



100% Material Declaration Data Sheet for Virtex-5 FFG676

PK194 (v1.3) Apr 14, 2016

Average Weight : 6.2139 g

Component	Substance Description	CAS # or Description	% of Component	Use in product	Component Weight	Component % of total
Silicon Die					<b>0.457812</b>	7.368%
	Si	7440-21-3	100.000	basis	0.457812	
Solder Bump					<b>0.033889</b>	0.545%
	Sn	7440-31-5	63.000	basis	0.021350	
	Pb	7439-92-1	37.000	basis	0.012539	
Solder Paste					<b>0.060000</b>	0.966%
	Sn	7440-31-5	96.500	metal	0.057900	
	Ag	7440-22-4	3.000	metal	0.001800	
	Cu	7440-50-8	0.500	metal	0.000300	
Capacitor 1					<b>0.015000</b>	0.241%
	Ceramic(BaTiO3 type)	trade secret	51.100	Ceramic	0.007665	
	Inner Electrode(Ni)	7440-02-0	27.000	Inner electrode	0.004050	
	Outer Electrode(Cu)	7440-50-8	16.900	Out electrode	0.002535	
	Plating1(Ni)	7440-02-0	2.000	Plating1	0.000300	
Capacitor 2					<b>0.015600</b>	0.251%
	Ceramic(BaTiO3 type)	trade secret	61.560	Ceramic	0.009603	
	Inner Electrode(Ni)	7440-02-0	18.200	Inner electrode	0.002839	
	Outer Electrode(Cu)	7440-50-8	17.930	Out electrode	0.002797	
	Plating1(Ni)	7440-02-0	0.770	Plating1	0.000120	
Underfill					<b>0.065000</b>	1.046%
	Bisphenol F/ epichlorohydrin copolymer	9003-36-5	20.000	basis	0.013000	
	Phenolic resin	trade secret	15.000	basis	0.009750	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.000	basis	0.003250	
	Amine type accelerator	trade secret	5.000	basis	0.003250	
	Silicon dioxide	60676-86-0	51.500	basis	0.033475	
	Carbon black	1333-86-4	1.000	basis	0.000650	
	Additives	trade secret	2.500	Additive	0.001625	
Lid					<b>3.030000</b>	48.762%
	Cu	7440-50-8	99.120	Main material	3.003336	
	Ni	8049-31-8	0.880	Main material	0.026664	
Lid Adhesive					<b>0.137000</b>	2.205%
	Aluminum oxide(Al2O3)	1344-28-1	70.000	Main material	0.095900	
	Zinc oxide (ZnO)	1314-13-2	15.000	Main material	0.020550	
Solder Ball					<b>0.566235</b>	9.112%
	Sn	7440-31-5	95.500	Main material	0.540754	
	Ag	7440-22-4	4.000	Main material	0.022649	
	Cu	7440-50-8	0.500	Main material	0.002831	
Substrate					<b>1.833333</b>	29.504%
	Copper	7440-50-8	51.090	Main material	0.936650	
	Tin	7440-31-5	0.810	Main material	0.014850	
	Lead	7439-92-1	0.110	Main material	0.002017	
	Silver	7440-22-4	0.020	Main material	0.000367	
	Core	N/A	32.060	Main material	0.587767	
	ABF	N/A	12.450	Main material	0.228250	
Solder Mask	N/A	3.460	Main material	0.063433		

Revision History

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

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