



100% Material Declaration Data Sheet for Virtex-5 FFG676 RoHS 6/6

PK844(v1.0) November 30, 2016

Average Weight : 5.8850 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	0.457583	7.775%
					0.013668	0.232%
Bump	Tin	7440-31-5	98.20	basis	0.013422	
	Silver	7440-22-4	1.80	basis	0.000246	
					0.064900	1.103%
Underfill	Bisphenol F type liquid epoxy	9003-36-5	15.00	basis	0.009735	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.006490	
	Bisphenol A type liquid epoxy	25068-38-6	5.00	basis	0.003245	
	Amine type hardener	trade secret	10.00	basis	0.006490	
	Silicon dioxide	60676-86-0	58.00	filler	0.037642	
	Carbon black	1333-86-4	1.00	color agent	0.000649	
	Additives	trade secret	1.00	additives	0.000649	
					0.005328	0.091%
Solder paste	Tin	7440-31-5	96.50	metal	0.005142	
	Silver	7440-22-4	3.00	metal	0.000160	
	Copper	7440-50-8	0.50	metal	0.000027	
					0.000930	0.016%
Capacitor 1	BaTiO3 type	1304-28-5	37.46	Ceramic	0.000348	
	Titanium dioxide	13463-67-7	18.73		0.000174	
	Misc	-	6.24		0.000058	
	Nickel	7440-02-0	17.95	Inner electrode	0.000167	
	Copper	7440-50-8	15.88	Out electrode	0.000148	
	Silicon dioxide	7631-86-9	1.41		0.000013	
	diboron trioxide; boric oxide	1303-86-2	0.35		0.000003	
	Nickel	7440-02-0	0.54	Plating1	0.000005	
	Tin	7440-31-5	1.44	Plating2	0.000013	
					0.003600	0.061%
Capacitor2	BaTiO3 type	1304-28-5	34.54	Ceramic	0.001243	
	Titanium dioxide	13463-67-7	17.27		0.000622	
	Misc	-	5.76		0.000207	
	Nickel	7440-02-0	31.90	Inner Electrode	0.001148	
	Copper	7440-50-8	8.52	Outer Electrode	0.000307	
	Silicon dioxide	7631-86-9	0.76		0.000027	
	diboron trioxide; boric oxide	1303-86-2	0.19		0.000007	
	Nickel	7440-02-0	0.29	Plating1	0.000010	
Tin	7440-31-5	0.77	Plating2	0.000028		
					3.070000	52.167%
Heat sink	Copper	7440-50-8	98.35	Main material	3.019345	
	Nickel	7440-02-0	1.65	Main material	0.050655	
					0.120000	2.039%
Heat sink adhesive	Aluminium Oxide Al2O3	-	80.00	Main material	0.096000	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.024000	
					0.566235	9.622%
Solder ball	Tin	7440-31-5	95.50	Main material	0.540754	
	Silver	7440-22-4	4.00	Main material	0.022649	
	Copper	7440-50-8	0.50	Main material	0.002831	
					1.582756	26.895%
Substrate	Copper	7440-50-8	33.69		0.533230	
	Tin	7440-31-5	0.90		0.014245	
	Silver	7440-22-4	0.06		0.000950	
	Resin	N/A	0.14		0.002216	
	Core	N/A	43.05		0.681376	
	ABF	N/A	19.54		0.309271	
	Solder Mask	N/A	2.62		0.041468	

Revision History

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