# 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 | $SiO_2$ | 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 |
| | | | | $Sb_2O_3$ | 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.