



Device Material Content

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Assembly: ASEM
Size (mm): 23 x 23

Package Code:

BG554

Lead pitch (mm): 0.8

MSL: 3

Reflow max (°C): 260

Package: 554 caBGA

Total Device Weight 1.79 Grams

Products:

FE5

June, 2020

| | % of Total Pkg. Wt. | Weight (g) | % of Total Pkg. Wt. | Weight (g) | Substance | CAS # | % of Subst. | Notes / Assumptions: |
|----------------------|---------------------|------------|---------------------|------------|--------------------------------|-------------|-------------|---|
| Die | 1.49% | 0.0267 | 1.49% | 0.0267 | Silicon chip | 7440-21-3 | 100.00% | Die size: 6.55 x 7.04mm |
| Mold Compound | 44.60% | 0.7979 | 3.12% | 0.0559 | Epoxy Resin | - | 7.00% | Mold Compound: Sumitomo G750SE (ULA) |
| | | | 2.23% | 0.0399 | Phenol Novolac | 9003-35-4 | 5.00% | |
| | | | 2.23% | 0.0399 | Metal Hydroxide | - | 5.00% | |
| | | | 0.22% | 0.0040 | Carbon Black | 1333-86-4 | 0.50% | |
| | | | 36.80% | 0.6583 | Silica Fused | 60676-86-0 | 82.50% | |
| D/A Epoxy | 0.22% | 0.0039 | 0.18% | 0.00315 | Silver | 7440-22-4 | 80.00% | Die attach epoxy: Henkel (Ablebond) 2100A |
| | | | 0.04% | 0.00079 | Esters & resins | - | 20.00% | |
| Wire | 0.18% | 0.0032 | 0.18% | 0.0032 | Copper | 7440-50-8 | 98.50% | 0.8 mil diameter; 1 wire per solder ball |
| | | | 0.00% | 0.0000 | Palladium | 7440-05-3 | 1.50% | |
| Solder Balls | 7.72% | 0.1381 | 7.45% | 0.1333 | Tin (Sn) | 7440-31-5 | 96.50% | SAC305 |
| | | | 0.23% | 0.0041 | Silver (Ag) | 7440-22-4 | 3.00% | |
| | | | 0.04% | 0.0007 | Copper (Cu) | 7440-50-8 | 0.50% | |
| Substrate | 29.76% | 0.5325 | 9.23% | 0.1651 | BT Resins | - | 31.00% | BT Resin CCL-HL832NX-A* |
| | | | 20.24% | 0.3621 | Glass fiber | 65997-17-3 | 68.00% | |
| | | | 0.30% | 0.0053 | Bisphenol A | 80-05-7 | 1.00% | |
| Foil | 11.12% | 0.1990 | 9.41% | 0.1683 | Copper | 7440-50-8 | 84.56% | |
| | | | 1.63% | 0.0292 | Nickel plating | 7440-02-0 | 14.70% | |
| | | | 0.08% | 0.0015 | Gold plating | 7440-57-5 | 0.74% | |
| Solder Mask | 4.90% | 0.0877 | 2.76% | 0.0493 | Quartz | 14808-60-7 | 56.20% | Solder mask PSR4000 AUS 308 |
| | | | 0.78% | 0.0140 | 3-methoxy-3-methylbutylacetate | 103429-90-9 | 16.00% | |
| | | | 1.08% | 0.0193 | Barium Sulfate | 7727-43-7 | 22.00% | |
| | | | 0.15% | 0.0026 | Talc | 14807-96-6 | 3.00% | |
| | | | 0.02% | 0.0004 | Naphthalene | 91-20-3 | 0.50% | |
| | | | 0.11% | 0.0020 | Trade secret ingredients | - | 2.30% | |
| | | | | | | | | |

Notes: SVHC: * 0.30% max. concentration of Bisphenol A (CAS# 80-05-7), contained in substrate laminate material as impurity - not intentionally added.

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Rev. E