PK876(v1.0) March 2, 2017

100% Material Declaration Data Sheet for UltraScale+ FFVA/FFVB/FFVC1156

Average Weight : 11.2167 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die					**0.459040**	**4.092%**
	Silicon	7440-21-3	100.00	basis	0.459040	
Bump					**0.020488**	**0.183%**
	Tin	7440-31-5	98.20	basis	0.020119	
	Silver	7440-22-4	1.80	basis	0.000369	
Underfill					**0.060800**	**0.542%**
	Bisphenol F type liquid	9003-36-5	15.00	basis	0.009120	
	1,6-Bis(2,3-	27610-48-6	10.00	basis	0.006080	
	Bisphenol A type liquid	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					**0.012224**	**0.109%**
	Tin	7440-31-5	82.70	metal	0.010109	
	Silver	7440-22-4	2.70	metal	0.000330	
	Copper	7440-50-8	1.55	metal	0.000189	
	Additives	trade secret	13.05	flux	0.001595	
Capacitor 1					**0.001200**	**0.011%**
	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**	**0.008%**
	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	
	Tin	7440-31-5	1.22	Plating2	0.000011	
Heat sink					**4.965400**	**44.268%**
	Copper	7440-50-8	98.35	Main material	4.883471	
	Nickel	7440-02-0	1.65	Main material	0.081929	
Heat sink adhesive					**0.152000**	**1.355%**
	Aluminium Oxide Al2O3	-	80.00	Main material	0.121600	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.030400	
Solder ball					**0.965683**	**8.609%**
	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					**4.578945**	**40.823%**
	Copper	7440-50-8	40.93		1.874162	
	Tin	7440-31-5	0.29		0.013279	
	Silver	7440-22-4	0.01		0.000458	
	Resin	N/A	0.13		0.005953	
	Core	N/A	41.69		1.908962	
	ABF	N/A	15.74		0.720726	
	Solder Mask	N/A	1.21		0.055405	

Revision History

Date	Version	Description of Revisions
3/2/2017	1.0	Initial Xilinx Release.

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