



PK924(v1.0) October 10, 2017

100% Material Declaration Data Sheet for Ultrascale+ & Zynq Ultrascale+ FFVB/FFVE/FFVF1517

Average Weight : 15.7800 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die	Silicon	7440-21-3	100.00	basis	0.724022	4.588%
					0.724022	
Bump	Tin	7440-31-5	98.20	basis	0.030830	0.199%
	Silver	7440-22-4	1.80	basis	0.000565	
Underfill					0.085500	0.542%
	Bisphenol F type liquid	9003-36-5	15.00	basis	0.012825	
	1,6-Bis(2,3-	27610-48-6	10.00	basis	0.008550	
	Bisphenol A type liquid	25068-38-6	5.00	basis	0.004275	
	Amine type hardener	trade secret	10.00	basis	0.008550	
	Silicon dioxide	60676-86-0	58.00	filler	0.049590	
	Carbon black	1333-86-4	1.00	color agent	0.000855	
	Additives	trade secret	1.00	additives	0.000855	
Solder paste					0.012704	0.081%
	Tin	7440-31-5	82.70	metal	0.010506	
	Silver	7440-22-4	2.70	metal	0.000343	
	Copper	7440-50-8	1.55	metal	0.000197	
	Additives	trade secret	13.05	flux	0.001658	
Capacitor 1					0.001200	0.008%
	BaTiO3 type	1304-28-5	30.22	Ceramic	0.000363	
	Titanium dioxide	13463-67-7	15.11		0.000181	
	Misc	-	5.04		0.000060	
	Nickel	7440-02-0	33.44	Inner electrode	0.000401	
	Copper	7440-50-8	11.87	Out electrode	0.000142	
	Silicon dioxide	7631-86-9	1.06		0.000013	
	diboron trioxide; boric	1303-86-2	0.26		0.000003	
	Nickel	7440-02-0	0.81	Plating1	0.000010	
	Tin	7440-31-5	2.19	Plating2	0.000026	
Capacitor 2					0.000920	0.006%
	BaTiO3 type	12047-27-7	61.70	Ceramic	0.000568	
	Nickel	7440-02-0	4.89	Inner Electrode	0.000045	
	Indium tin oxide	50926-11-9	18.30	Outer Electrode	0.000168	
	Copper	7440-50-8	13.40	Outer Electrode	0.000123	
	Nickel	7440-02-0	0.49	Plating1	0.000005	
Heat sink					0.000011	
	Copper	7440-50-8	98.35	Main material	6.599285	42.522%
	Nickel	7440-02-0	1.65	Main material	0.110715	
Heat sink adhesive					0.223000	1.413%
	Aluminium Oxide Al2O3	-	80.00	Main material	0.178400	
Solder ball	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.044600	
					1.267250	8.031%
	Tin	7440-31-5	96.50	Main material	1.222896	
	Silver	7440-22-4	3.00	Main material	0.038018	
Substrate	Copper	7440-50-8	0.50	Main material	0.006336	
					6.724009	42.611%
	Copper	7440-50-8	42.22		2.838877	
	Tin	7440-31-5	0.44		0.029586	
	Silver	7440-22-4	0.01		0.000672	
	Core	N/A	38.59		2.594795	
	ABF	N/A	17.36		1.167288	
Solder Mask	N/A	1.38		0.092791		

Revision History

Date	Version	Description of Revisions
10/10/2017	1.0	Initial Xilinx Release.

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