



## Device Material Content

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Assembly: ASEM  
Size (mm): 17 x 17

**Package Code:**

**BG381**

Lead pitch (mm): 0.8

MSL: 3

Reflow max (°C): 260

**Package: 381 caBGA**

**Total Device Weight 1.005 Grams**

**Products:**

FE5

October, 2020

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Material	Notes / Assumptions:
<b>Die</b>	2.65%	0.0266	2.65%	0.0266	Silicon chip	7440-21-3	100.00%	Die size: 6.55 x 7.04 mm
<b>Mold Compound</b>	40.47%	0.4067	2.83%	0.0285	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE (ULA)
			2.02%	0.0203	Phenol Novolac	9003-35-4	5.00%	
			2.02%	0.0203	Metal Hydroxide	-	5.00%	
			0.20%	0.0020	Carbon Black	1333-86-4	0.50%	
			33.39%	0.3355	Silica Fused	60676-86-0	82.50%	
<b>D/A Epoxy</b>	0.38%	0.0038	0.30%	0.00306	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.08%	0.00076	Esters & resins	-	20.00%	
<b>Wire</b>	0.26%	0.0026	0.25%	0.0026	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0000	Palladium	7440-05-3	1.50%	
<b>Solder Balls</b>	9.44%	0.0949	9.11%	0.0916	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.28%	0.0028	Silver (Ag)	7440-22-4	3.00%	
			0.05%	0.0005	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	27.61%	0.2775	8.56%	0.0860	BT Resins	-	31.00%	BT Resin CCL-HL832NX-A
			18.77%	0.1887	Glass fiber	65997-17-3	68.00%	
<b>Foil</b>	12.56%	0.1262	10.30%	0.1035	Copper	7440-50-8	82.00%	
			1.90%	0.0190	Nickel plating	7440-02-0	15.10%	
			0.37%	0.0037	Gold plating	7440-57-5	2.91%	
<b>Solder Mask</b>	6.63%	0.0666	3.73%	0.0375	Quartz	14808-60-7	56.20%	Solder mask PSR4000 AUS 308
			1.06%	0.0107	3-methoxy-3-methylbutylacetate	103429-90-9	16.00%	
			1.46%	0.0147	Barium Sulfate	7727-43-7	22.00%	
			0.20%	0.0020	Talc	14807-96-6	3.00%	
			0.03%	0.0003	Naphthalene	91-20-3	0.50%	
			0.15%	0.0015	Trade secret ingredients	-	2.30%	

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