



## Device Material Content

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**Package Code:**

**FN1152**

Assembly: ASEM

Size (mm): 35 x 35

Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

**Package: 1152 fpBGA**

**Total Device Weight 5.50 Grams**

**Products:**

FE2

April, 2018

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
<b>Die</b>	4.04%	0.2222	4.04%	0.2222	Silicon chip	7440-21-3	100.00%	Die size: 5.66 x 6.71mm
<b>Mold Compound</b>	34.46%	1.8951	2.41%	0.1327	Epoxy Resin	-	7.00%	Mold Compound: Sumitomo G750SE
			1.72%	0.0948	Phenol Novolac	9003-35-4	5.00%	
			1.72%	0.0948	Metal Hydroxide	-	5.00%	
			0.17%	0.0095	Carbon Black	1333-86-4	0.50%	
			28.43%	1.5634	Silica Fused	60676-86-0	82.50%	
<b>D/A Epoxy</b>	0.57%	0.0314	0.46%	0.02508	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.11%	0.00627	Esters & resins	-	20.00%	
<b>Wire</b>	0.18%	0.0100	0.18%	0.0098	Copper	7440-50-8	98.50%	0.8 mil diameter; 1 wire per solder ball
			0.00%	0.0001	Palladium	7440-05-3	1.50%	
<b>Solder Balls</b>	20.33%	1.1181	19.62%	1.0790	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.61%	0.0335	Silver (Ag)	7440-22-4	3.00%	
			0.10%	0.0056	Copper (Cu)	7440-50-8	0.50%	
<b>Substrate</b>	40.42%	2.2231	21.65%	1.1909	Laminate*	-	53.57%	BT Resin CCL-HL832NX-A
			4.33%	0.2381	Solder mask PSR4000 AUS 308	-	10.71%	
			13.64%	0.7503	Copper	7440-50-8	33.75%	
			0.72%	0.0398	Nickel plating	7440-02-0	1.79%	
			0.07%	0.0040	Gold plating	7440-57-5	0.18%	

**Notes:** \* 0.22% 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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