



## Device Material Content

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**Package Code:**

Assembly: ASEM

Size (mm): 4 x 4

Lead pitch (mm): 0.4

MSL: 3

Reflow max (°C): 260

**Package:** 81 ucBGA

**Total Device Weight** 0.026 Grams

**CM81**

**Products:**

ICE40LP, LIF-UC

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	4.95%	0.0013	4.95%	0.0013	Silicon chip	7440-21-3	100.00%	Die size: 1.50 x 1.50 mm
<b>Mold Compound</b>	62.85%	0.0163	54.99%	0.0143	Silica	60676-86-0	87.50%	Mold Compound: KE-G1250LKDS
			4.09%	0.00106	Epoxy resin	-	6.50%	
			3.46%	0.00090	Phenol Resin	-	5.50%	
			0.31%	0.00008	Carbon Black	1333-86-4	0.50%	
<b>D/A Tape</b>	0.15%	0.00004	0.12%	0.00003	Silver	7440-22-4	80.00%	TAPE FH-900T-25_HR9004
			0.03%	0.00001	Esters & resins	-	20.00%	
<b>Wire</b>	1.05%	0.00027	1.02%	0.000266	Copper	7440-50-8	97.30%	0.7 MIL Pd coated Cu
			0.03%	0.000007	Palladium	7440-05-3	2.70%	
<b>Solder Balls</b>	2.66%	0.0007	2.62%	0.000681	Tin (Sn)	7440-31-5	98.50%	SAC105
			0.03%	0.000007	Silver (Ag)	7440-22-4	1.00%	
			0.01%	0.000003	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	28.29%	0.0074	18.39%	0.0048	Laminate*	-	65.00%	BT Resin CCL-HL832NX-A
			5.81%	0.0015	Solder mask PSR4000 AUS 308	-	20.54%	
			3.03%	0.00079	Copper	7440-50-8	10.71%	
			1.01%	0.00026	Nickel plating	7440-02-0	3.57%	
			0.05%	0.00001	Gold plating	7440-57-5	0.18%	

**Notes:** \* 0.18% 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.

[www.latticesemi.com](http://www.latticesemi.com)



Rev. C