



Device Material Content

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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 (°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%	0.0009	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.01%	0.0000	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	2.19%	0.00232	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308
			0.30%	0.00031	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.13%	0.00014	Morpholine derivative	71868-10-5	3.32%	
			0.12%	0.00013	Silicon dioxide	7631-86-9	3.00%	
			0.12%	0.00013	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.00001	Carbon black	1333-86-4	0.24%	
			1.16%	0.00123	Trade secret ingredients	-	28.74%	
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: * 0.13% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.

Constituent substances and proportions in epoxy materials are before curing.

The information provided above is representative of the package as of the date listed, and is subject to change at any time.

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