5-5-2015

Deep Silicon Etching using TRION

Zisong Nie
zisong@seas.upenn.edu

Follow this and additional works at: https://repository.upenn.edu/scn_tooldata

https://repository.upenn.edu/scn_tooldata/23

This paper is posted at ScholarlyCommons. https://repository.upenn.edu/scn_tooldata/23
For more information, please contact repository@pobox.upenn.edu.
Deep Silicon Etching using TRION

Keywords
Deep Silicon Etch TRION

Creative Commons License

This work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License.

This technical report is available at ScholarlyCommons: https://repository.upenn.edu/scn_tooldata/23
Deep Silicon Etching using TRION (Graduate Student Fellow Program)

Prepared by Zisong Nie (5/5/2015)

**Power (RIE power) dependence of etching profile**

- **Gas:** O2 = 5 sccm, SF6 = 25 sccm
- **Pressure:** 50mTorr
- **ICP power:** 500w

![Etching Profile Images]

<table>
<thead>
<tr>
<th>Power (W)</th>
<th>Etching Angle</th>
<th>Etching Rate (um/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100w (&lt;90°)</td>
<td>Round corner</td>
<td>2.03</td>
</tr>
<tr>
<td>200w (&lt;90°)</td>
<td>Round corner</td>
<td>3.24</td>
</tr>
<tr>
<td>300w (&gt;90°, undercut)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**RIE Power = 200W, Pressure decreased to 20mTorr**

![Etching Image]

Result: 1. Still round corner. 2. Side wall angle decreased a little bit