AMD

PK1168(v1.0) July 24, 2023

100% Material Declaration Data Sheet for XCVN3716-VSVB2197

Average Weight : 23.5647 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die					**0.974793**	**4.137%**
	Silicon	7440-21-3	100.00	basis	0.974793	
Bump					**0.054253**	**0.230%**
	PI1	NA	20.77	basis	0.011271	
	Ti (UBM)	7440-32-6	0.08	metal	0.000042	
	Cu (UBM)	7440-50-8	0.46	metal	0.000251	
	Cu (bump)	7440-50-8	61.66	metal	0.033454	
	Plating Ni	7440-02-0	0.00	metal	0.000000	
	Silver	7440-22-4	0.31	metal	0.000166	
	Tin	7440-31-5	16.72	metal	0.009069	
Underfill					**0.090000**	**0.382%**
	Bisphenol F type liquid epoxy resin	9003-36-5	20.00	basis	0.018000	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	5.00	basis	0.004500	
	Amine type hardener	trade secret	7.50	basis	0.006750	
	Silicon dioxide	60676-86-0	61.50	filler	0.055350	
	Carbon black	1333-86-4	1.00	color agent	0.000900	
	Additives	trade secret	5.00	additives	0.004500	
Solder paste					**0.038734**	**0.164%**
	Tin	7440-31-5	86.35	metal	0.033447	
	Silver	7440-22-4	2.70	metal	0.001046	
	Copper	7440-50-8	0.45	metal	0.000174	
	Polymer	trade secret	1.40	flux	0.000542	
	Organic amine	trade secret	3.00		0.001162	
	solvent	trade secret	4.90		0.001898	
	Diglycolic acid	trade secret	1.20		0.000465	
Solder paste					**0.001000**	**0.004%**
	Tin	7440-31-5	85.40	metal	0.000854	
	Silver	7440-22-4	2.70	metal	0.001046	
	Copper	7440-50-8	0.40	metal	0.000155	
	Polymer	trade secret	5.50	flux	0.002130	
	Organic amine	trade secret	3.50		0.001356	
	Solvent	trade secret	2.50		0.000968	
Capacitor 1					**0.152000**	**0.645%**
	Barium oxide, obtained by calcining witherite	1304-28-5	40.42	Ceramic	0.000404	
	Titanium dioxide	13463-67-7	20.21		0.000202	
	Misc	-	6.74		0.000067	
	Nickel	7440-02-0	18.95	Internal Electrode	0.000189	
	Copper (Cu)	7440-50-8	5.21	Outer electrode	0.000052	
	Silicon dioxide	7631-86-9	0.46		0.000005	
	Diboron trioxide; Boric oxide	1303-86-2	0.12		0.000001	
	Nickel	7440-02-0	4.21	Plating	0.000042	
	Tin	7440-31-5	3.68	Plating	0.000037	
Capacitor 2					**0.009600**	**0.041%**
	Ceramic	66402-68-4	22.75	Dielectric	0.002184	
	Nickel	7440-02-0	30.75	Inner Electrode	0.002952	
	Copper	7440-50-8	41.13	Terminal Electrode	0.003948	
	Nickel	7440-02-0	2.00	Electroplating	0.000192	
	Tin	7440-31-5	3.38	Electroplating	0.000324	
Heat sink					**10.070000**	**42.733%**
	Carbon	7440-44-0	0.08	Main material	0.008056	
	Silicon	7440-21-3	1.00	Main material	0.100700	
	Manganese	7439-96-5	2.00	Main material	0.201400	
	Phosphorous	7723-14-0	0.05	Main material	0.004532	
	Sulfur	7704-34-9	0.03	Main material	0.003021	
	Chromium	7440-47-3	20.00	Main material	2.014000	
	Nickel	7440-02-0	10.50	Main material	1.057350	
	Iron	7439-89-6	66.35	Main material	6.680942	
Heat sink adhesive					**0.042000**	**0.178%**
	Treated Aluminium Oxide	trade secret	80.00	Main material	0.033600	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.008400	
Solder ball					**2.177694**	**9.241%**
	Tin	7440-31-5	96.50	Main material	2.101475	
	Silver	7440-22-4	3.00	Main material	0.065331	
	Copper	7440-50-8	0.50	Main material	0.010888	
Substrate					**9.954651**	**42.244%**
	Copper	7440-50-8	34.86		3.470374	
	Gold	7440-57-5	0.01		0.000677	
	Palladium	7440-50-3	0.01		0.000279	
	Nickel	7440-02-0	0.32		0.031727	
	Tin	7440-31-5	0.09		0.009379	
	Core	Trade Secret	48.01		4.779566	
	ABF	Trade Secret	15.57		1.549986	
	Solder Mask	Trade Secret	0.88		0.087823	
	Resine Plugging	Trade Secret	0.25		0.024840	

Revision History

Date	Version	Description of Revisions
7/24/2023	1.0	Initial AMD Release.

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