



# 100% Material Declaration Data Sheet FFG324

PK239 (v1.0) March 25, 2008

Material Declaration Data Sheet

**Average Weight: 2.8477 g**

Component	Substance Description	CAS# or Description	% of Component	Use in Product	Component Weight/ Substance Weight (in grams)	Component % of Total
<b>Silicon Die</b>					<b>0.000010</b>	<b>0.000%</b>
	Silicon	7440-21-3	100.00		0.000010	
<b>Solder Bump</b>					<b>0.016860</b>	<b>0.592%</b>
	Tin	7440-31-5	63.00		0.010622	
	Lead	7439-92-1	37.00		0.006238	
<b>Underfill</b>					<b>0.056000</b>	<b>1.966%</b>
	Silica	60676-86-0	70.00		0.039200	
	Epoxy Resin A	9003-36-5	20.00		0.011200	
	Epoxy Resin B	25068-38-6	3.00		0.001680	
	Hardener	19900-65-3	7.00		0.003920	
<b>Heat Spreader</b>					<b>1.100000</b>	<b>38.627%</b>
	Copper	7440-50-8	99.60		1.095600	
	Nickel	7440-02-0	0.40		0.004400	
<b>Heat Spreader Adhesive</b>					<b>0.031000</b>	<b>1.089%</b>
	Organopolysiloxane mixture	N/A	100.00		0.031000	
<b>Substrate</b>					<b>1.343877</b>	<b>47.191%</b>
	Copper	7440-50-8	47.61	Metal Layer	0.639826	
	Nickel	7440-02-0	0.51	Metal Layer	0.006854	
	Gold	7440-57-5	0.11	Metal Layer	0.001478	
	Glass fiber	N/A	10.35		0.139093	
	Halogen fire retardant	N/A	5.25		0.070500	
	BT (core)	N/A	27.54		0.370148	
	Solder Mask	N/A	8.63		0.115978	
<b>Solder Balls</b>					<b>0.300000</b>	<b>10.535%</b>
	Tin	7440-31-5	95.50		0.286500	
	Silver	7440-22-4	4.00		0.012000	
	Copper	7440-50-8	0.50		0.001500	

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## Revision History

The following table shows the revision history for this document.

Date	Revision	Revision
3/25/08	1.0	Initial release.