



ALLIANCE MEMORY MDS REPORT

| Part Number: | | AS4C128M16D3LA-12BCN / AS4C128M16D3LA-12BIN AS4C128M16D3LA-12BAN | | | | | | | | |
|--------------|---------------|--|-------------------|---------------------------------------|--------------|----------------|-----------------|-----------------------|------------|---------|
| Part Weight: | | 185.38mg | | | | | | | | |
| 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 | Substrate | NPG-200 / AUS 308 | 37.222 | E-Glass Fabric | 65997-17-3 | 23.24% | 8.652 | 4.67% | 232446.284 | |
| | | | | Epoxy Resin | 29690-82-2 | 23.24% | 8.652 | 4.67% | 232446.284 | |
| | | | | Fillers | 21645-51-2 | 7.75% | 2.883 | 1.56% | 77464.532 | |
| | | | | DOPO | 35948-25-5 | 11.62% | 4.327 | 2.33% | 116242.9 | |
| | | | | Talc containing no asbestiform fibers | 14807-96-6 | 0.43% | 0.159 | 0.09% | 4284 | |
| | | | | Morpholine derivative | Trade secret | 0.43% | 0.159 | 0.09% | 4284 | |
| | | | | Barium sulfate | 7727-43-7 | 4.71% | 1.754 | 0.95% | 47124 | |
| | | | | Silica, amorphous | 7631-86-9 | 0.11% | 0.040 | 0.02% | 1071 | |
| | | | | Dipropylene glycol monomethyl ether | 34590-94-8 | 2.57% | 0.957 | 0.52% | 25704 | |
| | | | | Naphthalene | 91-20-3 | 0.11% | 0.040 | 0.02% | 1071 | |
| | | | | Epoxy resin A | Trade secret | 1.39% | 0.518 | 0.28% | 13923 | |
| | | | | Epoxy resin B | 85954-11-6 | 0.96% | 0.359 | 0.19% | 9639 | |
| | | | | Copper | 7440-50-8 | 20.99% | 7.813 | 4.21% | 209900 | |
| | | | | Nickel | 7440-02-0 | 1.92% | 0.715 | 0.39% | 19200 | |
| Gold | 7440-57-5 | 0.52% | 0.194 | 0.10% | 5200 | | | | | |
| 2 | Mold compound | CEL-9120HF | 96.768 | Epoxy resin | Trade Secret | 4.00% | 3.871 | 2.09% | 40000 | |
| | | | | Hardener | Trade secret | 4.00% | 3.871 | 2.09% | 40000 | |
| | | | | Carbon black | 1333-86-4 | 0.20% | 0.194 | 0.10% | 2000 | |
| | | | | Amorphous silica | 60676-86-0 | 86.80% | 83.995 | 45.31% | 868000 | |
| | | | | Crystal silica | 14808-60-7 | 5.00% | 4.838 | 2.61% | 50000 | |
| 3 | Epoxy | 6202C | 1.513 | 2-(2-Ethoxyethoxy) ethyl acetate | 112-15-2 | 30.00% | 0.454 | 0.24% | 300000 | |
| | | | | Modified Epoxy Resin | Trade secret | 30.00% | 0.454 | 0.24% | 300000 | |
| | | | | Isodecyl alcohol, ethoxylated | Trade secret | 10.00% | 0.151 | 0.08% | 100000 | |
| | | | | others | Trade secret | 30.00% | 0.454 | 0.24% | 300000 | |
| 4 | Solder ball | M705 | 33.878 | Tin | 7440-31-5 | 96.50% | 32.692 | 17.64% | 965000 | |
| | | | | Silver | 7440-22-4 | 3.00% | 1.016 | 0.55% | 30000 | |
| | | | | Copper | 7440-50-8 | 0.50% | 0.169 | 0.09% | 5000 | |
| 5 | Gold wire | Au | 0.257 | Gold | 7440-57-5 | 99.99% | 0.257 | 0.14% | 999900 | |
| | | | | Others | Trade Secret | 0.01% | 0.000 | 0.00% | 100 | |
| 6 | Die | Chip | 15.742 | Silicon | 7440-21-3 | 100.00% | 15.742 | 8.49% | 1000000 | |
| | | | 185.38 | | | | 600.00% | 185.380 | 100.00% | 6000000 |