



| Semiconductor Device Type: RPX 036 VQFN 6x6x0.9 Matte Tin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                                                                             |                   | Termination Base Alloy:<br>Copper Alloy (Cu) |         |         | Package Homogeneous Materials:<br>8.1 Electronics (e.g. pc boards, displays) |                                                                             |                   |        | JEDEC 97<br>Product Marking<br>and/or Pkg.<br>Labeling<br>e3 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------|-------------------|----------------------------------------------|---------|---------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------|--------|--------------------------------------------------------------|
| Basic Substance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CAS Number   | Contained In<br>Sub-Component                                               | % Total<br>Weight | mg/part                                      | ppm     | 26.10   | (mg) Total                                                                   | Mold Compound                                                               | % of Total Weight | 17.33  |                                                              |
| Silica, vitreous (or fused)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 60676-86-0   | Mold Compound                                                               | 14.731            | 22.184                                       | 147,305 |         |                                                                              | Silica, vitreous (or fused)                                                 | 60676-86-0        | 85.00  |                                                              |
| Epoxy Resin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trade Secret | Mold Compound                                                               | 1.508             | 2.271                                        | 15,077  |         |                                                                              | Epoxy Resin                                                                 | Trade Secret      | 8.70   |                                                              |
| Phenolic Resin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Trade Secret | Mold Compound                                                               | 1.040             | 1.566                                        | 10,398  |         |                                                                              | Phenolic Resin                                                              | Trade Secret      | 6.00   |                                                              |
| Carbon Black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1333-86-4    | Mold Compound                                                               | 0.052             | 0.078                                        | 520     |         |                                                                              | Carbon Black                                                                | 1333-86-4         | 0.30   |                                                              |
| Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7440-50-8    | Lead Frame                                                                  | 72.322            | 108.917                                      | 723,219 |         |                                                                              | Total                                                                       |                   | 100.00 |                                                              |
| Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7439-89-6    | Lead Frame                                                                  | 1.779             | 2.679                                        | 17,790  | 114.00  | (mg) Total                                                                   | Lead Frame                                                                  | % of Total Weight | 75.70  |                                                              |
| Silver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7440-22-4    | Lead Frame                                                                  | 1.442             | 2.172                                        | 14,421  |         |                                                                              | Copper                                                                      | 7440-50-8         | 95.54  |                                                              |
| Zinc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7440-66-6    | Lead Frame                                                                  | 0.095             | 0.143                                        | 946     |         |                                                                              | Iron                                                                        | 7439-89-6         | 2.35   |                                                              |
| Phosphorous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7723-14-0    | Lead Frame                                                                  | 0.062             | 0.094                                        | 625     |         |                                                                              | Silver                                                                      | 7440-22-4         | 1.91   |                                                              |
| Silver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7440-22-4    | Die Attach                                                                  | 0.143             | 0.215                                        | 1,425   |         |                                                                              | Zinc                                                                        | 7440-66-6         | 0.13   |                                                              |
| Epoxy resin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trade Secret | Die Attach                                                                  | 0.048             | 0.072                                        | 475     |         |                                                                              | Phosphorous                                                                 | 7723-14-0         | 0.08   |                                                              |
| Silicon                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 7440-21-3    | Chip (Die)                                                                  | 4.210             | 6.340                                        | 42,100  |         |                                                                              | Total                                                                       |                   | 100.00 |                                                              |
| Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 7440-50-8    | Wire Bond                                                                   | 0.764             | 1.151                                        | 7,644   | 0.29    | (mg) Total                                                                   | Die Attach                                                                  | % of Total Weight | 0.19   |                                                              |
| Palladium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 7440-05-3    | Wire Bond                                                                   | 0.016             | 0.023                                        | 156     |         |                                                                              | Silver                                                                      | 7440-22-4         | 75.00  |                                                              |
| Tin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 7440-31-5    | Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour | 1.790             | 2.696                                        | 17,900  |         |                                                                              | Epoxy resin                                                                 | Trade Secret      | 25.00  |                                                              |
| <b>0.1506 g Total Mass</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                                             | <b>TOTALS:</b>    |                                              |         | 100.000 | 150.600                                                                      | 1,000,000                                                                   |                   |        |                                                              |
| This semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 2015) and 2000/53/EC and 2016/774/EU (End-of-Life Vehicles (ELV) without exemption (zero)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |                                                                             |                   |                                              |         | 6.34    | (mg) Total                                                                   | Chip (Die)                                                                  | % of Total Weight | 4.21   |                                                              |
| Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                                             |                   |                                              |         |         |                                                                              | Doped Silicon                                                               | 7440-21-3         | 100.00 |                                                              |
| If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |                                                                             |                   |                                              |         | Total   |                                                                              | 100.00                                                                      |                   |        |                                                              |
| Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL IQTM family of databases to obtain a test report at <a href="http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/">http://ul.com/global/eng/pages/offering/industries/chemicals/plastics/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                                             |                   |                                              |         | 1.17    | (mg) Total                                                                   | Wire Bond                                                                   | % of Total Weight | 0.78   |                                                              |
| Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL IQTM family of databases to obtain a test report at <a href="http://iq.ul.com/plastics/">http://iq.ul.com/plastics/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                                             |                   |                                              |         |         |                                                                              | Copper                                                                      | 7440-50-8         | 98.00  |                                                              |
| Microchip Technology Incorporated believes the information in this form concerning substances restricted by RoHS in Microchip Technology Incorporated's semiconductor devices in their original packing materials is true and correct to the best of its knowledge and belief, as of the date listed in this form. Microchip Technology Incorporated cannot guarantee the completeness and accuracy of data in this form because it has been compiled based on the ranges provided in Material Safety Data Sheets provided by raw material suppliers. Supplier information is often protected from disclosure as trade secrets and some information may not have been provided by subcontract assemblers and raw material suppliers. Information is provided only as estimates of the average weight of these parts and the average weight of anticipated significant toxic metals components. These estimates do not include trace levels of dopants, metals, and non-metal materials contained within silicon devices (silicon IC) in the finished parts. |              |                                                                             |                   |                                              |         |         |                                                                              | Palladium                                                                   | 7440-05-3         | 2.00   |                                                              |
| Microchip Technology Incorporated does not provide any warranty, express or implied, with respect to the information provided in this declaration. The exclusive, limited product warranties provided by Microchip Technology Incorporated and its subsidiaries are contained in Microchip's standard terms and conditions of sale. These are provided in Microchip's quotations, sales order acknowledgement, and invoices.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                                             |                   |                                              |         | Total   |                                                                              | 100.00                                                                      |                   |        |                                                              |
| Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              |                                                                             |                   |                                              |         | 2.70    | (mg) Total                                                                   | Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour | % of Total Weight | 1.79   |                                                              |
| Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |                                                                             |                   |                                              |         |         |                                                                              | Tin                                                                         | 7440-31-5         | 100.00 |                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                                                                             |                   |                                              |         | Total   |                                                                              | 100.00                                                                      |                   |        |                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |                                                                             |                   |                                              |         | 150.600 |                                                                              |                                                                             |                   |        | 100.000                                                      |