



Device Material Content

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

November, 2020

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 (°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
			4.29%	0.0046	BT Resins	-	32.00%	
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%	

Lattice regards this materials information to be correct but makes no guarantee as to its accuracy or completeness, including, but not limited to, with respect to its compliance with applicable environmental laws and regulations. Lattice subcontracts the production, test and assembly of hardware devices to independent third-party vendors and materials suppliers ("Contractors"). All data provided hereunder is based on information received from Contractors. Lattice has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Lattice products.

www.latticesemi.com



Rev. G