



PECVD a-Si systems from AKT have been first to market for each generation from Gen 2 to Gen 10 for the TFT-LCD industry. AKT's proven architecture and processes optimize yield, productivity, and reliability; making us the market leader in Flat Panel Display PECVD equipment with over 750 PECVD systems in the field.

STANDARD MAINFRAME COMPONENTS

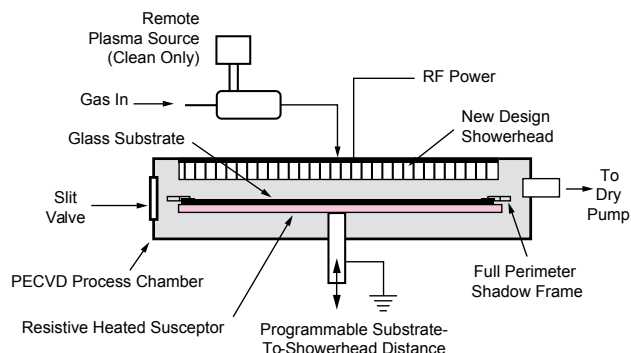
- Standard: Up to five **AKT-APX_L**™ PECVD single-substrate process chambers
- One Triple Single-Slot Loadlock (TSSL) or Dual Single-Slot Loadlock (DSSL) capable of interface with customer supplied Automated Cassette Load Station (ACLS) or customer's single substrate transfer concepts
- Six-sided vacuum transfer chamber including 3-axis "over center" robotic dual arm substrate handler
- Computer workstation for operational control

REMOTE COMPONENTS

- Loadlock chamber, transfer chamber dry pumps (customer supplied)
- Process chamber dry pumps (customer supplied)
- Cold loop heat exchangers (Customer supplied or Facility DI water)

AKT® PECVD SYSTEMS

AKT-APX_L PECVD PROCESS CHAMBER



AKT-APX_L PROCESS CHAMBER

- Single-substrate processing capability
- Patented, new design diffuser for efficient ionization and high deposition rate
- Repeatable deposition over one month without maintenance
- Highly uniform deposition to 20 mm edge exclusion
- Low defect density
- In-situ process chamber cleaning using Remote Plasma Source (RPS)

SUBSTRATE SIZE

AKT-15K PECVD	1100 mm x 1250 mm - 1200 mm x 1300 mm
AKT-25K PECVD	1500 mm x 1850 mm
AKT-40K PECVD	1870 mm x 2200 mm - 1950 mm x 2250 mm
AKT-55K PECVD	2200 mm x 2500 mm
AKT-90K PECVD	2880 mm x 3130 mm

APPLICATIONS

- Amorphous Silicon (a-Si)
- Silicon Oxynitride (SiON)
- Doped Amorphous Silicon (n⁺ a-Si)
- Silicon Nitride (SiN_x)
- Silicon Oxide, Silane based (SiO₂)
- In-situ multi-layer deposition (e.g., SiN_x / a-Si / n⁺ a-Si)

FRONT END INTERFACE SUBSTRATE LOADING

- Customer to supply substrate loading / unloading mechanism
- Compatible with customer supplied ACLS
- Compatible with integration to substrate cleaners
- Compatible with customer provided single substrate transfer link concepts

GAS DELIVERY SYSTEM

- Up to six (6) gas lines per process chamber standard, three additional gas lines per chamber optional
- Independent set of MFC's for each process chamber
- N₂ cycle purge and pump out behind each MFC

CONTROL SYSTEM

- MasterFab Central Controller (MCC)
- Mouse driven, graphic user interface
- Software interfaced through Ethernet LAN communication
- Interlocks for safety
- Password access control for maintenance, operator, software and manager levels

CUSTOMER ENGINEERING OPTIONS

Available upon request

- Customer special hardware and software options for factory automation
- Service platforms are option

Applied Materials

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