



PK194 (v1.1) March 4, 2011

100% Material Declaration Data Sheet FFG676

Average Weight: 6.2139 g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die (FPGA)				Silicon IC	0.457812	7.368
	Doped silicon	7440-21-3	100.00		0.457812	
Solder Bump				Die to package	0.033889	0.545
	Tin	7440-31-5	63.00		0.021350	
	Lead	7439-92-1	37.00		0.012539	
Die Underfill					0.065000	1.046
	Bisphenol F-type liquid epoxy resin	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	2.50	Basis	0.003250	
	Amine type accelerator	Trade secret	2.50	Basis	0.003250	
	Silicon dioxide	60676-86-0	57.00	Basis	0.033475	
	Carbon black	1333-86-4	0.50	Basis	0.000650	
	Additives	Trade secret	2.50	Basis	0.001625	
Solder Paste					0.060000	0.966
	Tin	7440-31-5	96.50	Basis	0.057900	
	Silver	7440-22-4	3.00	Basis	0.001800	
	Copper	7440-50-8	0.50	Basis	0.000300	

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Substrate					1.833333	29.504
Plating	Copper	7440-50-8	42.76	Main material	0.784005	
	Nickel	7440-02-0	0.90	Main material	0.016450	
	Gold	7440-57-5	0.19	Main material	0.003564	
Bump	Lead	7439-92-1	0.10	Main material	0.001867	
	Tin	7440-31-5	0.17	Main material	0.003178	
Copper Foil	Copper	7440-50-8	5.70	Main material	0.104427	
Core	Bismaleimide	13676-54-5	12.11	Main material	0.222047	
	Triazine	25722-66-1	12.11	Main material	0.222047	
	Epoxy Resin	29690-82-2 68541-56-0 25068-38-6	3.63	Main material	0.066614	
	Inorganic filler	13776-74-4 7631-86-9	0.40	Main material	0.007402	
	Fiberglass	65997-17-3	12.11	Main material	0.222047	
ABF	Bisphenol A-type epoxy resin	25068-38-6	2.02	Main material	0.037008	
	Cyclohexane	108-94-1	2.02	Main material	0.037008	
	N, N-dimethylformamide	68-12-2	2.02	Main material	0.037008	
	Silica powder (Silicon dioxide)	7631-86-9	2.02	Main material	0.037008	
Solder Mask	Levelling agents and others	N/A	0.01	Main material	0.000253	
	Phthalocyanine blue, organic pigment	N/A	0.00	Main material	0.000063	
	Amine compound	N/A	0.01	Main material	0.000127	
	Barium sulfate	7727-43-7	0.23	Main material	0.004305	
	Silica	15468-32-3	0.12	Main material	0.002152	
	Talc	14807-96-6	0.12	Main material	0.002152	
	Diethylene glycol monoethyl ether acetate	N/A	0.06	Main material	0.001140	
	Dipropylane glycol monomethyl ether	N/A	0.05	Main material	0.000981	
	Dipropylane glycol monomethyl ether acetate	N/A	0.16	Main material	0.002880	
	High boiling-point petroleum solvent	N/A	0.13	Main material	0.002406	
	Aromatic carbonyl compound	N/A	0.05	Main material	0.000855	
	Acrylic monomer	N/A	0.06	Main material	0.001076	
	Acrylic resin	N/A	0.46	Main material	0.008451	
	Epoxy resin	N/A	0.26	Main material	0.004811	

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Capacitor					0.015000	0.241
	Ceramic (BaTiO3 type)	Trade secret	51.10	Ceramic	0.007665	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.004050	
	Outer electrode (Cu)	7440-50-8	16.90	Outer electrode	0.002535	
	Plating1 (Ni)	7440-02-0	2.00	Plating1	0.000300	
	Plating2 (Sn)	7440-31-5	3.00	Plating2	0.000450	
Capacitor					0.015600	0.251
	Ceramic (BaTiO3 type)	Trade secret	61.56	Ceramic	0.009603	
	Inner electrode (Ni)	7440-02-0	18.20	Inner electrode	0.002839	
	Outer electrode (Cu)	7440-50-8	17.93	Outer electrode	0.002797	
	Plating1 (Ni)	7440-02-0	0.77	Plating1	0.000120	
	Plating2 (Sn)	7440-31-5	1.54	Plating2	0.000240	
Heat Sink					3.030000	48.762
	Copper	7440-50-8	99.12	Main material	3.003336	
	Nickel	7440-02-0	0.88	Main material	0.026664	
Heat Sink Adhesive					0.137000	2.205
	Aluminum oxide(Al2O3)	1344-28-1	70.00	Main material	0.095900	
	Zinc oxide (ZnO)	1314-13-2	15.00	Main material	0.020550	
	Silicone	Trade Secret	15.00	Main material	0.020550	
	Additives	Trade Secret		Additive		
Solder Balls					0.566235	9.112
	Tin	7440-31-5	95.50	Base metal	0.540754	
	Silver	7440-22-4	4.00	Base metal	0.022649	
	Copper	7440-50-8	0.50	Base metal	0.002831	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
05/19/10	1.0	Initial Xilinx release.
03/04/10	1.1	Updated component weights

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