



Package Material Composition and Mass Calculation

Customer : NVL
 Package : VFQFN 48L 6x6x0.9PKG
 Device Type : nRF7000-QFAA#1
 Die Size(mm) : 3.7660x3.4010
 Estimate Pkg. Wt (mg) **111.77**

Provided By : Doris Chao
 Date : 03/03/2023
 Code : 95-21-0000-0001/07/02

	name	vendor	material composition	CAS No.	%	mg.(ave)	mg.	%	PPM					
Mold Compound	EME-G700LA TypeL-A	SUMITOMO	Epoxy Resin	Trade secret	5-10%	4.21200	46.80	41.873%	418.734					
			Phenol Resin	Trade secret	1-5%	1.40400				3.769%	37.686			
			Silica(Amorphous) A	60676-86-0	70-80%	36.83160				32.954%	329.544			
			Silica(Amorphous) B	7631-86-9	5-10%	4.21200				3.769%	37.686			
			Carbon black	1333-86-4	0.1 - 1%	0.14040				0.126%	1.256			
LEADFRAME	C194_Ag	MITSUI(MJA)	Copper(Cu)	7440-50-8	97.22%	53.74810	55.29	49.465%	494.652					
			Iron(Fe)	7439-89-6	2.29%	1.26603				1.133%	11.328			
			Zinc(Zn)	7440-66-6	0.15%	0.08293				0.074%	742			
			Phosphorus(P)	7723-14-0	0.03%	0.01659				0.015%	148			
			Silver(Ag)	7440-22-4	0.31%	0.17138				0.153%	1,533			
Die_1	Silicon		Silicon	7440-21-3	100%		6.25	5.589%	55.887					
Die Attach_1	EN-4900G*	Resonac	Silver(Ag)	7440-22-4	72-82%	0.81852	1.11	0.990%	9.897					
			Cresol Novolac Epoxy Resins	Trade secret	1-4%	0.02765				0.732%	7.324			
			Bisphenol A Diacrylate	Trade secret	6-11%	0.09955				0.025%	247			
			Dicyclopentyl group containir	Trade secret	3-8%	0.06637				0.089%	891			
			Butadiene copolymer	Trade secret	<2.0%	0.01659				0.059%	594			
			Polybutadiene epoxidized deriv	Trade secret	<2.0%	0.01659				0.015%	148			
			Peroxy Ketals	Trade secret	< 1.0%	0.05531				0.049%	495			
			Substitutedalkoxyalkyl trimetho	Trade secret	< 1.0%	0.00553				0.005%	49			
			Methacrylate multialkoxysubstit	Trade secret	< 1.0%	0.00830				0.007%	74			
Wire_2	Cu wire	NIPPON	Copper(Cu)	7440-50-8	≥96.55%	0.46936	0.47	0.422%	4.217					
			Palladium(Pd)	7440-05-3	≤3.1%	0.00057				0.4200%	4,200			
			Gold(Au)	7440-57-5	≤0.35%	0.00141				0.0005%	5			
External Plating	Sn plating	SHENMAO	Tin(Sn)	7440-31-5	>99.97%	1.85674	1.86	1.661%	16.613					
Total							111.77	100%	1000000					

DISCLAIMER

- The above material declaration be able to use only as reference in identifying the Hazardous material content of the product and the estimated weight of IC package.
- ASECL verify the content substances based on the SDS report provided by each raw material vendor, not the material composition of the final product.
- ASECL's suppliers consider certain information proprietary, thus, CAS numbers and other limited information may not be available for release.
- Lead frame and substrate are belong to "re-make product" by other homogeneous material. As a result, the composition will be different with SDS report.