



100% Material Declaration Data Sheet for Versal NBVB1024

PK1170(v1.0) August 22, 2023

Average Weight : 6.1758 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die					0.465248	7.533%
	Silicon	7440-21-3	100.00	basis	0.465248	
Bump					0.027246	0.441%
	PI1	NA	20.77	basis	0.005660	
	Ti (UBM)	7440-32-6	0.08	metal	0.000021	
	Cu (UBM)	7440-50-8	0.46	metal	0.000126	
	Cu (bump)	7440-50-8	61.66	metal	0.016801	
	Plating Ni	7440-02-0	0.00	metal	0.000000	
	Silver	7440-22-4	0.31	metal	0.000083	
	Tin	7440-31-5	16.72	metal	0.004554	
Underfill					0.047600	0.771%
	Bisphenol F type liquid epoxy resin	9003-36-5	20.00	basis	0.009520	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	5.00	basis	0.002380	
	Amine type hardener	trade secret	7.50	basis	0.003570	
	Silicon dioxide	60676-86-0	61.50	filler	0.029274	
	Carbon black	1333-86-4	1.00	color agent	0.000476	
Solder paste					0.015318	0.248%
					0.013227	
	Tin	7440-31-5	86.35	metal	0.000414	
	Silver	7440-22-4	2.70	metal	0.000069	
	Copper	7440-50-8	0.45	metal	0.000214	
	Polymer	trade secret	1.40	flux	0.000460	
	Organic amine	trade secret	3.00		0.000751	
	Solvent	trade secret	4.90		0.000184	
	Diglycolic acid	trade secret	1.20		0.049600	0.803%
	Capacitor 1					0.018785
Barium oxide, obtained by calcining witherite		1304-28-5	37.87	Main material	0.009393	
Titanium dioxide		13463-67-7	18.94	Main material	0.003131	
Misc		-	6.31	Main material	0.008370	
Nickel		7440-02-0	16.88	Inner Electrode	0.006417	
Copper (Cu)		7440-50-8	12.94	Terminal Electrode	0.000570	
Silicon dioxide		7631-86-9	1.15	Main material	0.000143	
Diboron trioxide; Boric oxide		1303-86-2	0.29	Main material	0.001550	
Nickel		7440-02-0	3.13	Electroplating	0.001240	
Capacitor 2					0.016000	0.259%
					0.005440	
	BaTiO3	12047-27-7	34.00	Ceramic	0.002896	
	Nickel	7440-02-0	18.10	Internal Electrode	0.006576	
	Copper	7440-50-8	41.10	Termination	0.000544	
	Nickel	7440-02-0	3.40	Plating	0.000544	
Solder ball					1.038156	16.810%
					1.001821	
	Tin	7440-31-5	96.50	Main material	0.031145	
	Silver	7440-22-4	3.00	Main material	0.005191	
Substrate					4.516632	73.134%
					1.897217	
	Copper	7440-50-8	42.01	Plating	0.012895	
	Tin	7440-31-5	0.29	Plating	0.000306	
	Silver	7440-22-4	0.01	Plating	1.755903	
	Core	N/A	38.87	Core	0.033662	
	Plugging	N/A	0.75	Plugging	0.758723	
	ABF	N/A	16.79	Build Up	0.057926	
	Solder Mask	N/A	1.28	Solder Mask		

Revision History

Date	Version	Description of Revisions
8/22/2023	1.0	Initial AMD Release.

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