PT770 Etcher - Right Side (III-V)

Manager: Meredith Metzler  
Backup: Vince Genova  
Backup: Jerry Drumheller

Work Phone: 254-4934  
Calls to staff phones will be automatically forwarded to their cell phones during accessible hours. At other times leave a message or send them an email.

Backup: 254-4907

Backup: 254-4859

Safety
- No unusual hazards during normal operation
- No buddy system restrictions imposed on normal operation
- Chlorine & Methane chemistries used

Process Restrictions

Material Restrictions
- III-V (GaAs, InP, GaN, etc.)
- Resist, oxide, nitride, nickel masking
- Photoresist mask - Edge board must be removed (5mm ring) - if using 4" wafers
- No bulk Silicon
- Limited metal masking allowed - see manager
- Bond pieces with Cool-Grease to sapphire carrier wafer - supplied at the tool

Parameter Restrictions
- Bosch etching process or release etch process only
- ICP power less than 950 W
- RF power less than 300 W
- Pieces can be mounted to sapphire carrier wafer - up to 4" capability

Scheduling / Sign-up Restrictions
- Maximum 4 hour block reservations anytime
- Maximum 12 hours reserved in advance at any time per person
- No consecutive research group reservations
- Additional individual restrictions may be imposed to maximize effective use

Requirements (Do Every Time)
- Enter etch information into log book at tool
- You must remain in the laboratory near the instrument or have an authorized user designated to do so

Prohibitions (Never Do)
- No resist on backside of wafer
- Do not ABORT, use END STEP to move through process
- Users must NOT attempt to change/remove wafer clamp
- Users must not open vacuum chamber unless permitted by managers

Common Problems

<table>
<thead>
<tr>
<th>Problem:</th>
<th>Root Cause:</th>
<th>Solution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Plasma goes out after a number of cycles</td>
<td>2. Incorrect etch parameters</td>
<td>2. Notify manager.</td>
</tr>
<tr>
<td>4. Helium flow out of compliance</td>
<td>4. Holes are etched through to backside</td>
<td>4. Alarm silence, Hold, End Step to stop process - unload wafer</td>
</tr>
</tbody>
</table>

Other Comments or Cautions

Printed: 3/3/2010
PT770 Etcher - Left Side (Silicon)

Manager: Meredith Metzler  Work Phone: 254-4934
Backup: Vince Genova  Calls to staff phones will be automatically forwarded to their cell phones during accessible hours. At other times leave a message or send them an email.
Backup: Jerry Drumheller  Work Phone: 254-4907
Backup: 254-4859

Safety
- No unusual hazards during normal operation
- No buddy system restrictions imposed on normal operation
- Do be aware of Chlorine and BCI3 in use

Process Restrictions
Material Restrictions
- Whole silicon wafers only
- polysilicon films allowed
- Thermal Oxide mask only
- No resist or other polymer
- No metals -- exposed to etch
- No pieces glued or stuck to wafers - see manager about bonding wafer pieces

Parameter Restrictions
- ICP power less the an 950 watts
- RF power less than 100 watts
- 3" and 4" whole wafers only. Check clamp size !!

Scheduling / Sign-up Restrictions
- Maximum 4 hour block reservations anytime
- Maximum 12 hours reserved in advance at any time per person
- No consecutive research group reservations
- Users/Groups may use any amount of unreserved time
- Additional individual restrictions may be imposed to maximize effective use

Requirements (Do Every Time)
- Enter etch information into log book at the tool
- Check wafer size -- posted on front of chamber
- You must remain in the laboratory near the instrument or have an authorized user designated to do so

Prohibitions (Never Do)
- No resist on backside of wafer
- Do NOT ABORT, use END STEP to move through process
- Users must NOT attempt to change/remove wafer clamp
- Users must not open vacuum chamber unless specifically instructed by equipment managers

Common Problems

<table>
<thead>
<tr>
<th>Problem:</th>
<th>Root Cause:</th>
<th>Solution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wafer tray not in lock</td>
<td>1. Wafer stuck to clamp</td>
<td>1. Notify machine manager</td>
</tr>
</tbody>
</table>

Other Comments or Cautions

Printed: 3/3/2010