



PK467 (v1.1) September 28,
2012

100% Material Declaration Data Sheet Virtex-6 FF1156

Average Weight: 11.1064 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 | 0.505265 | 4.549 |
| | Doped silicon | 7440-21-3 | 100.00 | Basis | 0.505265 | |
| Solder Bump | | | | Die to package | 0.026065 | 0.2435 |
| | Tin | 7440-31-5 | 63.00 | Basis | 0.016421 | |
| | Lead | 7439-92-1 | 37.00 | Basis | 0.009644 | |
| Die Underfill | | | | | 0.077000 | 0.693 |
| | Bisphenol F-type liquid epoxy resin | 9003-36-5 | 20.00 | Basis | 0.015400 | |
| | Phenolic resin | Trade secret | 15.00 | Basis | 0.011550 | |
| | Bisphenol A-type liquid epoxy resin | 25068-38-6 | 5.00 | Basis | 0.003850 | |
| | Amine type accelerator | Trade secret | 5.00 | Basis | 0.003850 | |
| | Silicon dioxide | 60676-86-0 | 51.50 | Basis | 0.039655 | |
| | Carbon black | 1333-86-4 | 1.00 | Basis | 0.000770 | |
| | Additives | Trade secret | 2.50 | Basis | 0.001925 | |
| Substrate | | | | | 4.086255 | 36.792 |
| | Cu | 7440-50-8 | 35.8 | Main Material | 1.462846 | |
| | Tin | 7440-31-5 | 2.03 | Main Material | 0.082814 | |
| | Lead | 7439-92-1 | 0.51 | Main Material | 0.020998 | |
| | Silver | 7440-22-4 | 0.04 | Main Material | 0.001542 | |
| | BT Core | N/A | 41.37 | Main Material | 1.690500 | |
| | ABF | N/A | 19.19 | Main Material | 0.784000 | |
| | Soldermask | N/A | 1.07 | Main Material | 0.043555 | |

| Component | Substance Description | CAS Number or Description | Percentage of Component | Use in Product | Component Weight/ Substance Weight (grams) | Component Percent of Total |
|---------------------------|--------------------------|---------------------------|-------------------------|-----------------|--|----------------------------|
| Solder Paste | | | | | 0.062140 | 0.559 |
| | Tin | 7440-31-5 | 96.50 | Basis | 0.059965 | |
| | Silver | 7440-22-4 | 3.00 | Basis | 0.001864 | |
| | Copper | 7440-50-8 | 0.50 | Basis | 0.000311 | |
| Capacitor 0805_X7S | | | | | 0.042000 | 0.378 |
| | Ceramic (BaTiO3 type) | Trade secret | 61.80 | Ceramic | 0.025956 | |
| | Inner electrode (Ni) | 7440-02-0 | 27.00 | Inner electrode | 0.011340 | |
| | Outer electrode (Cu) | 7440-50-8 | 9.90 | Outer electrode | 0.004158 | |
| | Plating1 (Ni) | 7440-02-0 | 0.40 | Plating1 | 0.000168 | |
| | Plating2 (Sn) | 7440-31-5 | 0.90 | Plating2 | 0.000378 | |
| Capacitor 0603_X7S | | | | | 0.062400 | 0.562 |
| | Ceramic (BaTiO3 type) | Trade secret | 67.40 | Ceramic | 0.042058 | |
| | Inner electrode (Ni) | 7440-02-0 | 17.00 | Inner electrode | 0.010608 | |
| | Outer electrode (Cu) | 7440-50-8 | 13.80 | Outer electrode | 0.008611 | |
| | Plating1 (Ni) | 7440-02-0 | 0.50 | Plating1 | 0.000312 | |
| | Plating2 (Sn) | 7440-31-5 | 1.30 | Plating2 | 0.000811 | |
| Capacitor 0201_X6S | | | | | 0.003000 | 0.027 |
| | Ceramic (BaTiO3 type) | Trade secret | 66.00 | Ceramic | 0.001980 | |
| | Inner electrode (Ni) | 7440-02-0 | 2.67 | Inner electrode | 0.000080 | |
| | Outer electrode (Cu) | 7440-50-8 | 23.33 | Outer electrode | 0.000700 | |
| | Plating1 (Ni) | 7440-02-0 | 2.33 | Plating1 | 0.000070 | |
| | Plating2 (Sn) | 7440-31-5 | 5.67 | Plating2 | 0.000170 | |
| Heat Sink | | | | | 4.990000 | 44.929 |
| | Copper | 7440-50-8 | 99.54 | Main material | 4.967046 | |
| | Nickel | 7440-02-0 | 0.46 | Main material | 0.022954 | |
| Heat Sink Adhesive | | | | | 0.152000 | 1.369 |
| | Aluminum Oxide | 1344-28-1 | 70.00 | Main material | 0.106400 | |
| | Zinc Oxide | 1314-13-2 | 15.00 | Main material | 0.022800 | |
| | Organic silicon compound | Trade secret | 15.00 | Main material | 0.022800 | |
| Solder Balls | | | | | 1.100277 | 9.907 |
| | Tin (Sn) | 7440-31-5 | 63.00 | Base metal | 0.693175 | |
| | Lead (Pb) | 7439-92-1 | 37.00 | Base metal | 0.407102 | |

Revision History

The following table shows the revision history for this document.

| Date | Version | Description of Revisions |
|----------|---------|------------------------------|
| 03/11/11 | 1.0 | Initial Xilinx release. |
| 09/28/12 | 1.1 | Updated Substrate Components |

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