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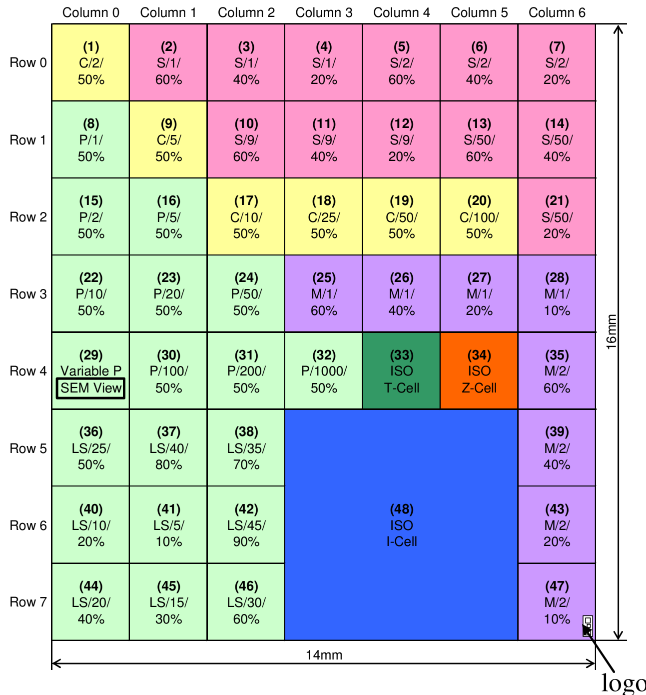
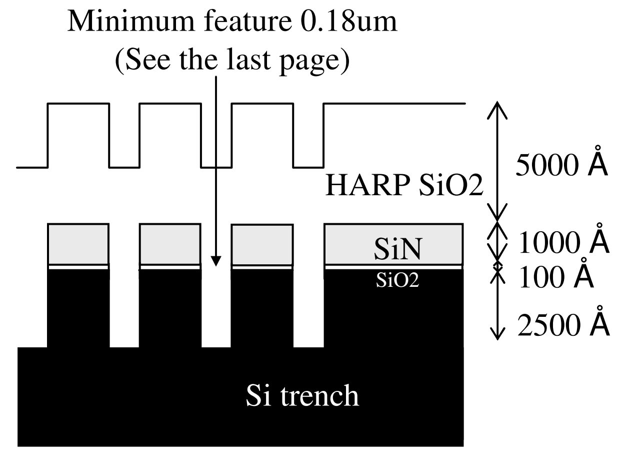
SKW 3-9 (HARP) 300mm Wafer Specifications

DATE: Jan 3, 2007



SKW 3-9 Mask Floor Plan

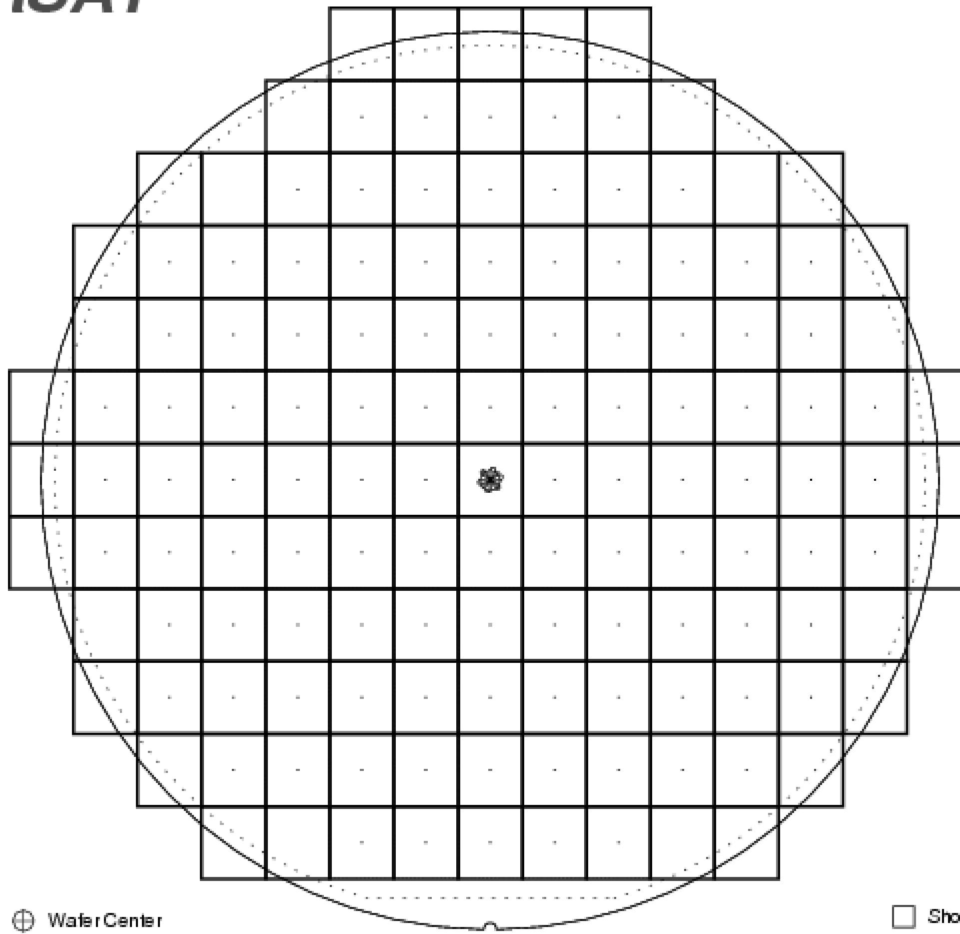


Cross Sectional View

PARAMETER	NOMINAL	TOLERANCE
Patterning		
Center Die X Location	-7.000 mm	+/- 10 µm
Center Die Y Location	-8.000 mm	+/- 10 µm
Die Size: X	14 mm	+/- 10 µm
Die Size: Y	16 mm	+/- 10 µm
Die Stepping (X /Y)	287 / 157 µm	+/- 10 µm
Wafers must be patterned all the way to the edges of the wafer, i.e. no area anywhere on the wafer unpatterned. (Under certain stepper operating conditions, 2 mm edge edge exclusion is allowed.)		

PARAMETER	NOMINAL	TOLERANCE
CD Variation (measured on shallow trenches)		
Lot-to-Lot	180 nm	+/- 10 nm
Within-Lot (Wafer-to-Wafer)		+/- 10 nm
Within-Wafer		+/- 10 nm
Within-Die (measured on 9 trenches)		+/- 14 nm
Raised area thickness (HARP CVD Oxide fill)		
Lot-to-Lot	5000 Å	+/- 5 %
Within-Lot (Wafer-to-Wafer)		+/- 5 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
Raised area thickness (Nitride)		
Lot-to-Lot	1000 Å	+/- 5 %
Within-Lot (Wafer-to-Wafer)		+/- 5 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
Raised area thickness (Pad Oxide)		
Lot-to-Lot	100 Å	+/- 5 %
Within-Lot (Wafer-to-Wafer)		+/- 5 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
Silicon Trench Depth		
Lot-to-Lot	2500 Å	+/- 8 %
Within-Lot (Wafer-to-Wafer)		+/- 8 %
Within-Wafer		+/- 10 %
Within-Die		+/- 10 %

RSAT



Wafer Center
Shot Map Center
SVG Shot Map Center
Shot
Die

200 mm Wafer Map

Chip Code:	RSAT
Comment:	ARO STI Device
Originator:	David Sturtevant
Date:	January 31, 2007

Layout Description

Wafer Diameter:	**200**	mm
Usable Diameter:	**194**	mm
Title Height:	**7**	mm
X Die Size:	**14.287**	mm
Y Die Size:	**16.157**	mm

Stepper Alignment

X Step:	14.287	mm
Y Step:	16.157	mm
Shot Columns:	15	
Shot Rows:	13	
Nikon X Offset:	0.0435	mm
Nikon Y Offset:	0.1785	mm
SVG X Offset:	0.1785	mm
SVG Y Offset:	-0.0435	mm
ASML X Offset:	0.0435	mm
ASML Y Offset:	0.1785	mm

Die Columns:	13
Die Rows:	11

Die Per Wafer:	109
Shot Count:	140