KJLC 150LX Atomic Layer Deposition

Overview

The Kurt J. Lesker Company® (KJLC®) ALD150LX™ is an Atomic Layer Deposition (ALD) system designed specifically for advanced research and development (R&D) applications. Innovative ALD150LX™ design features, like our Patented Precursor Focusing Technology™, blended with advanced process capability provide unparalleled flexibility and performance. With an emphasis on enabling and supporting innovative, cutting edge technology at the R&D level, the ALD150LX™ serves not only as a stand-alone platform, but provides connectivity with additional process and analysis modules in a cluster tool configuration.

LMACS Name	ALD - KJLC 150LX
Confluence Label	kjlc-150lx-ald
Process Area	DEPOSITION
Model	ALD 150LX
Vendor	Kurt J. Lesker (KJL)
Team	Aaron Hryciw Scott Munro Devin Fortier

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System Features

Substrate Handling	Load locked single wafer transfer Substrate sizes: **min**: 2 mm × 2 mm; **max**: 150 mm ø; **thickness**: 5 mm thickness w/o carrier, 3 mm with carrier
Substrate Heating	up to 500 ºC
Sources	Source 1 - Single Vapour Draw (H_2O) Source 2 - Flow through Source 3 - Multi-source Vapour Draw (5 ampoules) Source 4 - Flow-through heated oven

Materials	• Aluminium oxide (Al_2O_3)
	  ◦ TMA + H_2O
	  ◦ TMA + O_2 plasma
	  ◦ TMA + O_3
	• Silicon dioxide (SiO_2)
	  ◦ 3DMAS + O_2 plasma
	• Hafnium oxide (HfO_2)
	  ◦ TDMAH + H_2O
	  ◦ TDMAH + O_2 plasma
	• Zirconium oxide (ZrO_2)
	  ◦ TDMAZ + H_2O
	  ◦ TDMAZ + O_2 plasma
	• Silicon nitride (Si_3N_4)
	  ◦ 3DMAS + N_2 plasma
	• Titanium nitride (TiN)
	  ◦ $TiCl_4$ + N_2/H_2 plasma
	• Aluminum nitride (AlN)
	  ◦ TMA + N_2 plasma

Plasma Source Gases	Source 5 - 1 kW RF Remote ICP • Argon (Ar) • Oxygen (O_2) • Nitrogen (N_2) • Hydrogen (H_2) • Ammonia (NH_3) • Ozone (O_3) - via ozone generator (non-plasma)

Process Information

Please see the KJLC ALD 150LX process information page for a listing of qualified recipes and associated data.

Documents

Operating Procedure	KJLC 150LX ALD SOP
Hazard Assessment	KJLC 150LX ALD Hazard Assessment

Related Documents

- KJLC 150LX Atomic Layer Deposition (Equipment)
  - equipment
  - requires-update
  - kjlc-150lx-ald
  - $labeltext
  - deposition