

PK495 (v1.0)November 18, 2011

## 100% Material Declaration Data Sheet for Spartan®-3/-3E/-3A VQ100 Package (Cu Wire)

## Average Weight: 0.548 g

| Component      | Substance<br>Description     | CAS Number<br>or<br>Description | Percentage of<br>Component | Use in Product | Component Weight/<br>Substance Weight<br>(grams) | Component<br>Percent of<br>Total |
|----------------|------------------------------|---------------------------------|----------------------------|----------------|--|----------------------------------|
| Silicon Die    |                              |                                 |                            |                | 0.010916   | 1.991                            |
|                | Silicon (Si)                 | 7440-21-3                       | 100.00                     |                | 0.010916   |                                  |
| Die Attach     |                              |                                 |                            |                | 0.002731   | 0.498                            |
|                | Silver (Ag)                  | 7440-22-4                       | 73.00                      |                | 0.001994   |                                  |
|                | Epoxy (EP)                   | Trade Secret                    | 13.50                      |                | 0.000369   |                                  |
|                | Anhydride                    | Trade Secret                    | 10.50                      |                | 0.000287   |                                  |
|                | 1,4-<br>Butanedioldiglycidyl | Trade Secret                    | 3.00                       |                | 0.000082   |                                  |
| Mold           |                              |                                 |                            |                | 0.380843   | 69.465                           |
| Compound       | Epoxy Resin                  | Trade secret                    | 7.00                       |                | 0.026659   |                                  |
|                | Phenol Resin                 | Trade secret                    | 5.00                       |                | 0.019042   |                                  |
|                | Carbon Black                 | 1333-86-4                       | 0.30                       |                | 0.001143   |                                  |
|                | Fused Silica                 | 60676-86-0                      | 77.40                      |                | 0.294772   |                                  |
|                | Silica Fused                 | 7631-86-9                       | 10.00                      |                | 0.038084   |                                  |
|                | Silica, crystalline          | 14808-60-7                      | 0.30                       |                | 0.001143   |                                  |
| Leadframe      |                              |                                 |                            |                | 0.145613   | 26.559                           |
|                | Copper (Cu)                  | 7440-50-8                       | 94.30                      |                | 0.137313   |                                  |
|                | Nickel (Ni)                  | 7440-02-0                       | 3.20                       |                | 0.004660   |                                  |
|                | Silver (Ag)                  | 7440-22-4                       | 1.60                       |                | 0.002330   |                                  |
|                | Silicon (Si)                 | 7440-21-3                       | 0.73                       |                | 0.001056   |                                  |
|                | Magnesium (Mg)               | 7439-95-4                       | 0.18                       |                | 0.000255   |                                  |
| Solder Plating |                              |                                 |                            |                | 0.007300   | 1.332                            |
|                | Tin (Sn)                     | 7440-31-5                       | 85.00                      |                | 0.006205   |                                  |
|                | Lead (Pb)                    | 7439-92-1                       | 15.00                      |                | 0.001095   |                                  |
| Copper Wire    |                              |                                 |                            |                | 0.000851   | 0.155                            |
|                | Copper (Cu)                  | 7440-50-8                       | 97.28                      |                | 0.000828   |                                  |
|                | Palladium                    | 7440-05-3                       | 2.70                       |                | 0.000023   |                                  |
|                | Impurities                   | N/A                             | 0.02                       |                | 0.000000   |                                  |

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## **Revision History**

The following table shows the revision history for this document.

| Date     | Version | Description of Revisions |
|----------|---------|--------------------------|
| 11/18/11 | 1.0     | Initial Xilinx release.  |

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