



Material Declaration

Device: GRF2133

RoHs Compliant: Yes

Conflict Mineral Check: Yes

| 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 | Leadframe | Copper | 1.2762 | Cu | 7440-50-8 | 99.28 | 1.2670 | 0.3184 | 318424.57 |
| | | | | Fe | 7439-89-6 | 0.27 | 0.0034 | 0.0009 | 865.98 |
| | | | | Zn | 7440-66-6 | 0.25 | 0.0032 | 0.0008 | 801.83 |
| | | | | P | 7723-14-0 | 0.20 | 0.0026 | 0.0006 | 641.47 |
| 2 | Die Attach Material | CRM1076NS | 0.023 | Silver | 7440-22-4 | 80 | 0.0184 | 0.0046 | 4624.28 |
| | | | | Resin Epoxy A | 9003-36-5 | 10 | 0.0023 | 0.0006 | 578.03 |
| | | | | Resin Epoxy B | Trade Secret | 7 | 0.0016 | 0.0004 | 404.62 |
| | | | | Phenol Resin | Trade Secret | 2 | 0.0005 | 0.0001 | 115.61 |
| | | | | Dicyandiamide | 461-58-5 | 1 | 0.0002 | 0.0001 | 57.80 |
| 3 | Gold Wire | Gold | 0.0264 | Au | 7440-57-5 | 99.99 | 0.0264 | 0.0066 | 6634.17 |
| | | | | Other | Proprietary | 0.01 | 0.0000 | 0.0000 | 0.66 |
| 4 | Internal Plating | NiPdAu | 0.0068 | Ni | 7440-02-0 | 92.23 | 0.0063 | 0.0016 | 1576.18 |
| | | | | Pd | 7440-05-3 | 7.47 | 0.0005 | 0.0001 | 127.66 |
| | | | | Au | 7440-57-5 | 0.3 | 0.0000 | 0.0000 | 5.13 |
| 5 | External Plating | NiPdAu | 0.009 | Ni | 7440-02-0 | 92.23 | 0.0083 | 0.0021 | 2086.13 |
| | | | | Pd | 7440-05-3 | 7.47 | 0.0007 | 0.0002 | 168.96 |
| | | | | Au | 7440-57-5 | 0.3 | 0.0000 | 0.0000 | 6.79 |
| 6 | Mold Compound | EME G770HJ | 2.5025 | Epoxy A | Trade Secret | 3 | 0.0751 | 0.0189 | 18867.81 |
| | | | | Epoxy B | Trade Secret | 3 | 0.0751 | 0.0189 | 18867.81 |
| | | | | Phenol Resin | Trade Secret | 3 | 0.0751 | 0.0189 | 18867.81 |
| | | | | Silica (Amorphous) A | 60676-86-0 | 75 | 1.8769 | 0.4717 | 471695.15 |
| | | | | Silica (Amorphous) B | 7631-86-9 | 15 | 0.3754 | 0.0943 | 94339.03 |
| | | | | Metal Hydroxide | Trade Secret | 0.5 | 0.0125 | 0.0031 | 3144.63 |
| | | | | Carbon Black | 1333-86-4 | 0.5 | 0.0125 | 0.0031 | 3144.63 |
| 7 | Die 1 | GaAs Die | 0.1351 | Die 1 | 1303-00-0 | 100 | 0.1351 | 0.0340 | 33953.25 |
| Total Weight = | | | 3.979 | | | | | | |

- Note:
- (A) Element Wt. Composition is derived from MSDS / Subcon Data
 - (B) Component Wt. based on assembly of generic parts
 - (C) Internal and External Plating weight is based on nominal plating thickness
 - (D) Guerrilla RF collaborates closely with our supply chain partners to make reasonable effort of working accuracy of data but in no terms guarantees the degree of accuracy of stated data.

More Info: <https://www.guerrilla-rf.com/environmental>

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