



100% Material Declaration Data Sheet for UltraScale FBVA676

PK690 (v1.0) February 20, 2015

Average Weight: 3.198g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die					0.328204	10.263%
	Silicon (Si)	7440-21-3	100.00	Basis	0.328204	
Solder Bump					0.015849	0.496%
	Tin (Sn)	7440-31-5	98.20	Basis	0.015564	
	Silver (Ag)	7440-22-4	1.80	Basis	0.000285	
Solder Paste					0.008320	0.260%
	Tin (Sn)	7440-31-5	96.50	metal	0.008029	
	Silver (Ag)	7440-22-4	3.00	metal	0.000250	
	Copper (Cu)	7440-50-8	0.50	metal	0.000042	
Capacitor 1					0.014400	0.450%
	Barium oxide	1304-28-5	30.22	Ceramic	0.004352	
	Titanium dioxide	13463-67-7	15.11	Ceramic	0.002176	
	Misc.	trade secret	5.04	Ceramic	0.000726	
	Nickel (Ni)	7440-02-0	33.44	Inner electrode	0.004815	
	Copper (Cu)	7440-50-8	11.87	Outer electrode	0.001709	
	Silicon dioxide	7631-86-9	1.06	Outer electrode	0.000153	
	Boric oxide	1303-86-2	0.26	Outer electrode	0.000037	
	Nickel (Ni)	7440-02-0	0.81	Nickel Plating Layer	0.000117	
	Tin (Sn)	7440-31-5	2.19	Tin Plating Layer	0.000315	
Capacitor 2					0.012090	0.378%
	Barium oxide	1304-28-5	31.67	Ceramic	0.003829	
	Titanium dioxide	13463-67-7	15.83	Ceramic	0.001914	
	Misc.	trade secret	5.28	Ceramic	0.000638	
	Nickel (Ni)	7440-02-0	26.67	Inner electrode	0.003224	
	Copper (Cu)	7440-50-8	15.10	Outer electrode	0.001826	
	Silicon dioxide	7631-86-9	1.34	Outer electrode	0.000162	
	Boric oxide	1303-86-2	0.33	Outer electrode	0.000040	
	Nickel (Ni)	7440-02-0	1.00	Nickel Plating Layer	0.000121	
	Tin (Sn)	7440-31-5	2.78	Tin Plating Layer	0.000336	

© Copyright 2015 Xilinx, Inc. XILINX, the Xilinx logo, Virtex, Spartan, ISE, and other designated brands included herein are trademarks of Xilinx in the United States and other countries. All other trademarks are the property of their respective owners

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Underfill					0.044000	1.376%
	Bisphenol F type liquid epoxy resin	9003-36-5	15.00	Basis	0.006600	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	Basis	0.004400	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.00	Basis	0.002200	
	Amine type hardener	trade secret	10.00	Basis	0.004400	
	Silicon dioxide	60676-86-0	58.00	Filler	0.025520	
	Carbon black	1333-86-4	1.00	Color agent	0.000440	
	Additives	trade secret	1.00	Additives	0.000440	
Solder Ball					0.564707	17.658%
	Tin (Sn)	7440-31-5	96.50	Main Material	0.544942	
	Silver (Ag)	7440-22-4	3.00	Main Material	0.016941	
	Copper (Cu)	7440-50-8	0.50	Main Material	0.002824	
Substrate					2.210430	69.119%
	Copper (Cu)	7440-50-8	25.12		0.555308	
	Tin (Sn)	7440-31-5	1.03		0.022694	
	Lead (Pb)	7439-92-1	0.00		0.000003	
	Silver (Ag)	7440-22-4	0.03		0.000706	
	BT Core	N/A	63.55		1.404805	
	ABF	N/A	8.47		0.187210	
	Solder Mask	N/A	1.80		0.039703	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
02/20/2015	1.0	Initial Xilinx release

Notice of Disclaimer

Xilinx regards this materials data to be correct but makes no guarantee as to its accuracy or completeness, including, but not limited to, with respect to its compliance with applicable environmental laws and regulations. Xilinx subcontracts the production, test and assembly of hardware devices to independent third-party vendors and materials suppliers (“Contractors”). All data provided hereunder is based on information received from Contractors. Xilinx has not independently verified the accuracy or completeness of this information which is provided solely for your reference in connection with the use of Xilinx products.