PK478 (v1.0) May 6, 2011

100% Material Declaration Data Sheet FF1923

Average Weight: 25.1967 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	**0.785000**	**3.115**
	Doped silicon	7440-21-3	100.00	Basis	0.785000	
Solder Bump				Die to package	**0.064920**	**0.258**
	Tin	7440-31-5	63.00	Basis	0.040900	
	Lead	7439-92-1	37.00	Basis	0.024020	
Die Underfill					**0.100000**	**0.397**
	Bisphenol F-type liquid epoxy resin	9003-36-5	20.00	Basis	0.020000	
	Phenolic resin	Trade secret	15.00	Basis	0.015000	
	Bisphenol A-type liquid epoxy resin	25068-38-6	5.00	Basis	0.005000	
	Amine type accelerator	Trade secret	5.00	Basis	0.005000	
	Silicon dioxide	60676-86-0	51.50	Basis	0.051500	
	Carbon black	1333-86-4	1.00	Basis	0.001000	
	Additives	Trade secret	2.50	Basis	0.002500	
Solder Balls					**1.827000**	**7.251**
	Tin (Sn)	7440-31-5	63.00	Base metal	1.151010	
	Lead (Pb)	7439-92-1	37.00	Base metal	0.675990	

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Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Substrate					**3.985534**	**15.818**
Plating	Copper	7440-50-8	39.37	Main material	1.569075	
	Nickel	7440-02-0	0.55	Main material	0.022095	
	Gold	7440-57-5	0.12	Main material	0.004787	
Bump	Lead	7439-92-1	0.81	Main material	0.032301	
	Tin	7440-31-5	1.38	Main material	0.054998	
Copper Foil	Copper	7440-50-8	4.97	Main material	0.198108	
Core	Epoxy resin	N/A	5.55	Main material	0.221085	
	Copper	7440-50-8	4.97	Main material	0.198108	
	Fiberglass	65997-17-3	18.49	Main material	0.736950	
ABF	Bisphenol A-type epoxy resin	25068-38-6	5.44	Main material	0.216750	
	Cyclohexane	108-94-1	5.44	Main material	0.216750	
	N, N-dimethylformamide	68-12-2	5.44	Main material	0.216750	
	Silica powder (Silicon dioxide)	7631-86-9	5.44	Main material	0.216750	
Solder Mask	Levelling agents & others	N/A	0.02	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	0.28	Main material	0.011020	
	Silica	15468-32-3	0.14	Main material	0.005510	
	Talc	14807-96-6	0.14	Main material	0.005510	
	Diethylene glycol monoethyl ether acetate	N/A	0.07	Main material	0.002917	
	Dipropylane glycol monomethyl ether	N/A	0.06	Main material	0.002512	
	Dipropylane glycol monomethyl ether acetate	N/A	0.19	Main material	0.007373	
	High boiling-point petroleum solvent	N/A	0.15	Main material	0.006158	
	Aromatic carbonyl compound	N/A	0.05	Main material	0.002188	
	Acrylic monomer	N/A	0.07	Main material	0.002755	
	Acrylic resin	N/A	0.54	Main material	0.021634	
	Epoxy resin	N/A	0.31	Main material	0.012316	

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Solder Paste					**0.028400**	**0.113**
	Tin	7440-31-5	96.50	Basis	0.027406	
	Silver	7440-22-4	3.00	Basis	0.000852	
	Copper	7440-50-8	0.50	Basis	0.000142	
Capacitor					**0.056000**	**0.222**
	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					**0.023400**	**0.093**
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.015772	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.003978	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.003229	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000117	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000304	
Capacitor					**0.031200**	**0.124**
	Ceramic (BaTiO3 type)	Trade secret	66.00	Ceramic	0.020261	
	Inner electrode (Ni)	7440-02-0	2.67	Inner electrode	0.005990	
	Outer electrode (Cu)	7440-50-8	23.33	Outer electrode	0.004390	
	Plating1 (Ni)	7440-02-0	2.33	Plating1	0.000159	
	Plating2 (Sn)	7440-31-5	5.67	Plating2	0.000399	
Capacitor					**0.007200**	**0.029**
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.004752	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.000192	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.001680	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000168	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000408	
Heat Sink					**18.108000**	**71.867**
	Copper	7440-50-8	97.25	Main material	17.954082	
	Nickel	7440-02-0	2.75	Main material	0.153918	
Heat Sink Adhesive					**0.180000**	**0.714**
	Aluminum oxide	1344-28-1	70.00	Main material	0.126000	
	Zinc oxide	1314-13-2	15.00	Main material	0.027000	
	Organic Silicon compound	Trade secret	15.00	Main material	0.027000	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
05/06/11	1.0	Initial Xilinx release.

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