

# SKW Associates, Inc.

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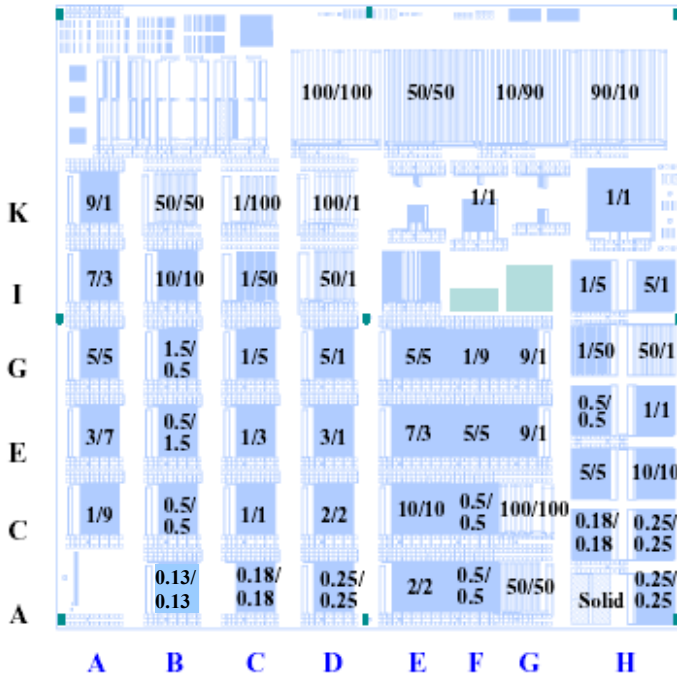
Email: [skw@testwafer.com](mailto:skw@testwafer.com)

<http://www.testwafer.com>

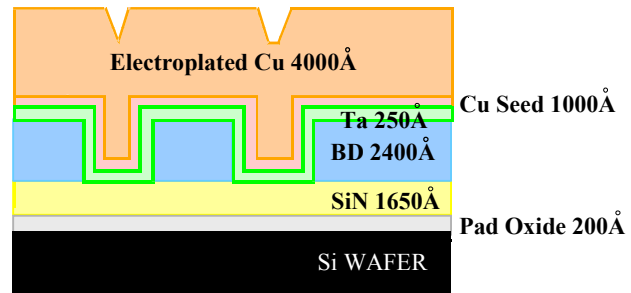
# SKW 6-3.13BD

## Wafer Specifications

DATE: June 10, 2004



6-3BD(0.13) Mask Floor Plan



Cross Sectional View

PARAMETER	NOMINAL	TOLERANCE
<b>Patterning</b>		
Center Die X Location	-10.000 mm	+/- 100 μm
Center Die Y Location	-10.000 mm	+/- 100 μm
Die Size: X	20 mm	+/- 10 μm
Die Size: Y	20 mm	+/- 10 μm
Die Stepping (X /Y)	360 / 180 μm	+/- 10%
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
<b>Line CD Variation</b>		
(measured on 2 $\mu\text{m}$ structure)		
Lot-to-Lot	2 $\mu\text{m}$	+/- 10 nm
Within-Lot (Wafer-to-Wafer)		+/- 10 nm
Within-Wafer		+/- 10 nm
Within-Die (measured on 9 trenches)		+/- 10 nm
<b>Pad Oxide thickness</b>		
Lot-to-Lot	200 $\text{\AA}$	+/- 5 %
Within-Lot (Wafer-to-Wafer)		+/- 5 %
Within-Wafer		+/- 3 %
Within-Die		+/- 3 %
<b>SiN film thickness</b>		
Lot-to-Lot	1650 $\text{\AA}$	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
<b>Black Diamond film thickness</b>		
Lot-to-Lot	2400 $\text{\AA}$	+/- 8 %
Within-Lot (Wafer-to-Wafer)		+/- 8 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
<b>PVD Ta film thickness</b>		
Lot-to-Lot	250 $\text{\AA}$	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

<b>PARAMETER</b>	<b>NOMINAL</b>	<b>TOLERANCE</b>
<b>PVD Cu film thickness</b>		
Lot-to-Lot	1000 Å	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %
<b>ECD Cu film thickness</b>		
Lot-to-Lot	4000 Å	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

Table 8. Direct Overlap: M1 Module Information

Module Name	DUT(s)	LW( $\mu\text{m}$ )	Ls( $\mu\text{m}$ )	Line Length ( $\mu\text{m}$ )
<b>BB</b>	<b>1-11</b>	<b>0.13</b>	<b>0.13</b>	<b>3220</b>
<b>BA</b>	<b>1</b>	<b>0.13</b>	<b>Isolated</b>	<b>3185</b>
	<b>2-6</b>	<b>0.13</b>	<b>0.13</b>	<b>3230</b>

Table 12. M1 Module Information

Module Name	DUT(s)	LW( $\mu\text{m}$ )	Ls( $\mu\text{m}$ )	Line Length ( $\mu\text{m}$ )
<b>BB</b>	<b>1-11</b>	<b>0.13</b>	<b>0.13</b>	<b>3220</b>
<b>BA</b>	<b>1</b>	<b>0.13</b>	<b>Isolated</b>	<b>3185</b>
	<b>2-6</b>	<b>0.13</b>	<b>0.13</b>	<b>3230</b>
CB	1-11	0.18	0.18	3220
CA	1	0.18	Isolated	3185
	2-6	0.18	0.18	3230.68
DB	1-11	0.25	0.25	3220
DA	1	0.25	Isolated	3185
	2-6	0.25	0.25	3230.75
BD	1-11	0.5	0.5	3220
BC	1	0.5	Isolated	3185
	2-6	0.5	0.5	3231
BF	1-11	0.5	1.5	3221
BE	1	0.5	Isolated	3185
	2-6	0.5	1.5	3232
CD	1-11	1	1	3220
CC	1	1	Isolated	3185
	2-6	1	1	3231.5
BH	1-11	1.5	0.5	3219
BG	1	1.5	Isolated	3185
	2-6	1.5	0.5	3231
CF	1-11	1	3	3222
CE	1	1	Isolated	3185
	2-6	1	3	3233.5
DD	1-11	2	2	3220
DC	1	2	Isolated	3185
	2-6	2	2	3232.5
DF	1-11	3	1	3218
DE	1	3	Isolated	3185
	2-6	3	1	3231.5
CH	1-11	1	5	3224
CG	1	1	Isolated	3185
	2-6	1	5	3235.5
DH	1-11	5	1	3216
DG	1	5	Isolated	3185
	2-6	5	1	3231.5
AD	1-11	1	9	3228
AC	1	1	Isolated	3185
	2-6	1	9	3239.5
AF	1-11	3	7	3224
AE	1	3	Isolated	3185
	2-6	3	7	3237.5
AH	1-11	5	5	3220
AG	1	5	Isolated	3185
	2-6	5	5	3235.5
AJ	1-11	7	3	3216