



Device Material Content

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Assembly: ASEM
Size (mm): 23 x 23

Package: 484 fpBGA
Total Device Weight 2.214 Grams

Package Code:

FN484

Lead pitch (mm): 1.0

MSL: 3

Reflow max (°C): 250

January, 2020

Products:

LAE3

	% of Total Pkg. Wt.	Weight (g)	% of Total Pkg. Wt.	Weight (g)	Substance	CAS #	% of Subst.	Notes / Assumptions:
Die	3.58%	0.0793	3.58%	0.0793	Silicon chip	7440-21-3	100.00%	Die size: 9.63 x 11.36 mm
Mold Compound	25.07%	0.5550	1.25%	0.0278	Epoxy Resin	-	5.00%	Mold Compound: Hitachi CEL9750ZHF10AKL-U B1(LSA)
			1.25%	0.0278	Phenol Resin	-	5.00%	
			0.05%	0.0011	Carbon Black	1333-86-4	0.20%	
			22.01%	0.4873	Silica	60676-86-0	87.80%	
			0.50%	0.0111	Others	-	2.00%	
D/A Epoxy	0.50%	0.0111	0.40%	0.00886	Silver	7440-22-4	80.00%	Die attach epoxy: Henkel (Ablebond) 2100A
			0.10%	0.00221	Esters & resins	-	20.00%	
Wire	0.64%	0.0142	0.64%	0.0142	Gold (Au)	7440-57-5	100.00%	0.8 mil diameter; 1 wire per solder ball
Solder Balls	21.30%	0.4716	20.55%	0.4551	Tin (Sn)	7440-31-5	96.50%	SAC305
			0.64%	0.0141	Silver (Ag)	7440-22-4	3.00%	
			0.11%	0.0024	Copper (Cu)	7440-50-8	0.50%	
Substrate	28.86%	0.6389	8.02%	0.1776	BT Resins	-	27.80%	BT Resin CCL-HL832EX*
			1.21%	0.0268	Bromine (Br)	10097-32-2	4.20%	
			19.62%	0.4344	Glass fiber	65997-17-3	68.00%	
Foil	13.12%	0.2905	10.76%	0.2382	Copper	7440-50-8	82.00%	
			1.98%	0.0439	Nickel plating	7440-02-0	15.10%	
			0.38%	0.0084	Gold plating	7440-57-5	2.91%	
Solder Mask	6.93%	0.1534	3.77%	0.0834	Quartz	14808-60-7	54.37%	Solder mask PSR4000 AUS 308
			0.51%	0.0112	Dipropylene glycol monomethyl ether	34590-94-8	7.33%	
			0.23%	0.0051	Morpholine derivative**	71868-10-5	3.32%	
			0.21%	0.0046	Silicon dioxide	7631-86-9	3.00%	
			0.21%	0.0046	Silica, amorphous	112945-52-5	3.00%	
			0.02%	0.0004	Carbon black	1333-86-4	0.24%	
			1.99%	0.0441	Trade secret ingredients	-	28.74%	

Notes: SVHC: * 0.29% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.
** 0.23% max. concentration of Morpholine derivative (CAS# 71868-10-5), contained in solder mask material.

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Rev. E