



## Device Material Content

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**Package:** 256 caBGA  
**Total Device Weight** 0.425 Grams

**Package Code:**

CT256

**Products:**

ICE40HX

Assembly: ASEM

Size (mm): 14 x 14

Lead pitch (mm): 0.8

MSL: 3

Reflow max (°C): 260

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	0.88%	0.0037	0.88%	0.0037	Silicon chip	7440-21-3	100.00%	Die size: 2.69 x 2.41 mm
<b>Mold Compound</b>	61.36%	0.2608	53.69%	0.2282	Silica	60676-86-0	87.50%	Mold Compound: Kyocera KE-G1250LKDS
			3.99%	0.0170	Epoxy resin	-	6.50%	
			3.37%	0.0143	Phenol Resin	-	5.50%	
			0.31%	0.0013	Carbon Black	1333-86-4	0.50%	
<b>D/A Tape</b>	0.04%	0.0002	0.00%	0.00002	Epoxy Resin	25038-59-9	12.00%	Die attach: FH-900T-25_HR9004
			0.00%	0.00002	Phenol Resin	-	12.00%	
			0.00%	0.00001	SiO2 Filler	-	6.00%	
			0.03%	0.00012	(Meta)Acrylic Copolymer	-	70.00%	
<b>Wire</b>	0.37%	0.0016	0.36%	0.00155	Copper	7440-50-8	98.00%	0.7 mil diameter; 1 wire per solder ball
			0.01%	0.00003	Palladium	7440-05-3	2.00%	
<b>Solder Balls</b>	16.50%	0.0701	15.92%	0.0677	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.50%	0.0021	Silver (Ag)	7440-22-4	3.00%	
			0.08%	0.0004	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	20.84%	0.0886	9.53%	0.0405	Laminate*	-	45.71%	BT Resin CCL-HL832NX-A
			5.95%	0.0253	Solder mask PSR4000 AUS 308	-	28.57%	
			4.33%	0.0184	Copper	7440-50-8	20.77%	
			0.99%	0.0042	Nickel plating	7440-02-0	4.76%	
			0.04%	0.0002	Gold plating	7440-57-5	0.19%	

**Notes:** \* 0.10% 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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