



PK432 (v1.0) March 11, 2011

100% Material Declaration Data Sheet FF1759

Average Weight: 15.5996 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	0.656000	4.205
	Doped silicon	7440-21-3	100.00	Basis	0.656000	
Solder Bump				Die to package	0.050631	0.325
	Tin	7440-31-5	63.00	Basis	0.031898	
	Lead	7439-92-1	37.00	Basis	0.018734	
Die Underfill					0.130000	0.833
	Bisphenol F-type liquid epoxy resin	9003-36-5	20.00	Basis	0.026000	
	Phenolic resin	Trade secret	15.00	Basis	0.019500	
	Bisphenol A-type liquid epoxy resin	25068-38-6	5.00	Basis	0.006500	
	Amine type accelerator	Trade secret	5.00	Basis	0.006500	
	Silicon dioxide	60676-86-0	51.50	Basis	0.066950	
	Carbon black	1333-86-4	1.00	Basis	0.001300	
	Additives	Trade secret	2.50	Basis	0.003250	
Solder Paste					0.105000	0.673
	Tin	7440-31-5	96.50	Basis	0.101325	
	Silver	7440-22-4	3.00	Basis	0.003150	
	Copper	7440-50-8	0.50	Basis	0.000525	

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Substrate					5.285891	33.885
Plating	Copper	7440-50-8	29.68	Main material	1.569075	
	Nickel	7440-02-0	0.42	Main material	0.022095	
	Gold	7440-57-5	0.09	Main material	0.004787	
Bump	Lead	7439-92-1	0.61	Main material	0.032301	
	Tin	7440-31-5	1.04	Main material	0.054998	
Copper Foil	Copper	7440-50-8	3.75	Main material	0.198108	
Core	Bismaleimide	13676-54-5	13.94	Main material	0.736950	
	Triazine	25722-66-1	13.94	Main material	0.736950	
	Epoxy resin	29690-82-2 68541-56-0 25068-38-6	4.18	Main material	0.221085	
	Inorganic filler	13776-74-4 7631-86-9	0.46	Main material	0.024565	
	Fiberglass	65997-17-3	13.94	Main material	0.736950	
ABF	Bisphenol A-type epoxy resin	25068-38-6	4.10	Main material	0.216750	
	Cyclohexane	108-94-1	4.10	Main material	0.216750	
	N, Ndimethylformamide	68-12-2	4.10	Main material	0.216750	
	Silica powder (Silicon dioxide)	7631-86-9	4.10	Main material	0.216750	
Solder Mask	Levelling agents & others	N/A	0.01	Main material	0.000648	
	Phthalocyanine blue, organic pigment	N/A	0.00	Main material	0.000162	
	Amine compound	N/A	0.01	Main material	0.000324	
	Barium sulfate	7727-43-7	0.21	Main material	0.011020	
	Silica	15468-32-3	0.10	Main material	0.005510	
	Talc	14807-96-6	0.10	Main material	0.005510	
	Diethylene glycol monoethyl ether acetate	N/A	0.06	Main material	0.002917	
	Dipropylane glycol monomethyl ether	N/A	0.05	Main material	0.002512	
	Dipropylane glycol monomethyl ether acetate	N/A	0.14	Main material	0.007373	
	High boiling-point petroleum solvent	N/A	0.12	Main material	0.006158	
	Aromatic carbonyl compound	N/A	0.04	Main material	0.002188	
	Acrylic monomer	N/A	0.05	Main material	0.002755	
	Acrylic resin	N/A	0.41	Main material	0.021634	
	Epoxy resin	N/A	0.23	Main material	0.012316	

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Capacitor 0805_X7S					0.056000	0.359
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.034608	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.015120	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.005544	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000224	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000504	
Capacitor 0603_X7S					0.074100	0.475
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.049943	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.012597	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.010226	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000371	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000963	
Heat Sink					7.310000	46.860
	Copper	7440-50-8	98.65	Main material	7.211315	
	Nickel	7440-02-0	1.35	Main material	0.098685	
Heat Sink Adhesive					0.260000	1.667
	Aluminum dioxide	1344-28-1	70.00	Main material	0.182000	
	Zinc oxide	1314-13-2	15.00	Main material	0.039000	
	Organic silicon compound	trade secret	15.00	Main material	0.039000	
Solder Balls					1.672000	10.718
	Tin (Sn)	7440-31-5	63.00	Base metal	1.053360	
	Lead (Pb)	7439-92-1	37.00	Base metal	0.618640	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
03/11/11	1.0	Initial Xilinx release.

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