PK406 (v1.2) September 16, 2011

100% Material Declaration Data Sheet CPG196 for Spartan®-6 FPGAs

Average Weight: 0.1320 g

Component	Substance Description	CAS Number or Description	Percentage of Component	Use in Product	Component Weight/ Substance Weight (grams)	Component Percent of Total
Silicon Die (FPGA)				Silicon IC	**0.012563**	**9.517**
	Doped silicon	7440-21-3	100.00		0.012563	
Gold Wire				Die to package	**0.001522**	**1.153**
	Gold	7440-57-5	99.05		0.001508	
	Palladium	7440-05-3	0.95		0.000014	
Die Attach Adhesive					**0.002453**	**1.858**
	Silver	7440-22-4	77.50	Basis	0.001901	
	Bismaleimide monomer	Trade secret	15.00	Basis	0.000368	
	Acrylate monomer	Trade secret	7.50	Basis	0.000184	
Substrate					**0.024600**	**18.636**
	Copper	7440-50-8	17.84	Main material	0.004389	
	Nickel	7440-02-0	6.89		0.001695	
	Gold	7440-57-5	7.85		0.001931	
	Glass fiber	65997-17-3	12.88		0.003168	
	Non-halogen fire retardant	1675-54-3	0.04		0.000010	
	BT (core)	105391-33-1 25722-66-1 9003-36-5 21645-51-2 7440-38-2	33.85	Main material	0.008327	
	Solder mask	13676-54-5 25722-66-1 147-14-8 7727-43-7 61790-53-2 14807-96-6 461-58-5 7723-14-0	20.65	Main material	0.005080	

Component	Substance Description	CAS# or Description	% of Component	Use in Product	Component Weight/ Substance Weight (in grams)	Component % of Total
Mold Compound					**0.070400**	**53.331**
	Solid epoxy resin	Trade secret	5.00		0.003520	
	Phenol resin	Trade secret	5.00		0.003520	
	Fused silica	60676-86-0	84.45	Main material	0.059453	
	Metal hydroxide	Trade secret	5.00		0.003520	
	Carbon Black	1333-86-4	0.55		0.000387	
Solder Balls					**0.020467**	**15.505**
	Tin (Sn)	7440-31-5	98.50	Main material	0.020160	
	Silver (Ag)	7440-22-4	1.00		0.000205	
	Copper (Cu)	7440-50-8	0.50		0.000102	

Revision History

The following table shows the revision history for this document.

Date	Version	Description of Revisions
04/05/10	1.0	Initial Xilinx release.
03/11/11	1.1	1. Correct Title Error 2. Update Die Attach & Gold Wire component weights
09/16/11	1.2	Change Gold to Silver (Ag) in Solder Ball Substance Description

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