PK467 (v1.1) September 28, 2012

100% Material Declaration Data Sheet Virtex-6 FF1156

Average Weight: 11.1064 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**	**4.549**
	Doped silicon	7440-21-3	100.00	Basis	0.505265	
Solder Bump				Die to package	**0.026065**	**0.2435**
	Tin	7440-31-5	63.00	Basis	0.016421	
	Lead	7439-92-1	37.00	Basis	0.009644	
Die Underfill					**0.077000**	**0.693**
	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	
Substrate					**4.086255**	**36.792**
	Cu	7440-50-8	35.8	Main Material	1.462846	
	Tin	7440-31-5	2.03	Main Material	0.082814	
	Lead	7439-92-1	0.51	Main Material	0.020998	
	Silver	7440-22-4	0.04	Main Material	0.001542	
	BT Core	N/A	41.37	Main Material	1.690500	
	ABF	N/A	19.19	Main Material	0.784000	
	Soldermask	N/A	1.07	Main Material	0.043555	

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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
Solder Paste					**0.062140**	**0.559**
	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**	**0.378**
	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**	**0.562**
	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**	**0.027**
	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**	**44.929**
	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**	**1.369**
	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**	**9.907**
	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
03/11/11	1.0	Initial Xilinx release.
09/28/12	1.1	Updated Substrate Components

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