



## Device Material Content

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Assembly: ASEM  
Size (mm): 17 x 17

Package: 256 fpBGA  
Total Device Weight 1.071 Grams

Package Code:  
FN256, FAN(M4A)

Lead pitch (mm): 1.0  
MSL: 3  
Reflow max (°C): 250

January, 2020

Products:

SC/M, M4A

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	2.12%	0.0227	2.12%	0.0227	Silicon chip	7440-21-3	100.00%	Die size: 5.30 x 5.00
<b>Mold Compound</b>	27.85%	0.2983	1.39%	0.0149	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL9750ZHF10AKL-U (ULA)
			1.39%	0.0149	Phenol Resin	-	5.00%	
			0.06%	0.0006	Carbon Black	1333-86-4	0.20%	
			24.45%	0.2619	Silica	60676-86-0	87.80%	
			0.56%	0.0060	Others	-	2.00%	
<b>D/A Epoxy</b>	0.22%	0.0024	0.18%	0.00188	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.04%	0.00047	Esters & resins	-	20.00%	
<b>Wire</b>	0.72%	0.0077	0.72%	0.0077	Gold (Au)	7440-57-5	100.00%	0.8 mil diameter; 1 wire per solder ball
<b>Solder Balls</b>	23.71%	0.2539	22.88%	0.2450	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.71%	0.0076	Silver (Ag)	7440-22-4	3.00%	
			0.12%	0.0013	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	24.31%	0.2604	7.78%	0.0833	BT Resins	-	32.00%	BT Resin CCL-HL832NX-A*
			16.53%	0.1770	Glass fiber	65997-17-3	68.00%	
<b>Foil</b>	16.85%	0.1805	15.32%	0.1640	Copper	7440-50-8	90.87%	
			1.46%	0.0156	Nickel plating	7440-02-0	8.64%	
			0.08%	0.0009	Gold plating	7440-57-5	0.48%	
<b>Solder Mask</b>	4.22%	0.0452	2.29%	0.0245	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308
			0.31%	0.0033	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.14%	0.0015	Morpholine derivative**	71868-10-5	3.32%	
			0.13%	0.0014	Silicon dioxide	7631-86-9	3.00%	
			0.13%	0.0014	Silica, amorphous	112945-52-5	3.00%	
			0.01%	0.0001	Carbon black	1333-86-4	0.24%	
			1.21%	0.0130	Trade secret ingredients	-	28.74%	

**Notes:** SVHC: \* 0.24% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.  
\*\* 0.14% max. concentration of Morpholine derivative (CAS# 71868-10-5), contained in solder mask material.

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