



ALLIANCE MEMORY MDS REPORT

| Part Number: | | AS4C512M16D3LB-12BCN / AS4C512M16D3LB-12BIN | | | | | | | | |
|--------------|-----------------|---|-------------------------------|--|---------------|----------------|-----------------|-----------------------|---------|---------|
| Part Weight: | | 238.038mg | | | | | | | | |
| No. | Part Name | Material Name | Component wt (mg) | Material Content (Element) | CAS Number | Element wt (%) | Element wt (mg) | wt % of Total unit wt | PPM | |
| 1 | Top Chip | Chip | 27.005 | Silicon | 7440-21-3 | 100.00% | 27.005 | 11.34% | 1000000 | |
| 2 | Bottom Chip | Chip | 27.005 | Silicon | 7440-21-3 | 100.00% | 27.005 | 11.34% | 1000000 | |
| 3 | Substrate | HL-832NX-A / AUS 308 | 12.150 | Cured thermosetting resin (including inorganic filler) | Trade Secret | 13.76% | 6.867 | 2.88% | 137629 | |
| | | | | Coninuous Filament Fiber Glass | 65997-17-3 | 10.59% | 5.283 | 2.22% | 105882 | |
| | | | 7.103 | Acrylate resin | Trade Secret | 8.22% | 4.099 | 1.72% | 82153 | |
| | | | | Acrylic acid ester monomaer | Trade Secret | | | | | |
| | | | | Epoxy resin | Trade Secret | 0.06% | 0.028 | 0.01% | 561 | |
| | | | | Phthalocyanine Blue | 147-14-8 | | | | | |
| | | | | Organic pigment | Trade Secret | 4.67% | 2.330 | 0.98% | 46698 | |
| | | | | Silica | 7631-86-9 etc | | | | | |
| | | | | Talc | 14807-96-6 | | | | | |
| | | | | Barium sulfate | 7727-43-7 | | | | | |
| | | | | Aluminium hydroxide | 21645-51-2 | 0.43% | 0.213 | 0.09% | 4269 | |
| | | | | Aromatic carbonyl compound | Trade Secret | | | | | |
| | | | Amine compound | Trade Secret | | | | | | |
| | | | Antifoamer and Leveling agent | Trade Secret | 0.61% | 0.305 | 0.13% | 6113 | | |
| | | | Other additive | Trade Secret | | | | | | |
| 29.135 | Copper | 7440-50-8 | 58.39% | 29.135 | 12.24% | 583926 | | | | |
| 0.147 | Gold | 7440-57-5 | 0.29% | 0.147 | 0.06% | 2946 | | | | |
| 1.360 | Nickel | 7440-02-0 | 2.73% | 1.360 | 0.57% | 27257 | | | | |
| 4 | Die attach film | EM-760 | 2.258 | Acrylic resin | Trade secret | 40.00% | 0.903 | 0.38% | 400000 | |
| | | | | Phenol resin | Trade secret | 15.00% | 0.339 | 0.14% | 150000 | |
| | | | | Amorphous Silica | 7631-86-9 | 45.00% | 1.016 | 0.43% | 450000 | |
| 5 | Die attach film | EM-310 | 5.419 | Solid epoxy resin | Trade secret | 15.00% | 0.813 | 0.34% | 150000 | |
| | | | | Liquid epoxy resin | Trade secret | 15.00% | 0.813 | 0.34% | 150000 | |
| | | | | Phenol resin | Trade secret | 20.00% | 1.084 | 0.46% | 200000 | |
| | | | | Amorphous Silica | 7631-86-9 | 40.00% | 2.167 | 0.91% | 400000 | |
| | | | | Synthetic rubber | Trade secret | 10.00% | 0.542 | 0.23% | 100000 | |
| 6 | Gold Wire | Au | 1.289 | Gold | 7440-57-5 | 100.00% | 1.289 | 0.54% | 1000000 | |
| 7 | Mold compound | EME-G771 | 91.070 | Epoxy resin A | Trade Secret | 3.00% | 2.732 | 1.15% | 30000 | |
| | | | | Epoxy resin B | Trade Secret | 3.00% | 2.732 | 1.15% | 30000 | |
| | | | | Phenol resin A | Trade Secret | 3.00% | 2.732 | 1.15% | 30000 | |
| | | | | Phenol resin B | Trade Secret | 3.00% | 2.732 | 1.15% | 30000 | |
| | | | | Silica (Amorphous) A | 60676-86-0 | 77.00% | 70.124 | 29.46% | 770000 | |
| | | | | Silica (Amorphous) B | 7631-86-9 | 7.00% | 6.375 | 2.68% | 70000 | |
| | | | | Metal Hydroxide | Trade Secret | 3.00% | 2.732 | 1.15% | 30000 | |
| | | | | Carbon Black | 1333-86-4 | 1.00% | 0.911 | 0.38% | 10000 | |
| 8 | Solder ball | SAC302 | 34.097 | Tin | 7440-31-5 | 96.80% | 32.904 | 13.82% | 968000 | |
| | | | | Silver | 7440-22-4 | 3.00% | 1.023 | 0.43% | 30000 | |
| | | | | Copper | 7440-50-8 | 0.20% | 0.170 | 0.07% | 2000 | |
| | | | 238.038 | | | | 800.00% | 238.038 | 100.00% | 8000000 |