



PK932(v1.0) November 02, 2017

100% Material Declaration Data Sheet for Zynq Ultrascale+ FFVD/FFVE1156

Average Weight : 17.799979 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	0.681875	3.831%
					0.681875	
Bump	Tin	7440-31-5	98.20	basis	0.029436	0.168%
	Silver	7440-22-4	1.80	basis	0.000540	
					0.029976	
Underfill	Bisphenol F type liquid	9003-36-5	15.00	basis	0.012315	0.461%
	1,6-Bis(2,3-	27610-48-6	10.00	basis	0.008210	
	Bisphenol A type liquid	25068-38-6	5.00	basis	0.004105	
	Amine type hardener	trade secret	10.00	basis	0.008210	
	Silicon dioxide	60676-86-0	58.00	filler	0.047618	
	Carbon black	1333-86-4	1.00	color agent	0.000821	
	Additives	trade secret	1.00	additives	0.000821	
						0.010144
Solder paste	Tin	7440-31-5	82.70	metal	0.008389	0.057%
	Silver	7440-22-4	2.70	metal	0.000274	
	Copper	7440-50-8	1.55	metal	0.000157	
	Additives	trade secret	13.05	flux	0.001324	
						0.030000
Capacitor 1	BaTiO3 type	1304-28-5	30.22	Ceramic	0.009066	0.169%
	Titanium dioxide	13463-67-7	15.11		0.004533	
	Misc	trade secret	5.04		0.001512	
	Nickel	7440-02-0	33.44	Inner electrode	0.010032	
	Copper	7440-50-8	11.87	Out electrode	0.003561	
	Silicon dioxide	7631-86-9	1.06		0.000318	
	diboron trioxide; boric	1303-86-2	0.26		0.000078	
	Nickel	7440-02-0	0.81	Plating1	0.000243	
	Tin	7440-31-5	2.19	Plating2	0.000657	
						0.021000
Capacitor 2	BaTiO3 type	12047-27-7	34.00	Ceramic	0.007140	0.118%
	Nickel	7440-02-0	18.00	Inner Electrode	0.003780	
	Copper	7440-50-8	41.00	Outer Electrode	0.008610	
	Nickel	7440-02-0	3.40	Plating1	0.000714	
	Tin	7440-31-5	3.40	Plating2	0.000714	
					10.640000	
Heat sink	Copper	7440-50-8	98.35	Main material	10.464440	59.775%
	Nickel	7440-02-0	1.65	Main material	0.175560	
					0.188000	
Heat sink adhesive	Aluminium Oxide Al2O3	trade secret	80.00	Main material	0.150400	1.056%
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.037600	
					0.965683	
Solder ball	Tin	7440-31-5	96.50	Main material	0.931884	5.425%
	Silver	7440-22-4	3.00	Main material	0.028970	
	Copper	7440-50-8	0.50	Main material	0.004828	
					5.151222	
Substrate	Copper	7440-50-8	41.11		2.117668	28.939%
	Tin	7440-31-5	0.49		0.025241	
	Silver	7440-22-4	0.02		0.001030	
	Core	N/A	39.3		2.024430	
	ABF	N/A	17.69		0.911251	
	Solder Mask	N/A	1.39		0.071602	

Revision History

Date	Version	Description of Revisions
11/2/2017	1.0	Initial Xilinx Release.

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