PK467 (v1.0) March 11, 2011

100% Material Declaration Data Sheet Virtex-6 FF1156

Average Weight: 10.8679 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	**0.505265**	**4.649**
	Doped silicon	7440-21-3	100.00	Basis	0.505265	
Solder Bump				Die to package	**0.026065**	**0.240**
	Tin	7440-31-5	63.00	Basis	0.016421	
	Lead	7439-92-1	37.00	Basis	0.009644	
Die Underfill					**0.077000**	**0.709**
	Bisphenol F-type liquid epoxy resin	9003-36-5	20.00	Basis	0.015400	
	Phenolic resin	Trade secret	15.00	Basis	0.011550	
	Bisphenol A-type liquid epoxy resin	25068-38-6	5.00	Basis	0.003850	
	Amine type accelerator	Trade secret	5.00	Basis	0.003850	
	Silicon dioxide	60676-86-0	51.50	Basis	0.039655	
	Carbon black	1333-86-4	1.00	Basis	0.000770	
	Additives	Trade secret	2.50	Basis	0.001925	

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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					**3.847700**	**35.404**
Plating	Copper	7440-50-8	38.73	Main material	1.490047	
	Nickel	7440-02-0	0.54	Main material	0.020620	
	Gold	7440-57-5	0.12	Main material	0.004467	
Bump	Lead	7439-92-1	0.59	Main material	0.022686	
	Tin	7440-31-5	1.00	Main material	0.038627	
Copper Foil	Copper	7440-50-8	3.58	Main material	0.137678	
Core	Fiberglass	65997-17-3	21.98	Main material	0.845691	
	Epoxy resin	29690-82-2 68541-56-0 25068-38-6	21.98	Main material	0.845691	
ABF	Bisphenol A-type epoxy resin	25068-38-6	2.59	Main material	0.099493	
	Cyclohexane	108-94-1	2.59	Main material	0.099493	
	N, N-dimethylformamide	68-12-2	2.59	Main material	0.099493	
	Silica powder (Silicon dioxide)	7631-86-9	2.59	Main material	0.099493	
Solder Mask	Levelling agents	N/A	0.01	Main material	0.000354	
	Phthalocyanine blue, organic pigment	N/A	0.00	Main material	0.000088	
	Amine compound	N/A	0.00	Main material	0.000177	
	Barium sulfate	7727-43-7	0.16	Main material	0.006014	
	Silica	15468-32-3	0.08	Main material	0.003007	
	Talc	14807-96-6	0.08	Main material	0.003007	
	Diethylene glycol monoethyl ether acetate	N/A	0.04	Main material	0.001592	
	Dipropylane glycol monomethyl ether	N/A	0.04	Main material	0.001371	
	Dipropylane glycol monomethyl ether acetate	N/A	0.10	Main material	0.004024	
	High boiling-point petroleum solvent	N/A	0.09	Main material	0.003361	
	Aromatic carbonyl compound	N/A	0.03	Main material	0.001194	
	Acrylic monomer	N/A	0.04	Main material	0.001503	
	Acrylic resin	N/A	0.31	Main material	0.011806	
	Epoxy resin	N/A	0.17	Main material	0.006721	

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Solder Paste					**0.062140**	**0.572**
	Tin	7440-31-5	96.50	Basis	0.059965	
	Silver	7440-22-4	3.00	Basis	0.001864	
	Copper	7440-50-8	0.50	Basis	0.000311	
Capacitor 0805_X7S					**0.042000**	**0.386**
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.025956	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.011340	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.004158	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000168	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000378	
Capacitor 0603_X7S					**0.062400**	**0.574**
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.042058	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.010608	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.008611	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000312	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000811	
Capacitor 0201_X6S					**0.003000**	**0.028**
	Ceramic (BaTiO3 type)	Trade secret	66.00	Ceramic	0.001980	
	Inner electrode (Ni)	7440-02-0	2.67	Inner electrode	0.000080	
	Outer electrode (Cu)	7440-50-8	23.33	Outer electrode	0.000700	
	Plating1 (Ni)	7440-02-0	2.33	Plating1	0.000070	
	Plating2 (Sn)	7440-31-5	5.67	Plating2	0.000170	
Heat Sink					**4.990000**	**45.915**
	Copper	7440-50-8	99.54	Main material	4.967046	
	Nickel	7440-02-0	0.46	Main material	0.022954	
Heat Sink Adhesive					**0.152000**	**1.399**
	Aluminum Oxide	1344-28-1	70.00	Main material	0.106400	
	Zinc Oxide	1314-13-2	15.00	Main material	0.022800	
	Organic silicon compound	Trade secret	15.00	Main material	0.022800	
Solder Balls					**1.100277**	**10.124**
	Tin (Sn)	7440-31-5	63.00	Base metal	0.693175	
	Lead (Pb)	7439-92-1	37.00	Base metal	0.407102	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
3/11/11	1.0	Initial Xilinx release.

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