



PK846(v1.0) November 30, 2016

100% Material Declaration Data Sheet for Virtex-5 FFG665 RoHS 6/6

Average Weight : 6.0600 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	0.422014	6.964%
					0.013108	0.216%
Bump	Tin	7440-31-5	98.20	basis	0.012872	
	Silver	7440-22-4	1.80	basis	0.000236	
					0.060400	0.997%
Underfill	Bisphenol F type liquid epoxy	9003-36-5	15.00	basis	0.009060	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.006040	
	Bisphenol A type liquid epoxy	25068-38-6	5.00	basis	0.003020	
	Amine type hardener	trade secret	10.00	basis	0.006040	
	Silicon dioxide	60676-86-0	58.00	filler	0.035032	
	Carbon black	1333-86-4	1.00	color agent	0.000604	
	Additives	trade secret	1.00	additives	0.000604	
					0.004816	0.079%
Solder paste	Tin	7440-31-5	96.50	metal	0.004647	
	Silver	7440-22-4	3.00	metal	0.000144	
	Copper	7440-50-8	0.50	metal	0.000024	
					0.000930	0.015%
Capacitor 1	Barium oxide, obtained by calcining witherite	1304-28-5	31.67	Ceramic	0.000295	
	Titanium dioxide	13463-67-7	15.83		0.000147	
	Misc	-	5.28		0.000049	
	Nickel	7440-02-0	26.67	Inner electrode	0.000248	
	Copper	7440-50-8	15.10	Out electrode	0.000140	
	Silicon dioxide	7631-86-9	1.34		0.000012	
	diboron trioxide; boric oxide	1303-86-2	0.33		0.000003	
	Nickel	7440-02-0	1.00	Plating1	0.000009	
	Tin	7440-31-5	2.78	Plating2	0.000026	
					0.003600	0.059%
Capacitor2	Barium oxide, obtained by calcining witherite	1304-28-5	37.46	Ceramic	0.001349	
	Titanium dioxide	13463-67-7	18.73		0.000674	
	Misc	-	6.24		0.000225	
	Nickel	7440-02-0	17.95	Inner Electrode	0.000646	
	Copper	7440-50-8	15.88	Outer Electrode	0.000572	
	Silicon dioxide	7631-86-9	1.41		0.000051	
	diboron trioxide; boric oxide	1303-86-2	0.35		0.000013	
	Nickel	7440-02-0	0.54	Plating1	0.000019	
	Tin	7440-31-5	1.44	Plating2	0.000052	
					3.060000	50.495%
Heat sink	Copper	7440-50-8	98.35	Main material	3.009510	
	Nickel	7440-02-0	1.65	Main material	0.050490	
					0.114000	1.881%
Heat sink adhesive	Aluminium Oxide Al2O3	-	80.00	Main material	0.091200	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.022800	
					0.557021	9.192%
Solder ball	Tin	7440-31-5	95.50	Main material	0.531955	
	Silver	7440-22-4	4.00	Main material	0.022281	
	Copper	7440-50-8	0.50	Main material	0.002785	
					1.824111	30.101%
Substrate	Copper	7440-50-8	36.46		0.665071	
	Tin	7440-31-5	0.99		0.018059	
	Silver	7440-22-4	0.07		0.001277	
	Resin	N/A	0.12		0.002189	
	Core	N/A	36.40		0.663976	
	PP	N/A	7.10		0.129512	
	ABF	N/A	16.52		0.301343	
	Solder Mask	N/A	2.34		0.042684	

Revision History

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