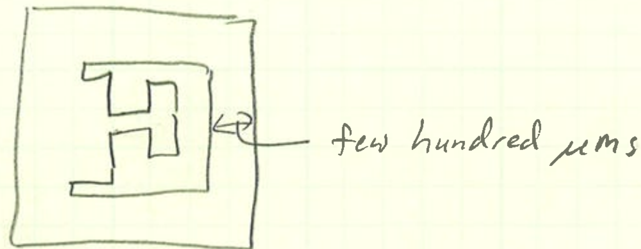
1) Exam 1 Go-over

2) Mask layout

→ multiple die on a wafer

Considerations

① space between die features and die edge



→ for sufficient die integrity for dicing + handling

② Saw lanes between die

→ cut saw lane width → "kerf"

③ How close to edge of wafer?

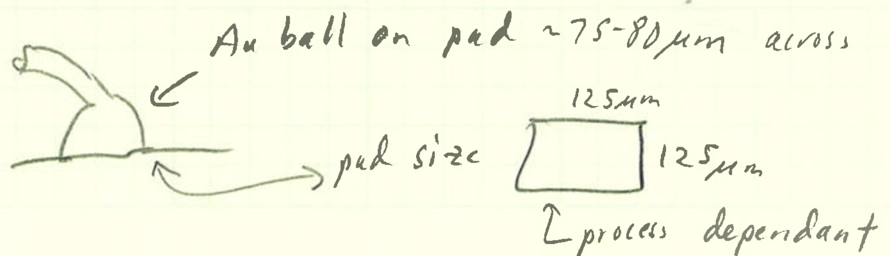
→ Depends on processing

→ DRIE – ~ 1/4" from edge of wafer

* Do not etch features to die edge or wafer will be very fragile to handle

④ Wire bond pads

Au wire bond
wire ~ 25 μm dia



⑤ Mask alignment

→ fiducials

Al mask + Si mask → combined fiducial

10μm gap; Si DRIE mask 1; 20μm wide; Al mask 2; 200μm long, 20μm wide

→ frontside / backside

→ Mask Aligner viewing areas

wafer

⑥ Mask Technology

small features < ~100μm → glass mask

large features > ~100μm → glass mask (~$300) or photoplot (~$50)

~3 days (glass mask); ~1 day (photoplot)

mask design: mirrored →

mask; mask features; PR; Si wafer

also: lightfield or dark field

→ drawn feature