



PK1072(v1.0) March 24, 2020

100% Material Declaration Data Sheet for Kintex UltraScale+ FPGA XQKU15P- FFRA1156

Average Weight : 14.7004 g

Component	Substance Description	CAS # or Description	% of component	Use in product	Component weight / substance weight (in grams)	Component % of total
Silicon die					0.724022	4.925%
	Silicon	7440-21-3	100.00	basis	0.724022	
Bump					0.031395	0.214%
	Tin	7440-31-5	98.20	basis	0.030830	
	Silver	7440-22-4	1.80	basis	0.000565	
Underfill					0.085500	0.582%
	Bisphenol F type liquid epoxy resin	9003-36-5	15.00	basis	0.012825	
	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	10.00	basis	0.008550	
	Bisphenol A type liquid epoxy resin	25068-38-6	5.00	basis	0.004275	
	Amine type hardener	trade secret	10.00	basis	0.008550	
	Silicon dioxide	60676-86-0	58.00	filler	0.049590	
	Carbon black	1333-86-4	1.00	color agent	0.000855	
	Additives	trade secret	1.00	additives	0.000855	
Solder paste					0.010240	0.070%
	Tin	7440-31-5	54.50	metal	0.005581	
	Lead	7439-92-1	33.00	metal	0.003379	
	Additives	trade secret	12.50	flux	0.001280	
Capacitor 1					0.275200	1.872%
	Barium Titanate	12047-27-7	75.40	Ceramic	0.207501	
	Manganese	1313-13-9	11.00	Ceramic	0.030272	
	Nickel	7440-02-0	4.00	Internal Electrode	0.011008	
	Copper	7440-50-8	6.80	Termination	0.018714	
	Glass oxide	65997-17-3	0.20	Termination	0.000550	
	Nickel	7440-02-0	0.99	Plating	0.002719	
	Tin	7440-31-5	1.48	Plating	0.004078	
	Lead	7439-92-1	0.13	Plating	0.000358	
					7.359300	50.062%
Heat sink	Copper	7440-50-8	98.35	Main material	7.237872	
	Nickel	7440-02-0	1.65	Main material	0.121428	
Heat sink TIM					0.182000	1.238%
	Treated aluminum oxide	trade secret	80.00	Main material	0.145600	
	Dimethyl siloxane, dimethylvinyl-terminated	68083-19-2	20.00	Main material	0.036400	
Solder ball					1.100277	7.485%
	Tin	7440-31-5	63.00	Main material	0.693175	
	Lead	7439-92-1	37.00	Main material	0.407102	
Substrate					4.932461	33.553%
	Copper	7440-50-8	40.66		2.005414	
	Tin	7440-31-5	0.26		0.012805	
	Lead	7439-92-1	0.15		0.007521	
	Core	N/A	39.74		1.960000	
	ABF	N/A	17.88		0.882000	
	Solder Mask	N/A	1.31		0.064721	

Revision History

Date	Version	Description of Revisions
3/24/2020	1.0	Initial Xilinx Release.

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