



# 100% Material Declaration Data Sheet FF1759

PK432 (v1.1) March 29, 2013

**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
<b>Silicon Die</b>				Silicon IC	<b>0.656000</b>	<b>4.205</b>
	Doped silicon	7440-21-3	100.00	Basis	0.656000	
<b>Solder Bump</b>				Die to package	<b>0.050631</b>	<b>0.325</b>
	Tin	7440-31-5	63.00	Basis	0.031898	
	Lead	7439-92-1	37.00	Basis	0.018734	
<b>Die Underfill</b>					<b>0.130000</b>	<b>0.833</b>
	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	
<b>Solder Paste</b>					<b>0.105000</b>	<b>0.673</b>
	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	
<b>Substrate</b>					<b>5.285891</b>	<b>33.885</b>
	Copper	7440-50-8	33.432	Main material	1.767183	
	Nickel	7440-02-0	0.418	Main material	0.022095	
	Gold	7440-57-5	0.091	Main material	0.004787	
	Lead	7439-92-1	0.611	Main material	0.032301	
	Tin	7440-31-5	1.040	Main material	0.054998	
	Core	N/A	46.473	Main material	2.456500	
	ABF	N/A	16.402	Main material	0.867000	
	Solder mask	N/A	1.533	Main material	0.081027	

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<b>Capacitor 1</b>					<b>0.056000</b>	<b>0.359</b>
	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	
<b>Capacitor 2</b>					<b>0.074100</b>	<b>0.475</b>
	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	
<b>Heat Sink</b>					<b>7.310000</b>	<b>46.860</b>
	Copper	7440-50-8	98.65	Main material	7.211315	
	Nickel	7440-02-0	1.35	Main material	0.098685	
<b>Heat Sink Adhesive</b>					<b>0.260000</b>	<b>1.667</b>
	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	
<b>Solder Balls</b>					<b>1.672000</b>	<b>10.718</b>
	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.
03/29/13	1.1	Updated Substrate Component.

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