



# 100% Material Declaration Data Sheet FF1696

PK140 (v1.2) July 20, 2010

**Average Weight: 21.0g**

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>					<b>1.187223</b>	<b>5.655</b>
	Silicon	7440-21-3	100.00		1.187223	
<b>Solder Bump</b>					<b>0.008333</b>	<b>0.040</b>
	Tin	7440-31-5	63.00		0.00520	
	Lead	7439-92-1	37.00		0.003083	
<b>Underfill</b>					<b>0.147000</b>	<b>0.700</b>
	Silica	60676-86-0	70.00	Filler	0.102900	
	Epoxy Resin A	9003-36-5	20.00		0.029400	
	Epoxy Resin B	25068-38-6	3.00		0.004410	
	Hardener	19900-65-3	7.00		0.010290	
<b>Heat Spreader</b>					<b>13.300000</b>	<b>63.352</b>
	Copper	7440-50-8	99.90		13.286700	
	Nickel	7440-02-0	0.10		0.013300	
<b>Heat Spreader Adhesive</b>					<b>0.085000</b>	<b>0.405</b>
	Silane compound	Proprietary	70.00		0.059500	
	Filler materials	Proprietary	27.90		0.022950	
	Polymeric resin	Proprietary	3.00		0.002550	
<b>Laminate</b>					<b>4.652150</b>	<b>22.159</b>
	Copper	7440-50-8	47.61	Metal layer	2.214911	
	Nickel	7440-02-0	0.51	Metal layer	0.0233726	
	Gold	7440-57-5	0.11	Metal layer	0.005117	
	Glass fiber	N/A	10.35		0.481502	
	Halogen fire retardant	N/A	5.25		0.244054	
	BT (core)	N/A	27.54		1.281355	
	Solder mask	N/A	8.63		0.401485	
<b>Solder Balls</b>					<b>1.614250</b>	<b>7.689</b>
	Tin	7440-31-5	63.00		1.016978	
	Lead	7439-92-1	37.00		0.597273	

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## Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
3/23/06	1.0	Initial Xilinx release.
9/21/06	1.1	100% Material Declaration.
7/20/10	1.2	Updated Heat Spreader substance description.

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