



PK842(v1.0) November 30, 2016

**100% Material Declaration Data Sheet for Virtex-6 FFG1156 RoHS 6/6**

**Average Weight : 10.8070 g**

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight ( in grams)	Component % of total
Silicon die					<b>0.505265</b>	<b>4.675%</b>
	Silicon	7440-21-3	100.00	basis	0.505265	
Bump					<b>0.019371</b>	<b>0.179%</b>
	Tin	7440-31-5	98.20	basis	0.019022	
	Silver	7440-22-4	1.80	basis	0.000349	
Underfill					<b>0.130000</b>	<b>1.203%</b>
	Bisphenol F type liquid epoxy	9003-36-5	15.00	basis	0.019500	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.013000	
	Bisphenol A type liquid epoxy	25068-38-6	5.00	basis	0.006500	
	Amine type hardener	trade secret	10.00	basis	0.013000	
	Silicon dioxide	60676-86-0	58.00	filler	0.075400	
	Carbon black	1333-86-4	1.00	color agent	0.001300	
	Additives	trade secret	1.00	additives	0.001300	
					<b>0.008248</b>	<b>0.076%</b>
Solder paste						
	Tin	7440-31-5	96.50	metal	0.007959	
	Silver	7440-22-4	3.00	metal	0.000247	
	Copper	7440-50-8	0.50	metal	0.000041	
					<b>0.003000</b>	<b>0.028%</b>
Capacitor 1						
	BaTiO3 type	1304-28-5	40.00	Ceramic	0.001200	
	Titanium dioxide	13463-67-7	20.00		0.000600	
	Misc	-	6.67		0.000200	
	Nickel	7440-02-0	2.42	Inner electrode	0.000073	
	Copper	7440-50-8	20.73	Out electrode	0.000622	
	Silicon dioxide	7631-86-9	1.85		0.000056	
	diboron trioxide; boric oxide	1303-86-2	0.45		0.000014	
	Nickel	7440-02-0	2.12	Plating1	0.000064	
	Tin	7440-31-5	5.76	Plating2	0.000173	
					<b>0.041280</b>	<b>0.382%</b>
Capacitor2						
	BaTiO3 type	1304-28-5	34.54	Ceramic	0.014258	
	Titanium dioxide	13463-67-7	17.27		0.007129	
	Misc	-	5.76		0.002378	
	Nickel	7440-02-0	31.90	Inner Electrode	0.013168	
	Copper	7440-50-8	8.52	Outer Electrode	0.003517	
	Silicon dioxide	7631-86-9	0.76		0.000314	
	diboron trioxide; boric oxide	1303-86-2	0.19		0.000078	
	Nickel	7440-02-0	0.29	Plating1	0.000120	
Tin	7440-31-5	0.77	Plating2	0.000318		
					<b>0.057600</b>	<b>0.533%</b>
Capacitor3						
	BaTiO3 type	1304-28-5	37.46	Ceramic	0.021577	
	Titanium dioxide	13463-67-7	18.73		0.010788	
	Misc	-	6.24		0.003594	
	Nickel	7440-02-0	17.95	Inner Electrode	0.010339	
	Copper	7440-50-8	15.88	Outer Electrode	0.009147	
	Silicon dioxide	7631-86-9	1.41		0.000812	
	diboron trioxide; boric oxide	1303-86-2	0.35		0.000202	
Nickel	7440-02-0	0.54	Plating1	0.000311		
Tin	7440-31-5	1.44	Plating2	0.000829		
					<b>5.081800</b>	<b>47.023%</b>
Heat sink						
	Copper	7440-50-8	98.35	Main material	4.997950	
	Nickel	7440-02-0	1.65	Main material	0.083850	
					<b>0.184800</b>	<b>1.710%</b>
Heat sink adhesive	Aluminium Oxide Al2O3	-	80.00	Main material	0.147840	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.036960	
					<b>0.965683</b>	<b>8.936%</b>
Solder ball						
	Tin	7440-31-5	96.50	Main material	0.931884	
	Silver	7440-22-4	3.00	Main material	0.028970	
	Copper	7440-50-8	0.50	Main material	0.004828	
					<b>3.809953</b>	<b>35.254%</b>
Substrate						
	Copper	7440-50-8	33.77		1.286621	
	Tin	7440-31-5	0.55		0.020955	
	Silver	7440-22-4	0.04		0.001524	
	Resin	N/A	0.09		0.003429	
	Core	N/A	41.46		1.579607	
	PP	N/A	5.44		0.207261	
ABF	N/A	16.86		0.642358		
	Solder Mask	N/A	1.79		0.068198	

**Revision History**

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