PK858(v1.0) January 19, 2017

100% Material Declaration Data Sheet for Virtex-5 FFG1136 RoHS 6/6

Average Weight : 10.3700 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die					**0.521785**	**5.03%**
	Silicon	7440-21-3	100.00	basis	0.521785	
Bump					**0.018836**	**0.18%**
	Tin	7440-31-5	98.20	basis	0.018497	
	Silver	7440-22-4	1.80	basis	0.000339	
Underfill					**0.073000**	**0.70%**
	Bisphenol F type liquid epoxy	9003-36-5	15.00	basis	0.010950	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.007300	
	Bisphenol A type liquid epoxy	25068-38-6	5.00	basis	0.003650	
	Amine type hardener	trade secret	10.00	basis	0.007300	
	Silicon dioxide	60676-86-0	58.00	filler	0.042340	
	Carbon black	1333-86-4	1.00	color agent	0.000730	
	Additives	trade secret	1.00	additives	0.000730	
Solder paste					**0.008464**	**0.08%**
	Tin	7440-31-5	96.50	metal	0.008168	
	Silver	7440-224-4	3.00	metal	0.000254	
	Copper	7440-50-8	0.50	metal	0.000042	
Capacitor 1					**0.003600**	**0.03%**
	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	Out 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	
Capacitor2					**0.006880**	**0.07%**
	Barium oxide, obtained by calcining witherite	1304-28-5	34.54	Ceramic	0.002376	
	Titanium dioxide	13463-67-7	17.27		0.001188	
	Misc	-	5.76		0.000396	
	Nickel	7440-02-0	31.9	Inner Electrode	0.002195	
	Copper	7440-50-8	8.52	Outer Electrode	0.000586	
	Silicon dioxide	7631-86-9	0.76		0.000052	
	diboron trioxide; boric oxide	1303-86-2	0.19		0.000013	
	Nickel	7440-02-0	0.29	Plating1	0.000020	
	Tin	7440-31-5	0.77	Plating2	0.000053	
Heat sink					**4.965400**	**47.88%**
	Copper	7440-50-8	98.35	Main material	4.883471	
	Nickel	7440-02-0	1.65	Main material	0.081929	
Heat sink adhesive					**0.209400**	**2.02%**
	Aluminium Oxide Al2O3	-	80.00	Main material	0.167520	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.041880	
Solder ball					**0.951543**	**9.18%**
	Tin	7440-31-5	95.50	Main material	0.908724	
	Silver	7440-22-4	4.00	Main material	0.038062	
	Copper	7440-50-8	0.50	Main material	0.004758	
Substrate					**3.611092**	**34.82%**
	Copper	7440-50-8	34.78		1.255937	
	Tin	7440-31-5	0.77		0.027805	
	Silver	7440-22-4	0.06		0.002167	
	Resin		0.10		0.003611	
	Core		44.65		1.612353	
	PP		4.39		0.158527	
	ABF		13.62		0.491831	
	Solder Mask		1.63		0.058861	

Revision History

Date	Version	Description of Revisions
1/19/2017	1.0	Initial Xilinx release.

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