Technics

900 SERIES MICRO PECVD SYSTEM

OPERATION AND MAINTENANCE MANUAL

TECHNICS, INC.
7060-300 KOLL CENTER PARKWAY
PLEASANTON, CA 94566
PHONE: (510) 417-1500
FAX: (510) 417-1300

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APPLICATION NOTES

STANDARD PROCESSES FOR TECHNICS 900 (USING DILUTED SiH_4 MIXTURE)

FILM

Silicon Nitride
Silicon Dioxide
Amorphous Silicon

TEMPERATURE

Typical process temperature range (250°C-350°C)

GASES FOR DEPOSITION

Silicon Nitride	240 SCCM 5% SiH_4-95% N_2+20 SCCM NH_3
Silicon Dioxide	225 SCCM 5% SiH_4-95% N_2+80 SCCM N_2O
Amorphous Silicon	225 SCCM 5% SiH_4-95% N_2+20 SCCM Argon

DEPOSITION RATE

Silicon Nitride	@ 300°C	165 Angstroms/Min
Silicon Dioxide	@ 300°C	414 Angstroms/Min

UNIFORMITY (ACROSS 200 mm WAFER ON 3 SIGMA CURVE)

Silicon Nitride	± 2%
Silicon Dioxide	± 2%
Amorphous Silicon	± 4%

REFRACTIVE INDEX RANGE

Silicon Nitride	1.80 – 2.20
Silicon Dioxide	1.45 – 1.73

FILM DENSITY

Silicon Nitride	1.80 – 2.4g/cm^3
Silicon Dioxide	2.10 – 2-3g/cm^3

FILM RESISTIVITY

Greater than 10^{17} Ohm-cm