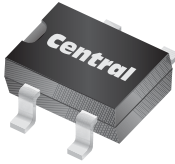


# Material Composition Specification

SMDIP Case

Pb (lead)-free plating\*\*



Device average mass . . . . . 300 mg

Fluctuation margin . . . . . +/-10%

| Component      | Material                      | Material |        | Substance                      | CAS No.    | Substance |        |         |
|----------------|-------------------------------|----------|--------|--------------------------------|------------|-----------|--------|---------|
|                |                               | (%wt)    | (mg)   |                                |            | (%wt)     | (mg)   | (ppm)   |
| active device  | doped Si                      | 1.2%     | 3.6    | Si                             | 7440-21-3  | 1.2%      | 3.6    | 12,000  |
| leadframe      | copper                        | 21.21%   | 63.63  | Cu                             | 7440-50-8  | 21.21%    | 63.63  | 212,099 |
| die attach     | high temperature solder paste | 0.86%    | 2.6    | Pb                             | 7439-92-1  | 0.8%      | 2.4    | 8,000   |
|                |                               |          |        | Sn                             | 7440-31-5  | 0.04%     | 0.13   | 433     |
|                |                               |          |        | Ag                             | 7440-22-4  | 0.02%     | 0.07   | 217     |
| encapsulation* | EMC                           | 74.39%   | 223.18 | silica                         | 7631-86-9  | 50.59%    | 151.76 | 505,858 |
|                |                               |          |        | epoxy resin                    | 29690-82-2 | 14.88%    | 44.64  | 148,789 |
|                |                               |          |        | phenol resin                   | 9003-35-4  | 7.44%     | 22.32  | 74,393  |
|                |                               |          |        | Sb <sub>2</sub> O <sub>3</sub> | 1309-64-4  | 0.74%     | 2.23   | 7,439   |
|                |                               |          |        | Br                             | 7726-95-6  | 0.74%     | 2.23   | 7,439   |
|                | EMC GREEN                     | 74.39%   | 223.18 | silica (fused)                 | 60676-86-0 | 57.28%    | 171.85 | 572,821 |
|                |                               |          |        | epoxy resin                    | 29690-82-2 | 7.44%     | 22.32  | 74,392  |
|                |                               |          |        | phenol resin                   | 9003-35-4  | 7.22%     | 21.65  | 72,160  |
|                |                               |          |        | carbon black                   | 1333-86-4  | 0.22%     | 0.67   | 2,231   |
|                |                               |          |        | metal hydroxide                | 1309-42-8  | 2.23%     | 6.69   | 22,315  |
| plating**      | tin lead process              | 2.33%    | 7.0    | Sn                             | 7440-31-5  | 1.87%     | 5.6    | 18,666  |
|                |                               |          |        | Pb                             | 7439-92-1  | 0.47%     | 1.4    | 4,667   |
|                | 100% matte tin                | 2.33%    | 7.0    | Sn                             | 7440-31-5  | 2.33%     | 7.0    | 23,333  |

\*EMC GREEN molding compound is Halogen Free.

\*\*Specify Lead-Free when ordering 100% tin (Pb-free) plating.

Disclaimer

The information provided in this Material Composition data sheet is, to the best of our knowledge, correct. However, there is no guarantee to completeness or accuracy, as some information is derived from data sources outside the company.

R2 (9-March 2010)