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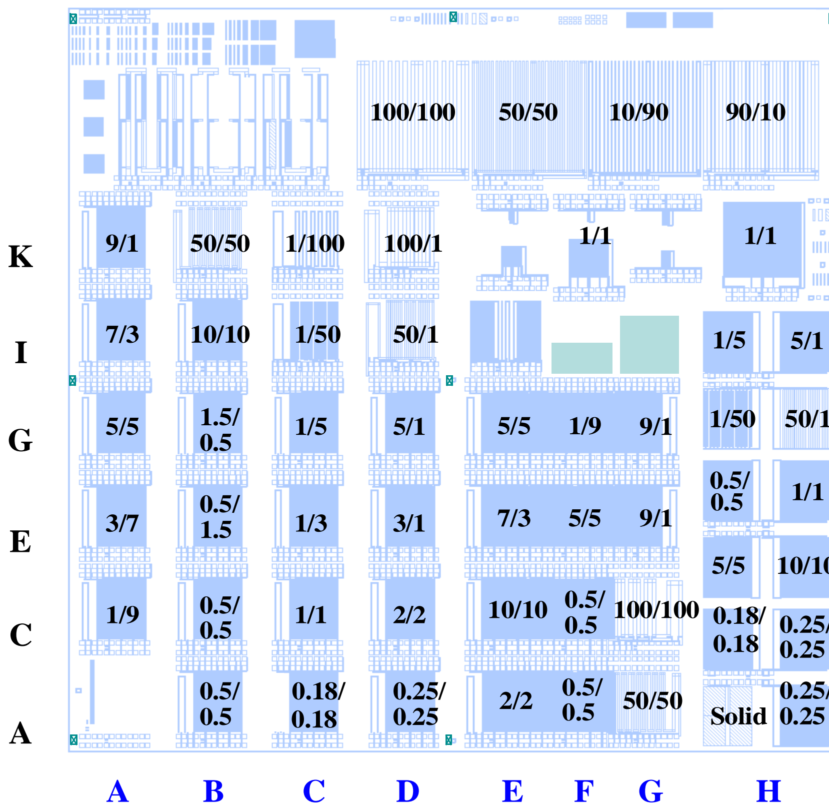
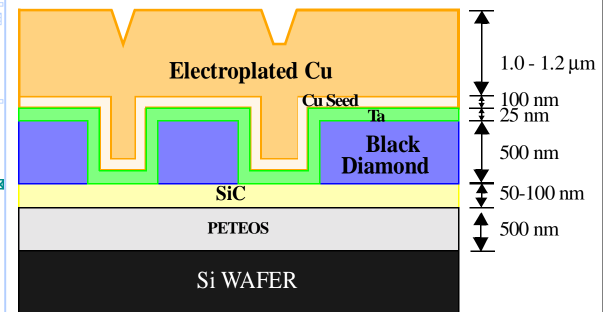
SKW 6-3BD V3.0 Uncapped Black Diamond Wafer Specifications

DATE: August 7, 2003



SKW6BD-200N-V3.0 Mask Floor Plan



Cross Sectional View

Isolation Layer Deposition

A. PETEOS Deposition

PARAMETER	NOMINAL	TOLERANCE
PETEOS Film Thickness		
Lot-to-Lot	5,000 Å	+/- 5 %
Within-Lot (Wafer-to-Wafer)		+/- 5 %
Within-Wafer		+/- 3 %
Within-Die		+/- 3 %

B. SiC Etch Stop Layer Deposition

PARAMETER	NOMINAL	TOLERANCE
SiC Film Thickness		
Lot-to-Lot	500A, 1000 Å	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

C. Black Diamond Low k Dielectric layer deposition

PARAMETER	NOMINAL	TOLERANCE
Black Diamond Film Thickness		
Lot-to-Lot	5,000 Å	+/- 8 %
Within-Lot (Wafer-to-Wafer)		+/- 8 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

Ta Deposition

PARAMETER	NOMINAL	TOLERANCE
Ta PVD Film Thickness		
Lot-to-Lot	250 Å	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %

Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

Cu Seed Layer Deposition

PARAMETER	NOMINAL	TOLERANCE
PVD Cu Film Thickness		
Lot-to-Lot	1,000 Å	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

ECD Cu Layer Deposition

PARAMETER	NOMINAL	TOLERANCE
ECD Cu Film Thickness		
Lot-to-Lot	1.0µm, 1.2µm	+/- 10 %
Within-Lot (Wafer-to-Wafer)		+/- 10 %
Within-Wafer		+/- 5 %
Within-Die		+/- 5 %

Patterning

PARAMETER	NOMINAL	TOLERANCE
Patterning		
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
Vertical Die Spacing	180 µm	+/- 10 %
Horizaontal Spacing	360 µm	+/- 10 %
LineWidth Variation (meaured on 2 µm structures)		
Lot-to-Lot	2 µm	+/- 0.1 µm
Within-Lot (Wafer-to-Wafer)		+/- 0.1 µm

Within-Wafer		+/- 0.1 µm
Within-Die		+/- 0.1 µm