XILINX

PK698 (v1.0) April 10, 2015

100% Material Declaration Data Sheet for 7 Series FF1156

Average Weight: 14.3655g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die					**0.446519**	**3.108%**
	Silicon (Si)	7440-21-3	100.00	Basis	0.446519	
Solder Bump					**0.029370**	**0.204%**
	Tin (Sn)	7440-31-5	63.00	Basis	0.018503	
	Lead (Pb)	7439-92-1	37.00	Basis	0.010867	
Solder Paste					**0.005900**	**0.041%**
	Tin (Sn)	7440-31-5	96.50	metal	0.005694	
	Silver (Ag)	7440-22-4	3.00	metal	0.000177	
	Copper (Cu)	7440-50-8	0.50	metal	0.000030	
Capacitor 1					**0.037800**	**0.263%**
	Barium oxide	1304-28-5	37.46	Ceramic	0.014160	
	Titanium dioxide	13463-67-7	18.73	Ceramic	0.007080	
	Misc.	trade secret	6.24	Ceramic	0.002359	
	Nickel (Ni)	7440-02-0	17.95	Inner electrode	0.006785	
	Copper (Cu)	7440-50-8	15.88	Outer electrode	0.006003	
	Silicon dioxide	7631-86-9	1.41	Outer electrode	0.000533	
	Boric oxide	1303-86-2	0.35	Outer electrode	0.000132	
	Nickel (Ni)	7440-02-0	0.54	Nickel Plating Layer	0.000204	
	Tin (Sn)	7440-31-5	1.44	Tin Plating Layer	0.000544	
Capacitor 2					**0.004800**	**0.033%**
	Barium oxide	1304-28-5	40.00	Ceramic	0.001920	
	Titanium dioxide	13463-67-7	20.00	Ceramic	0.000960	
	Misc.	trade secret	6.67	Ceramic	0.000320	
	Nickel (Ni)	7440-02-0	2.42	Inner electrode	0.000116	
	Copper (Cu)	7440-50-8	20.73	Outer electrode	0.000995	
	Silicon dioxide	7631-86-9	1.85	Outer electrode	0.000089	
	Boric oxide	1303-86-2	0.45	Outer electrode	0.000022	
	Nickel (Ni)	7440-02-0	2.12	Nickel Plating Layer	0.000102	
	Tin (Sn)	7440-31-5	5.76	Tin Plating Layer	0.000276	

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Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Capacitor 3					**0.007360**	**0.051%**
	Barium oxide	1304-28-5	31.67	Ceramic	0.002331	
	Titanium dioxide	13463-67-7	15.83	Ceramic	0.001165	
	Misc.	trade secret	5.28	Ceramic	0.000389	
	Nickel (Ni)	7440-02-0	26.67	Inner electrode	0.001963	
	Copper (Cu)	7440-50-8	15.10	Outer electrode	0.001111	
	Silicon dioxide	7631-86-9	1.34	Outer electrode	0.000099	
	Boric oxide	1303-86-2	0.33	Outer electrode	0.000024	
	Nickel (Ni)	7440-02-0	1.00	Nickel Plating Layer	0.000074	
	Tin (Sn)	7440-31-5	2.78	Tin Plating Layer	0.000205	
Underfill					**0.051000**	**0.355%**
	Bisphenol F/ epichlorohydrin copolymer	9003-36-5	20.00	basis	0.010200	
	Phenolic resin	trade secret	15.00	basis	0.007650	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.00	basis	0.002550	
	Amine type accelerator	trade secret	5.00	basis	0.002550	
	Silicon dioxide	60676-86-0	51.50	filler	0.026265	
	Carbon black	1333-86-4	1.00	color agent	0.000510	
	Additives	trade secret	2.50	additives	0.001275	
Lid					**9.030000**	**62.859%**
	Copper (Cu)	7440-50-8	98.35	Main Material	8.881005	
	Nickel (Ni)	7440-02-0	1.65	Main Material	0.148995	
Lid Adhesive					**0.168000**	**1.169%**
	Aluminium Oxide Al2O3	1344-28-1	70.00	Main Material	0.117600	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	30.00	Main Material	0.050400	
Solder Ball					**1.100278**	**7.659%**
	Tin (Sn)	7440-31-5	63.00	Main material	0.693175	
	Lead (Pb)	7439-92-1	37.00	Main material	0.407103	

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Substrate					**3.484468**	**24.256%**
	Copper (Cu)	7440-50-8	41.15		1.433859	
	Tin (Sn)	7440-31-5	0.86		0.029966	
	Lead (Pb)	7439-92-1	0.20		0.006969	
	Silver (Ag)	7440-22-4	0.02		0.000697	
	BT Core	N/A	44.01		1.533514	
	ABF	N/A	11.50		0.400714	
	Solder Mask	N/A	2.26		0.078749	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
04/10/2015	1.0	Initial Xilinx release

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