



Device Material Content

5555 NE Moore Ct.
Hillsboro OR 97124
custreq@lsc.com

January, 2019

Package: 225 ucBGA
Total Device Weight 0.080 Grams

Package Code:

CM225

Products:

ICE40LP/HX

Assembly: ASEM

Size (mm): 7 x 7

Lead pitch (mm): 0.4

MSL: 3

Reflow max (°C): 260

| | % of Total Pkg. Wt. | Weight (g) | % of Total Pkg. Wt. | Weight (g) | Substance | CAS # | % of Subst. | Notes / Assumptions: |
|----------------------|---------------------|------------|---------------------|------------|-----------------------------|------------|-------------|--|
| Die | 4.63% | 0.0037 | 4.63% | 0.0037 | Silicon chip | 7440-21-3 | 100.00% | Die size: 3.35 x 3.07 mm |
| Mold Compound | 60.18% | 0.0482 | 52.66% | 0.0422 | Silica | 60676-86-0 | 87.50% | Mold Compound: Kyocera KEG1250 LKDS |
| | | | 3.91% | 0.0031 | Epoxy resin | - | 6.50% | |
| | | | 3.31% | 0.0027 | Phenol Resin | - | 5.50% | |
| | | | 0.30% | 0.00024 | Carbon Black | 1333-86-4 | 0.50% | |
| Die attach | 0.67% | 0.00054 | 0.54% | 0.000431 | Silver | 7440-22-4 | 80.00% | Ablebond 2100A |
| | | | 0.13% | 0.000108 | Esters & resins | - | 20.00% | |
| Wire | 1.18% | 0.0009 | 1.14% | 0.00092 | Copper | 7440-50-8 | 97.30% | 0.7 mil diameter; 1 wire per solder ball |
| | | | 0.03% | 0.00003 | Palladium | 7440-05-3 | 2.70% | |
| Solder Balls | 2.41% | 0.00194 | 2.38% | 0.00191 | Tin (Sn) | 7440-31-5 | 98.50% | SAC105 |
| | | | 0.02% | 0.00002 | Silver (Ag) | 7440-22-4 | 1.00% | |
| | | | 0.01% | 0.00001 | Copper (Cu) | 7440-50-8 | 0.50% | |
| Substrate | 30.92% | 0.02479 | 14.73% | 0.01181 | BT Resin CCL-HL832NX* | - | 47.62% | CCL-HL832NX(A-HS) / AUS 308 |
| | | | 4.42% | 0.00354 | Solder mask PSR4000 AUS 308 | - | 14.29% | |
| | | | 9.35% | 0.00750 | Copper | 7440-50-8 | 30.24% | |
| | | | 2.21% | 0.00177 | Nickel plating | 7440-02-0 | 7.14% | |
| | | | 0.22% | 0.00018 | Gold plating | 7440-57-5 | 0.71% | |

Notes: * 0.15% max. concentration of Bisphenol A (CAS# 80-05-7) in substrate laminate material as impurity - not intentionally added.

The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.

Constituent substances and proportions in epoxy materials are before curing.

The information provided above is representative of the package as of the date listed, and is subject to change at any time.

www.latticesemi.com

