



PK113 (v1.5) September 20, 2016

100% Material Declaration Data Sheet for FF668

Average Weight : 4.9062 g

Component	Substance Description	CAS # or Description	% of Component	Use in product	Component Weight	Component % of total
Silicon Die					0.430700	8.780%
	Silicon	7440-21-3	100.000	Silicon IC	0.430700	
Solder Bump					0.021443	0.440%
	Tin	7440-31-5	63.000	Base metal	0.013509	
	Lead	7439-92-1	37.000	Base metal	0.007934	
Underfill					0.044000	0.900%
	Silica	60676-86-0	70.000		0.030800	
	Epoxy Resin A	9003-36-5	20.000		0.008800	
	Epoxy Resin B	25068-38-6	3.000		0.001320	
	Hardener	19900-65-3	7.000		0.003080	
Heat Spreader					3.000000	61.150%
	Copper	7440-50-8	99.900	Base metal	2.997000	
	Nickel	7440-02-0	0.100	Base metal	0.003000	
Heat Spreader Adhesive					0.032500	0.660%
	Zinc oxide	1314-13-2	35.000	Base metal	0.011375	
	Other	Trade Secret	65.000	Base metal	0.021125	
Solder Ball					0.558020	11.370%
	Tin	7440-31-5	63.000	Base metal	0.351553	
	Lead	7439-92-1	37.000	Base metal	0.206467	
Substrate					0.819560	16.700%
	Copper	7440-50-8	44.28		0.362901	
	Tin	7440-31-5	1.01		0.008278	
	Lead	7439-92-1	0.14		0.001147	
	Silver	7440-22-4	0.02		0.000164	
	BT (Core)	N/A	39.72		0.325529	
	ABF	N/A	10.67		0.087447	
Solder Mask	N/A	4.16		0.034094		

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.
7/5/06	1.1	100% Material Declaration.
7/27/06	1.2	Corrected heat Spreader Adhesive Component Weight and Component % of total.
9/27/06	1.3	Updated component descriptions.
7/20/10	1.4	Updated heat Spreader substance description.
9/20/16	1.5	Updated Substrate substances description and weight.

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