

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

ltc2963cudc-1#pbf

(Engineering Calculation)

QFN 3mm X 4mm Exp. Pad

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**TOTAL MASS (g) : 0.160603**

| COMPONENT MATERIAL       | VENDOR/ INDUSTRY NAMES           | CONSTITUENT NAME               | CAS NUMBER | CONSTITUENT MASS (g) | CONSTITUENT (PPM) OF MATERIAL | CONSTITUENT (PPM) OF TOTAL PKG. |                |                      |
|--------------------------|----------------------------------|--------------------------------|------------|----------------------|-------------------------------|---------------------------------|----------------|----------------------|
| Active Device            | Linear Technology                | Silicon (Si)                   | 7440-21-3  | 0.001540             | 1000000                       | 9588.875                        |                |                      |
| Die Coat                 | Dow Corning                      | Silicone                       | 69430-27-9 | 0.000000             | 0                             | 0                               |                |                      |
| Lead Frame               | Cu                               | Copper (Cu)                    | 7440-50-8  | 0.013133             | 975000                        | 81773.1796875                   |                |                      |
|                          |                                  | Iron (Fe)                      | 7439-89-6  | 0.000323             | 24000                         | 2011.17321777                   |                |                      |
|                          |                                  | Phosphorus (P)                 | 7723-14-0  | 0.000004             | 300                           | 24.906167984                    |                |                      |
|                          |                                  | Zinc (Zn)                      | 7440-66-6  | 0.000009             | 700                           | 56.0388832092                   |                |                      |
|                          |                                  | Nickel (Ni)                    | 7440-02-0  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Silicon (Si)                   | 7440-21-3  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Magnesium (Mg)                 | 7439-95-4  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Tin (Sn)                       | 7440-31-5  | 0.000000             | 0                             | 0                               |                |                      |
| <b>Lead Frame Total:</b> |                                  |                                |            | <b>0.013469</b>      | <b>1000000</b>                | <b>83865.296875</b>             |                |                      |
| Plating                  | PMI                              | Exter. Plating Pb              | 7439-92-1  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Exter. Plating Sn              | 7440-31-5  | 0.000626             | 1000000                       | 3896.37548828                   |                |                      |
|                          |                                  | <b>External Plating Total:</b> |            |                      |                               | <b>0.000626</b>                 | <b>1000000</b> | <b>3896.37548828</b> |
|                          |                                  | Inter. Plating Ni              | 7440-02-0  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Inter. Plating Ag              | 7440-22-4  | 0.000302             | 1000000                       | 1880.41577148                   |                |                      |
|                          |                                  | <b>Internal Plating Total:</b> |            |                      |                               | <b>0.000302</b>                 | <b>1000000</b> | <b>1880.41577148</b> |
| Die Attach               | ELECTRICALLY INSULATING ADHESIVE | Silver (Ag)                    | 7440-22-4  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Tin (Sn)                       | 7440-31-5  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Lead (Pb)                      | 7439-92-1  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Silica (SiO2)                  | 60676-86-0 | 0.000008             | 50000                         | 49.812335968                    |                |                      |
|                          |                                  | Indium (In)                    | 7440-74-6  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Metal Oxide                    |            | 0.000050             | 300000                        | 311.32711792                    |                |                      |
|                          |                                  | Antimony (Sb)                  | 7440-36-0  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Resin (EP)                     |            | 0.000109             | 650000                        | 678.693115234                   |                |                      |
| <b>Die Attach Total:</b> |                                  |                                |            | <b>0.000167</b>      | <b>1000000</b>                | <b>1039.8326416</b>             |                |                      |
| Encapsulation            | MULTI-AROMATIC RESIN Br/Sb FREE  | Resin (EP)                     |            | 0.018759             | 130000                        | 116803.703125                   |                |                      |
|                          |                                  | Bromine (Br)                   | 40039-93-8 | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Silica (SiO2)                  | 60676-86-0 | 0.124098             | 860000                        | 772701.4375                     |                |                      |
|                          |                                  | Antimony Trioxide (Sb2O3)      | 1309-64-4  | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Metal Hydroxide                |            | 0.000000             | 0                             | 0                               |                |                      |
|                          |                                  | Carbon Black (C)               | 1333-86-4  | 0.001443             | 10000                         | 8984.90136719                   |                |                      |
|                          |                                  | <b>Encapsulation Total:</b>    |            |                      |                               | <b>0.144300</b>                 | <b>1000000</b> | <b>898490.0625</b>   |
| Bond Wire Estimated      | AFW/TANAKA/ Kn                   | Gold (Au)                      | 7440-57-5  | 0.000199             | 1000000                       | 1239.08190918                   |                |                      |
|                          |                                  |                                |            |                      | <b>TOTAL MASS (g) :</b>       | <b>0.160603</b>                 |                |                      |