

# Material Composition Specification

## HD DIP Case



Device average mass . . . . . 126.8 mg  
 Fluctuation margin . . . . . +/-10%

| Component      | Material                      | Material |       | Substance                      | CAS No.    | Substance |        |         |
|----------------|-------------------------------|----------|-------|--------------------------------|------------|-----------|--------|---------|
|                |                               | (%wt)    | (mg)  |                                |            | (%wt)     | (mg)   | (ppm)   |
| active device  | doped Si                      | 3.38%    | 4.28  | Si                             | 7440-21-3  | 3.38%     | 4.28   | 33,754  |
| leadframe      | Cu alloy                      | 33.5%    | 42.49 | Cu                             | 7440-50-8  | 33.44%    | 42.405 | 334,424 |
|                |                               |          |       | Fe                             | 7439-89-6  | 0.05%     | 0.064  | 505     |
|                |                               |          |       | P                              | 7723-14-0  | 0.01%     | 0.018  | 142     |
| die attach     | high temperature solder paste | 7.16%    | 9.08  | Pb                             | 7439-92-1  | 6.624%    | 8.399  | 66,238  |
|                |                               |          |       | Sn                             | 7440-31-5  | 0.358%    | 0.454  | 3,580   |
|                |                               |          |       | Ag                             | 7440-22-4  | 0.179%    | 0.227  | 1,790   |
| encapsulation* | EMC                           | 55.48%   | 70.34 | SiO <sub>2</sub>               | 14808-60-7 | 37.72%    | 47.834 | 377,240 |
|                |                               |          |       | epoxy resin                    | 29690-82-2 | 10.54%    | 13.365 | 105,402 |
|                |                               |          |       | phenol resin                   | 9003-35-4  | 5.55%     | 7.034  | 55,473  |
|                |                               |          |       | Sb <sub>2</sub> O <sub>3</sub> | 1309-64-4  | 0.55%     | 0.703  | 5,544   |
|                |                               |          |       | Br                             | 7726-95-6  | 1.11%     | 1.407  | 11,096  |
|                | EMC GREEN                     | 55.48%   | 70.34 | silica (fused)                 | 60676-86-0 | 42.72%    | 54.165 | 427,169 |
|                |                               |          |       | epoxy resin                    | 29690-82-2 | 5.55%     | 7.034  | 55,473  |
|                |                               |          |       | phenol resin                   | 9003-35-4  | 5.38%     | 6.823  | 53,809  |
|                |                               |          |       | carbon black                   | 1333-86-4  | 0.17%     | 0.211  | 1,664   |
|                |                               |          |       | metal hydroxide                | 1309-42-8  | 1.66%     | 2.11   | 16,640  |
| plating**      | tin/lead process              | 0.48%    | 0.61  | Sn                             | 7440-31-5  | 0.38%     | 0.488  | 3,849   |
|                |                               |          |       | Pb                             | 7439-92-1  | 0.10%     | 0.122  | 962     |
|                | matte tin                     | 0.48%    | 0.61  | Sn                             | 7440-31-5  | 0.48%     | 0.61   | 4,811   |

\*EMC GREEN molding compound is Halogen-Free.

\*\*For Lead Free plating, add suffix "PB FREE" to part number.

For Tin/Lead plating, add suffix "TIN/LEAD" to part number.

No suffix designation allows for the supply of either lead-free or tin/lead plated product depending on availability.

### 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.

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