

Film Properties of High-Stress SiN_x deposited at the chuck temperatures of 50, 100 and 250°C using Unaxis ICP PM3 tool with pressure=15 mT, Bias/ICP powers=5/400 W, SiH₄(100%)/He/N₂: (a) 7.7/257.4/4 sccm (at 50°C); (b) 7.6/257.4/4 sccm (at 100°C); (c) 7.5/257.4/4 sccm (at 250°C).

High-Stress SiN _x Film (5W Bias Power, No Ar), Grown using Unaxis ICP PM3 Deposition Tool, Characterizations				
	50°C(ICP)	100°C(ICP)	250°C(ICP)	250°C(PECVD)
Refractive Index	~2	~2	~2	~2
Deposition Rate (nm/min.)	30.6	29.3	27.4	10
Buffered HF Etch Rate (nm/min.)	75.3	67.5	39.6	36
Film Stress (~200 nm in Thickness) (MPa)	-807	-959	-1158	260

Figure 1 High-stress SiNx deposited at 100°C onto an etched GaAs Structure.

