%	
			0.14%	0.00015	(Meta)Acrylic Copolymer	-	65.00%	
Wire	0.83%	0.0009	0.82%	0.00087	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.01%	0.00001	Palladium	7440-05-3	1.50%	
Solder Balls	13.09%	0.0139	12.89%	0.0137	Tin (Sn)	7440-31-5	98.50%	SAC105
			0.13%	0.0001	Silver (Ag)	7440-22-4	1.00%	
			0.07%	0.0001	Copper (Cu)	7440-50-8	0.50%	
Substrate	13.41%	0.0142	9.12%	0.0097	Glass fiber	65997-17-3	68.00%	BT Resin CCL-HL832NX-A*
			4.16%	0.0044	BT Resins	-	31.00%	
			0.13%	0.0001	Bisphenol A	80-05-7	1.00%	
Solder Mask	4.03%	0.0043	2.26%	0.00240	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			0.64%	0.00068	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			0.89%	0.00094	Barium Sulfate	7727-43-7	22.00%	
			0.12%	0.00013	Talc	14807-96-6	3.00%	
			0.02%	0.00002	Naphthalene	91-20-3	0.50%	
			0.09%	0.00010	Trade secret ingredients	-	2.30%	
Foil	8.91%	0.0095	8.49%	0.0090	Copper	7440-50-8	95.31%	
			0.19%	0.0002	Nickel plating	7440-02-0	2.12%	
			0.19%	0.0002	Gold plating	7440-57-5	2.12%	

Notes: SVHC: * 0.13% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.

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