### Device Material Content

**Package:** 48 TQFP (1.0mm)  
**Total Device Weight:** 0.140 Grams  
**Assembly:** ASEM  
**Size (mm):** 7 x 7 x 1.0  
**Lead pitch (mm):** 0.5  
**MSL:** 3  
**Reflow max (°C):** 260

<table>
<thead>
<tr>
<th>Package Code:</th>
<th>TN48</th>
<th>LC4KZE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% of Total Pkg. Wt.</strong></td>
<td><strong>Weight (g)</strong></td>
<td><strong>% of Total Pkg. Wt.</strong></td>
</tr>
<tr>
<td>Die</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.12%</td>
<td>0.0030</td>
</tr>
<tr>
<td>Mold Compound</td>
<td>70.71%</td>
<td>0.0990</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D/A Epoxy</td>
<td>0.32%</td>
<td>0.0064</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire</td>
<td>0.46%</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Plating</td>
<td>4.06%</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadframe</td>
<td>22.32%</td>
<td>0.0312</td>
</tr>
</tbody>
</table>

**Notes:**
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.

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## Device Material Content

**Assembly:** ASET  
**Size (mm):** 7 x 7 x 1.0  
**Lead pitch (mm):** 0.5  
**MSL:** 3  
**Reflow max (°C):** 260  

### Package Information
- **Package:** 48 TQFP (1.0mm)  
- **Package Code:** TN48  
- **Total Device Weight:** 0.140 Grams  
- **Leadframe:** LC4KZE

### Die
- **% of Total Pkg. Wt.:** 2.12%  
- **Weight (g):** 0.0030  
- **Substance:** Silicon chip  
- **CAS #:** 7440-21-3  
- **% of Subst.:** 100.00%  
  - **Notes / Assumptions:** Die size: 2.00 x 2.20 mm

### Mold Compound
- **% of Total Pkg. Wt.:** 70.71%  
- **Weight (g):** 0.0990  
- **Substances:**  
  - Epoxy Resin A  
  - Epoxy Resin B  
  - Phenol Resin  
  - Carbon Black  
  - Silica Fused  
- **CAS #:** 7440-21-3, 83489-60-6, 628290-34-6, 1333-86-4, 60676-86-0  
- **% of Subst.:** 4.00%, 4.00%, 5.50%, 0.50%, 86.00%  
  - **Notes / Assumptions:** Sumitomo EME-G631SH

### B/A Epoxy
- **% of Total Pkg. Wt.:** 0.32%  
- **Weight (g):** 0.0004  
- **Substances:** Silver, Esters & resins  
- **CAS #:** 7440-22-4  
- **% of Subst.:** 80.00%, 20.00%  
  - **Notes / Assumptions:** Sumitomo CRM-1076WA

### Wire
- **% of Total Pkg. Wt.:** 0.40%  
- **Weight (g):** 0.0007  
- **Substances:** Copper (Cu), Palladium  
- **CAS #:** 7440-50-8, 7440-05-3  
- **% of Subst.:** 98.50%, 1.50%  
  - **Notes / Assumptions:** 0.8 mil wire diameter; 1 wire for each package lead

### Plating
- **% of Total Pkg. Wt.:** 4.06%  
- **Weight (g):** 0.0057  
- **Substance:** Tin (Sn)  
- **CAS #:** 7440-31-5  
- **% of Subst.:** 100.00%  
  - **Notes / Assumptions:** Plating is 100% Matte Sn, thickness is >10.2µm

### Leadframe
- **% of Total Pkg. Wt.:** 22.32%  
- **Weight (g):** 0.0312  
- **Substances:** Copper (Cu), Nickel (Ni), Silicon (Si), Magnesium (Mg), Silver (Ag)  
- **CAS #:** 7440-50-8, 7440-02-0, 7440-21-3, 7439-95-4, 7440-22-4  
- **% of Subst.:** 96.70%, 3.01%, 0.17%, 0.03%, 0.09%  
  - **Notes / Assumptions:** C7025

### Notes:
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