



**100% Material Declaration Data Sheet for Virtex-5 FFG323 RoHS 6/6**

PK850(v1.0) November 30, 2016

**Average Weight : 2.6660 g**

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight ( in grams)	Component % of total
Silicon die	Silicon	7440-21-3	100.00	basis	0.166963	6.263%
					<b>0.003790</b>	<b>0.142%</b>
Bump	Tin	7440-31-5	98.20	basis	0.003722	
	Silver	7440-22-4	1.80	basis	0.000068	
					<b>0.040000</b>	<b>1.500%</b>
Underfill	Bisphenol F type liquid epoxy	9003-36-5	15.00	basis	0.006000	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.004000	
	Bisphenol A type liquid epoxy	25068-38-6	5.00	basis	0.002000	
	Amine type hardener	trade secret	10.00	basis	0.004000	
	Silicon dioxide	60676-86-0	58.00	filler	0.023200	
	Carbon black	1333-86-4	1.00	color agent	0.000400	
	Additives	trade secret	1.00	additives	0.000400	
					<b>1.476000</b>	<b>55.364%</b>
Heat sink	Copper	7440-50-8	98.35	Main material	1.451646	
	Nickel	7440-02-0	1.65	Main material	0.024354	
					<b>0.057600</b>	<b>2.161%</b>
Heat sink adhesive	Aluminium Oxide Al2O3	-	80.00	Main material	0.046080	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.011520	
					<b>0.271391</b>	<b>10.180%</b>
Solder ball	Tin	7440-31-5	95.50	Main material	0.259178	
	Silver	7440-22-4	4.00	Main material	0.010856	
	Copper	7440-50-8	0.50	Main material	0.001357	
					<b>0.650256</b>	<b>24.391%</b>
Substrate	Copper	7440-50-8	29.70		0.193227	
	Tin	7440-31-5	1.01		0.006568	
	Silver	7440-22-4	0.07		0.000455	
	Resin	N/A	0.16		0.001040	
	Core	N/A	50.5		0.328279	
	ABF	N/A	15.28		0.099359	
	Solder Mask	N/A	3.28		0.021328	

**Revision History**

Date	Version	Description of Revisions
11/30/2016	1.0	Initial Xilinx release.