

Advanced PECVD-LS Nitride2(n=1.93,-40MPa, 8.3nm/min)			Advanced PECVD Typical Film Properties
SiN deposition~2500A, 300C			Calibrated every 2-4 weeks
Step1: NITRIDE2 coat			Check for the latest update on UCSB Nanofab WIKI
Name	Value	Changeable	
LF on time(ms)	1000ms	Y	
LF setpoint	90W	Y	
Process pressure	800 mtorr	N	
RF on time(ms)	6000ms	N	
RF setpoint	30 W	N	
stabilization time	15 seconds	N	
step time(m)	10 min	Y	
step time(s)	0 sec	Y	
2%SiH4 %He	1040sccm	N	
N2	980sccm	N	
NH3	18sccm	N	
Step2: NITRIDE2 deposition			LS Nitride2~2500A Typical Film Properties
Name	Value	Changeable	Deposition rate=8.3nm/min
LF on time(ms)	1000ms	Y	Refractive index@632.8nm=1.932
LF setpoint	90W	Y	Stress=-46MPa
Process pressure	800 mtorr	N	HF etch rate=46nm/min
RF on time(ms)	6000ms	N	
RF setpoint	30 W	N	
stabilization time	15 seconds	N	
step time(m)	30 min	Y	
step time(s)	0 sec	Y	
2%SiH4 %He	1040sccm	N	
N2	980sccm	N	
NH3	18sccm	N	
Step3: STANDARD PLASMA CLEAN			
1. pump down			
Name	Value	Changeable	
stabilization time	15 seconds	N	
step time(m)	0	N	
step time(s)	30	N	
2. Pre-purge			
Name	Value	Changeable	
purge	1 (Yes/No)	N	
stabilization time	15 seconds	N	
step time(m)	1	N	
step time(sec)	0	N	
3.1 High Pressure			
Name	Value	Changeable	
Clload position	50%	N	
Ctune position	50%	N	
DriveMatch	1 (Yes/No)	N	
Process pressure	600 mtorr	N	
RF setpoint=300	300 W	N	
Stabilization time	35 seconds	N	
step time(m)	ENTER TIME	Y	For 7min(coat+deposition) run 1min Standard Plasma Clean
step time(s)	0	Y	
CF4/O2(5)	500 sccm	N	