



PK402 (v1.2) September 28, 2012

## 100% Material Declaration Data Sheet FF484

**Average Weight: 4.1856g**

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 (FPGA)</b>				Silicon IC	<b>0.340000</b>	<b>8.123</b>
	Doped silicon	7440-21-3	100.00		0.340000	
<b>Solder Bump</b>				Die to package	<b>0.173000</b>	<b>4.133</b>
	Tin	7440-31-5	63.00		0.108990	
	Lead	7439-92-1	37.00		0.064010	
<b>Die Underfill</b>					<b>0.130000</b>	<b>3.106</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	2.50	Basis	0.003250	
	Amine type accelerator	Trade secret	2.50	Basis	0.003250	
	Silicon dioxide	60676-86-0	57.00	Basis	0.074100	
	Carbon black	1333-86-4	0.50	Basis	0.000650	
	Additives	Trade secret	2.50	Basis	0.003250	
<b>Substrate</b>					<b>1.316698</b>	<b>31.458</b>
	Copper	7440-50-8	24.96	Main Material	0.328651	
	Tin	7440-31-5	1.62	Main Material	0.021349	
	Lead	7439-92-1	0.54	Main Material	0.007158	
	Silver	7440-22-4	0.02	Main Material	0.000309	
	BT Core	N/A	32.94	Main Material	0.433780	
	ABF	N/A	38.57	Main Material	0.507840	
	Soldermask	N/A	1.34	Main Material	0.017611	
<b>Solder Paste</b>					<b>0.010500</b>	<b>0.251</b>
	Tin	7440-31-5	96.50	Basis	0.010133	
	Silver	7440-22-4	3.00	Basis	0.000315	
	Copper	7440-50-8	0.50	Basis	0.000053	

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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
<b>Capacitor</b>					<b>0.028000</b>	<b>0.669</b>
	Ceramic (BaTiO3 type)	Trade secret	64.60	Ceramic	0.018088	
	Inner electrode (Ni)	7440-02-0	22.00	Inner electrode	0.006160	
	Outer electrode (Cu)	7440-50-8	12.10	Outer electrode	0.003388	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000140	
	Plating2 (Sn)	7440-31-5	0.80	Plating2	0.000224	
<b>Capacitor</b>					<b>0.036000</b>	<b>0.860</b>
	Ceramic (BaTiO3 type)	Trade secret	67.40	Ceramic	0.024264	
	Inner electrode (Ni)	7440-02-0	17.00	Inner electrode	0.006120	
	Outer electrode (Cu)	7440-50-8	13.80	Outer electrode	0.004968	
	Plating1 (Ni)	7440-02-0	0.50	Plating1	0.000180	
	Plating2 (Sn)	7440-31-5	1.30	Plating2	0.000468	
<b>Capacitor</b>					<b>0.001800</b>	<b>0.043</b>
	Ceramic (BaTiO3 type)	Trade secret	61.80	Ceramic	0.001112	
	Inner electrode (Ni)	7440-02-0	27.00	Inner electrode	0.000486	
	Outer electrode (Cu)	7440-50-8	9.90	Outer electrode	0.000178	
	Plating1 (Ni)	7440-02-0	0.40	Plating1	0.000007	
	Plating2 (Sn)	7440-31-5	0.90	Plating2	0.000016	
<b>Heat Sink</b>					<b>1.354700</b>	<b>32.366</b>
	Copper	7440-50-8	97.25	Main material	1.317446	
	Nickel	7440-02-0	2.75	Main material	0.037254	
<b>Heat Sink Adhesive</b>					<b>0.140000</b>	<b>3.345</b>
	Bisphenol A-type liquid epoxy resin	25068-38-6	2.50	Main material	0.003500	
	Bisphenol F-type liquid epoxy resin	9003-36-5	25.00	Main material	0.035000	
	Phenolic resin	9003-35-4	15.00	Main material	0.021000	
	Silicon dioxide	60676-86-0	54.50	Main material	0.076300	
	Carbon black	1333-86-4	0.50	Main material	0.000700	
	Additive	2530-83-8	2.50	Main material	0.003500	
<b>Solder Balls</b>					<b>0.654927</b>	<b>15.647</b>
	Tin	7440-31-5	67.00	Base metal	0.412604	
	Lead	7439-92-1	37.00	Base metal	0.242323	

## Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
05/19/10	1.0	Initial Xilinx release.
11/19/10	1.1	1. Correct CAS# for N, Ndimethylformamide to 68-12-2 2. Change percentage of substrate component to actual percentage values 3. Add component "Amine type accelerator" as component of "Die Underfill"
09/28/12	1.2	Update Substrate component

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