



100% Material Declaration Data Sheet for Virtex-5 FFG1153

PK192 (v1.3) Apr 14, 2016

Average Weight : 10.5305 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight	Component % of total
Silicon Die	Si	7440-21-3	100.00	basis	0.548912	5.213%
					0.548912	
Solder Bump	Sn	7440-31-5	63.00	basis	0.026340	0.397%
	Pb	7439-92-1	37.00	basis	0.015469	
Underfill					0.065000	0.617%
	Bisphenol F/ epichlorohydrin copolymer	9003-36-5	20.00	basis	0.013000	
	Phenolic resin	trade secret	15.00	basis	0.009750	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.00	basis	0.003250	
	Amine type accelerator	trade secret	5.00	basis	0.003250	
	Silicon dioxide	60676-86-0	51.50	basis	0.033475	
	Carbon black	1333-86-4	1.00	basis	0.000650	
	Additives	trade secret	2.50	Additive	0.001625	
Solder paste					0.070000	0.665%
	Sn	7440-31-5	96.50	metal	0.067550	
	Ag	7440-22-4	3.00	metal	0.002100	
Capacitor 1					0.000350	0.266%
	Ceramic(BaTiO3 type)	trade secret	61.80	Ceramic	0.017304	
	Inner Electrode(Ni)	7440-02-0	27.00	Inner electrode	0.007560	
	Outer Electrode(Cu)	7440-50-8	9.90	Out electrode	0.002772	
	Plating1(Ni)	7440-02-0	0.40	Plating1	0.000112	
Capacitor 2					0.000252	0.889%
	Plating2(Sn)	7440-31-5	0.90	Plating2	0.000252	
	Ceramic(BaTiO3 type)	trade secret	61.54	Ceramic	0.057600	
	Inner Electrode(Ni)	7440-02-0	18.21	Inner electrode	0.017040	
	Outer Electrode(Cu)	7440-50-8	17.95	Out electrode	0.016800	
Heat sink					0.000720	47.153%
	Plating1(Ni)	7440-02-0	0.77	Plating1	0.000720	
	Plating2(Sn)	7440-31-5	1.54	Plating2	0.001440	
Heat sink adhesive					4.965400	1.443%
	Cu	7440-50-8	99.54	Main material	4.942559	
	Ni	7440-02-0	0.46	Main material	0.022841	
	Aluminum oxide(Al2O3)	1344-28-1	70.00	Main material	0.106400	
Solder ball					0.022800	9.171%
	Zinc oxide (ZnO)	1314-13-2	15.00	Main material	0.022800	
	Silicone	Trade Secret	15.00	Main material	0.022800	
	Additives	Trade Secret		Additive		
Substrate					0.965783	34.186%
	Sn	7440-31-5	95.50	Main material	0.922323	
	Ag	7440-22-4	4.00	Main material	0.038631	
Substrate					0.004829	34.186%
	Cu	7440-50-8	0.50	Main material	0.004829	
	Copper	7440-50-8	43.30	Main material	1.558800	
	Tin	7440-31-5	0.92	Main material	0.033120	
	Lead	7439-92-1	0.13	Main material	0.004680	
	Silver	7440-22-4	0.06	Main material	0.002160	
	Core	N/A	37.26	Main material	1.341360	
	PP	N/A	4.35	Main material	0.156600	
	ABF	N/A	12.20	Main material	0.439200	
Solder Mask	N/A	1.78	Main material	0.064080		

Revision History

Date	Version	Description of Revisions
05/19/2010	1.0	Initial Xilinx release.
03/04/2011	1.1	Update component weights
03/29/2013	1.2	Updated Substrate Component
04/14/2016	1.3	Update substrate

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