

150/200mm Fully automated, high-performance PECVD equipment

Model: SA-EPEE i200

SA-EPEE i200 is an automated 150/200mm PECVD equipment for Si, SiC and GaAs wafers. Adopting twin-chamber design with dual-frequency RF, it deposits SiO₂, SiN_x, TEOS and BPSG films with ≤3% cross-wafer uniformity. Integrated with EFEM cooling and RPS in-situ cleaning, it raises throughput by 20%, cuts footprint and reduces CoC & CoO, fully optimized for mass production of power semiconductors and logic chips.



Feature

- High Efficient Trasfer System
- Less footprint
- Lower CoO & CoC

Application

- Compound Semiconductor
- R&D
- High and New Technology Industry

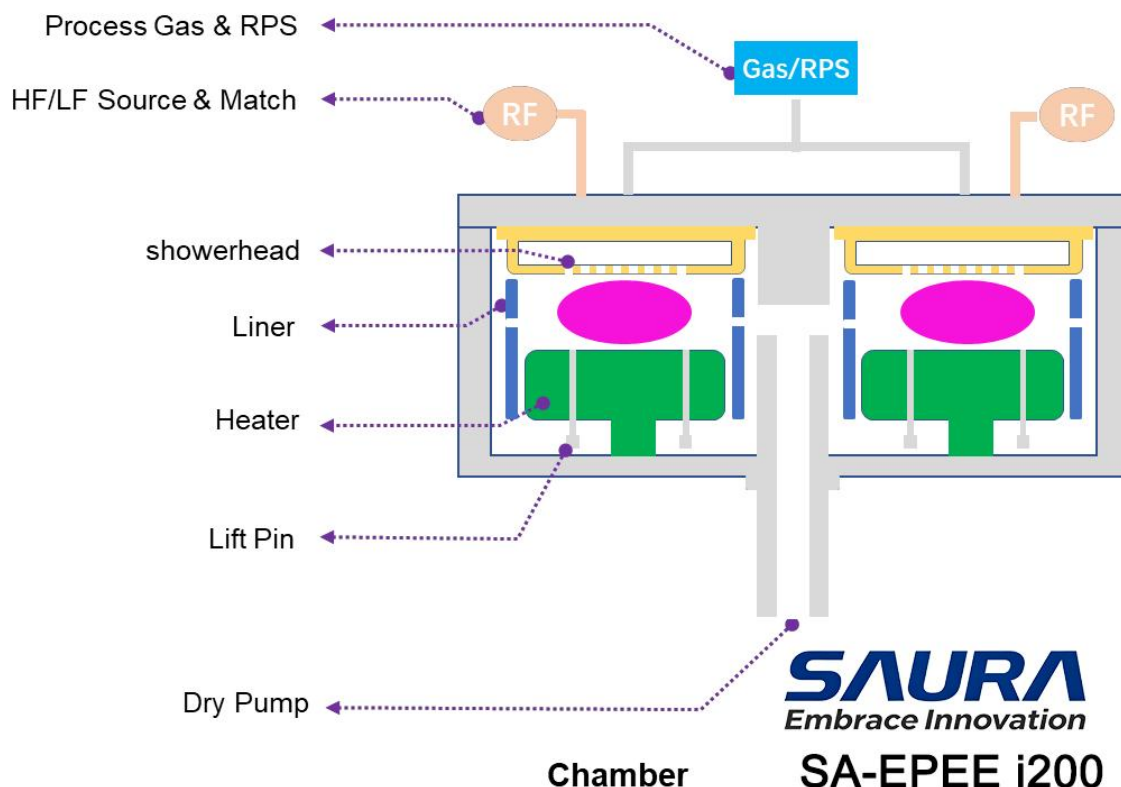
Specifications:

Parameter	Descriptions
Wafer Size	200/150mm(6/8inch)
Substrate Type	Si/SiC/W/TiN/Ti/TiW
Standard Configuration	SMIF×3+EFEM×1+LL×2+TM×1+PM×3
Wafer Station	Twins chamber, 2 pcs/chamber, max 6pcs for 3 chambers
Automation	Open cassette/SMIF
Process	SiO ₂ /SiN _x /TEOS/BPSG
Deposit Material	SiO ₂ /SiN _x /SiON/TEOS SiO ₂ /BPSG
Uniformity	WIW ≤3.0%、WTW≤3.0%、RTR≤3.0%
Gas Configuration	TEOS/TEPO/TEB/O ₂ /SiH ₄ /NH ₃ /N ₂ O/He/N ₂ /NF ₃ /Ar(RPS)
Cooling Module	EFFM cooling buffer
Foot print	2100×3360(7.0m ²)
WPH(relative)	1.20
CoC(relative)	0.83
CoO(relative)	0.75
Clean Mode	RPS clean,>2μm/min
W×L×H	3360×2100×2600 mm

Precess control ability with SiH₄、TEOS process:

Parameter	SiH ₄ Base				TEOS Base	
	SiH ₄ -SiO ₂	SiNx	SiON	BPSG	TEOS-SiO ₂	BPSG
Gas Line	10				7	
Thickness(A)	200~20000	200~10000	200~2000	300~20000	300~20000	300~20000
DR(A/min)	1000~15000	1000~15000	1000~10000	1000~15000	1000~15000	1000~15000
U%,1sigma	1.5%、1.5%、1.5%					
R.I	1.5±0.05	2.0±0.2	1.7±0.1	1.46±0.02	1.46±0.02	1.46±0.02
Stress(MPa)	-100,Tunable	±100	-100	±100	±100	±100
PA(>0.20μm)	<30					
Chamber Temperature	70±5°C					
Process Temperature	Max 550°C					
B/P	-	-	-	2~6% wt%	-	2~6% wt%

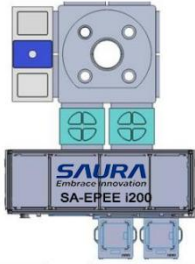
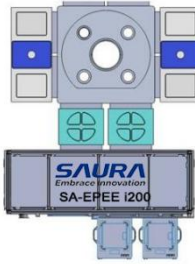
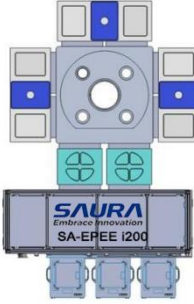
Principle:



Tool and Facilities:

	No.	Module Name	Quantity
Tool	1	Process Module(SiH ₄ /TEOS/Carbon)	3
	2	Transfer Module(EFFM、 Loadlock)	1
	3	SMIF(Pod)/Open cassette	3
Facility	4	Dry Pump(PM)	3
	5	Dry Pump(TM)	2
	6	Chiller	1
	7	RF Cabinet	1
	8	Power Supply Cabinet	1
	9	Transformer	1
	10	LDS(TEOS/TEPO/TEB)	3

Capacity Requirements:

Tool Name	1PM	2PM	3PM
Image			
Application	- EFEM + Loadlock - 2 Pod - 1 module - 2 wafers	- EFEM + Loadlock - 2 Pod - 2 process modules - 4 wafers	- EFEM + Loadlock - 3 Pod - 3 process modules - 6 wafers
Footprint	2850×2100×2600mm=6.0m ²	2850×2100×2600mm=6.0m ²	3360×2100×2600mm=7.0m ²