AMD

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100% Material Declaration Data Sheet for Zynq Ultrascale + FFVB1156 ENEPIG

Average Weight : **11.1431 g**

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die 1					**0.459040**	**4.119%**
	Silicon	7440-21-3	100.00	basis	0.459040	
Bump					**0.058602**	**0.526%**
	Polymer	NA	16.07	PI	0.009417	
	Titanium	7440-32-6	0.04	UBM-sputter Ti	0.000023	
	Copper	7440-50-8	0.43	UBM-sputter Cu	0.000252	
	Nickel	7440-02-0	2.59	UBM-plating Ni	0.001518	
	Tin	7440-31-5	79.41	Bump-plating SnAg	0.046536	
	Silver	7440-22-4	1.46	Bump-plating SnAg	0.000856	
Underfill					**0.060800**	**0.546%**
	Bisphenol F type liquid epoxy resin	9003-36-5	15.00	basis	0.009120	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.006080	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.00	basis	0.003040	
	Amine type hardener	trade secret	10.00	basis	0.006080	
	Silicon dioxide	60676-86-0	58.00	filler	0.035264	
	Carbon black	1333-86-4	1.00	color agent	0.000608	
	Additives	trade secret	1.00	additives	0.000608	
Solder paste					**0.010176**	**0.091%**
	Tin	7440-31-5	86.35	metal	0.008787	
	Silver	7440-22-4	2.70	metal	0.000275	
	Copper	7440-50-8	0.45	metal	0.000046	
	Polymer	trade secret	1.40	flux	0.000142	
	Organic amine	trade secret	3.00		0.000305	
	solvent	trade secret	4.90		0.000499	
	Diglycolic acid	trade secret	1.20		0.000122	
Capacitor 1					**0.035200**	**0.316%**
	Barium oxide, obtained by calcining witherite	1304-28-5	7.53	Ceramic	0.002651	
	Titanium dioxide	13463-67-7	3.77	Ceramic	0.001327	
	Misc	-	1.26		0.000444	
	Nickel	7440-02-0	83.38	Internal Electrode	0.029350	
	Copper	7440-50-8	2.98	Termination	0.001049	
	Silicon dioxide	7631-86-9	0.26	Termination	0.000092	
	diboron trioxide; boric oxide	1303-86-2	0.07		0.000025	
	Nickel	7440-02-0	0.19	Plating	0.000067	
	Tin	7440-31-5	0.56	Plating	0.000197	
Capacitor 2					**0.015000**	**0.135%**
	Ceramic	66402-68-4	22.75	Dielectric	0.003413	
	Nickel	7440-02-0	30.75	Inner Electrode	0.004613	
	Copper	7440-50-8	41.13	Terminal Electrode	0.006169	
	Nickel	7440-02-0	2.00	Electroplating	0.000300	
	Tin	7440-31-5	3.38	Electroplating	0.000506	
Heat sink					**4.965400**	**44.560%**
	Copper	7440-50-8	98.35	Main material	4.883471	
	Nickel	7440-02-0	1.65	Main material	0.081929	
Heat sink adhesive					**0.162000**	**1.454%**
	Aluminium Oxide Al2O3	trade secret	80.00	Main material	0.129600	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.032400	
Solder ball					**0.965683**	**8.666%**
	Tin	7440-31-5	96.50	Main material	0.931884	
	Silver	7440-22-4	3.00	Main material	0.028970	
	Copper	7440-50-8	0.50	Main material	0.004828	
Substrate					**4.411234**	**39.587%**
	Copper	7440-50-8	33.82	Plating,Solder Ball,Solder Paste	1.491804	
	Gold	7440-57-5	0.01	Plating	0.000390	
	Palladium	7440-50-3	0.00	Plating	0.000161	
	Nickel	7440-02-0	0.41	Plating	0.018257	
	Tin	7440-31-5	0.25	Solder Ball,Solder Paste	0.011056	
	Silver	7440-22-4	0.01	Solder Paste	0.000344	
	Core	trade secret	47.71	MCL-E-700G(R)	2.104551	
	ABF	trade secret	16.03	GX92R	0.707284	
	Solder Mask	trade secret	1.34	SR-F	0.059228	
	Resine Plugging	trade secret	0.41	PHP-900 IR-10F	0.018160	

Revision History

Date	Version	Description of Revisions
6/24/2024	1.0	Initial AMD Release per XCN23002.

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