



Thin Films, Ion Implant and Chemical Mechanical Polish

Key Features

- › SPC-controlled stable industry-standard high-volume manufacturing equipment set
- › Complete world-class 200mm 65nm node-capable tool set
- › Advanced gate materials – high-K Al, Zr & Hf (Ox, N) dielectrics and Ta, Ti & Si compound metal gate materials for next-generation transistors
- › Atomic Layer Deposition (ALD) for conformal, high aspect ratio, coatings for metal & dielectric materials
- › Complete 130nm node-capable dual damascene copper back end
- › Complete 180nm node-capable multi-layer aluminum back end
- › Coral low-k dielectric
- › Amorphous carbon and amorphous silicon PECVD deposition capability
- › Full range of chemical mechanical polish (CMP) options for nitride, silicon, tungsten, oxide and copper and with end-point capability on many materials

SVTC Technologies is an independent semiconductor process-development foundry that enables the development and commercialization of innovative semiconductor-based technologies and products in an accelerated, cost-effective and IP-secure way.

Our facilities in San Jose, California, and Austin, Texas, offer a wide range of tools from leading equipment manufacturers. SVTC enables development with thin-film processes such as ALD, PECVD, PVD and high-density plasma for dielectrics and metals – including industry-standard as well as novel materials and processes. SVTC's capabilities include ion implant and chemical mechanical polish (CMP), for a wide range of materials.



Thin Films

Capability	Tools	FE/BE	Location
ALD Dielectric: High K (TiO, TaO, TaSiO, TiSiO etc.)	Aviza Celsior Atomic Layer Depositor - Dielectric ALD	FE	San Jose
ALD Metals: Metal Gate (Ti, Ta, TaN, TiN etc.)	Aviza Celsior Atomic Layer Depositor - Metal ALD	FE	San Jose
High Density Plasma Dielectric: STI oxide trench fill	Novellus C2 Speed HDP	FE	San Jose
PECVD W: Tungsten & Phase nucleation layer (PNL)	Novellus C2W Altus	FE/BE	San Jose
PECVD Si: Amorphous C & Amorphous Si Dep coming	AMAT Producer	FE/BE	San Jose
PECVD Oxide: (BPSG / TEOS - IMD, CAP, Spacer & Passivation)	Novellus Concept One	BE	San Jose
PECVD Nitride: Passivation or HM deposition	Novellus Concept One	BE	San Jose
PVD: Ti & IMP TiN Metal Dep	AMAT Endura 5500 (Ti, IMP TiN)	BE	San Jose
PVD Metal: Al0.5%Cu & TiW Metal Dep	AMAT Endura 5500 (Al0.5%Si, TiW)	BE	San Jose
ALD HfO2, HfSiO2, HfZrOx, ZrO2, ZrSiO2	Vesta Atomic Layer Deposition - Dielectric ALD	FE	Austin
ALD HfN, HfON, HfSiN, HfSiON, ZrN, ZrSiN, ZrON, ZrSiON	Vesta Atomic Layer Deposition - Dielectric ALD	FE	Austin
ALD Al2O3, SiO2, Ta2O5, H2O-(Al2O3, HfO2, HfSiO2, or Ta2O5)	Vesta Atomic Layer Deposition - Dielectric ALD	FE	Austin
ALD Thermal/Plasma anneal (H2, NH3, O2, N2O)	Vesta Atomic Layer Deposition - Dielectric ALD	FE	Austin
ALD TiN, TaCN, SiN, WN, AlN, TiAlN, TaAlN, WAlN etc.	Vesta Atomic Layer Deposition - Metal ALD	FE	Austin
ALD Soft-Sputter etch, In situ Ti-TiN liner deposition	Vesta Atomic Layer Deposition - Metal ALD	FE	Austin
PVD Metal Gate & Bias Sput'd Diel.: (Ti, Ta, W, etc.)	Anelva C-7100MeGa - Target acquisition as req'd	FE/BE	Austin
PVD React. Sput'd Metal & Diel.: (TiN, TaN, etc. & La2O3, TiO3, etc.)	Anelva C-7100MeGa - Target acquisition as req'd	FE/BE	Austin
PVD Metal Dep: Al, Co, Ti & TiN & Uncolimated Ti, Co, Ni	AMAT Endura HP PVD	BE	Austin
PVD Metal Dep: Al, Co, Ti & TiN & Uncolimated Ti, Co, Ni	Varian M2000/8	BE	Austin
PVD: Barrier/seed (Ta, Cu, CVD TiN, TiSiN)	Novellus Inova	BE/CU	Austin
CVD: Undoped PETEOS, O3:TEOS, SiN, SiON, PSG, USG, SiC, Sput Etchback	AMAT Precision 5000	BE/CU	Austin
PECVD: SiLOX, SiN, SiON, SiCN, SiCo, CORAL	Novellus Concept Two Sequel	BE/CU	Austin
PECVD: Tungsten Dep	Novellus Concept One	BE/CU	Austin
ECD: Cu electrodeposition	Novellus Sabre Classic	BE/CU	Austin

Ion Implant

Capability	Tools	FE/BE	Location
II: As, B11, BF2, F19, Ge, etc, 200eV-80KeV, E13-E16, 0-7o tilt	AMAT Xrleap Ion Implanter	FE	Austin
II: As, B11, BF2, P31, 5KeV-300KeV, 1E11-1E14, 0-60o tilt	Ulvac IW-630 Ion Implanter	FE	Austin

Chemical Mechanical Polish (CMP)

Capability	Tools	FE/BE	Location
CMP: Blanket Poly	Westech 472	FE	San Jose
CMP: Oxide/Nitride Stop	Westech 472	FE/BE	San Jose
CMP: Blanket Oxide	Westech 472	FE/BE	San Jose
CMP: Tungsten	Westech 472	BE	San Jose
CMP: Low temperature Ox, Nitride & Tungsten Polish	Westech 472	BE	San Jose
Scrubber	Ontrak	BE	San Jose
CMP: STI oxide polish w and w/o nitride stop	AMAT Mirra with Ontrack Scrubber	FE	Austin
CMP: ILD oxide	AMAT Mirra with Ontrack Scrubber	FE	Austin
CMP: Nitride with oxide selectivity	AMAT Mirra with Ontrack Scrubber	FE	Austin
CMP: Tungsten	AMAT Mirra with Ontrack Scrubber	FE	Austin
CMP: Damascene Cu and barrier w/ Ontrak 200 Cleaner-200 mm	AMAT Mirra with Ontrack Scrubber	BE/Cu	Austin
CMP: Thick TSV Cu and barrier w/Ontrak Cleaner- 200 mm	AMAT Mirra with Ontrack Scrubber	BE/Cu	Austin
CMP: Specialty Novel Materials and Processes	AMAT Mirra or Westek 372	FE/BE	Partner

FACT SHEET



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