

Honeywell
ACCUGLASS® P-5S
Spin-on Glass

Honeywell ACCUGLASS® P-5S Spin-on Glass

ILD AND PMD PLANARIZATION

BENEFITS

- Industry proven performance and broad acceptance in subtractive aluminum processing
- Phosphorus stability up to 900°C
- Thickness variation within a wafer of less than 2%
- Cracking resistance up to 8000Å
- Adhesion to thermal SiO₂, CVD SiO₂ and aluminum

OVERVIEW

The ACCUGLASS P-5S ($\kappa=4.7$) Spin-on Glass (SOG) is a phosphosilicate polymer used for metal and poly planarization, overcoat passivation, and non-etchback interlayer dielectric in the manufacture of integrated circuits. The ACCUGLASS P-5S series also provides Na⁺ gettering ability similar to P-doped CVD oxides.

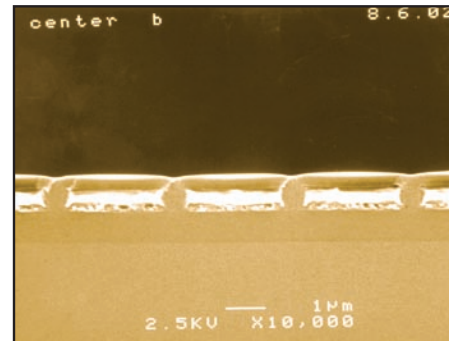
ACCUGLASS P-5S series contains 2.7 wt% phosphorous bonded to O atoms in the Si-O backbone. The specific formulation results in a stable dielectric constant, <2% within wafer uniformity, and can be densified at temperatures up to 700-900°C with no significant loss of phosphorous.

Thin films of ACCUGLASS P-5S are applied using a commercial coater and cured in a vertical or horizontal furnace to thicknesses up to 1490Å (single coat) and 8000Å (multiple coats).

APPLICATIONS

- ILD and PMD Planarization
- Overcoat Passivation
- Gapfill
- Interlevel Dielectric

ACCUGLASS P-5S is suitable for metal and poly planarization and non-etchback applications in SOG/CVD/SOG sandwich structures. The CVD TEOS creates a stress release for the SOG. ACCUGLASS P-5S can also be used for overcoat passivation.



Sandwich of 1500Å Silane / 1600Å P-5S / 1500Å Silane / 1600Å P-5S

FEATURES

Thickness

Product	Thickness Range
P-5S	925Å – 1,490Å

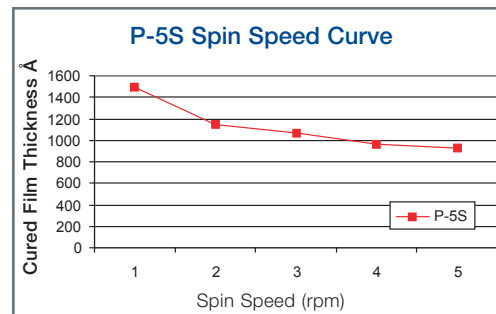
Film Properties Post Cure

Dielectric Constant @ 1 MHz: 4.7
Refractive Index @ 633 nm: 1.48
Coeff. of Thermal Expansion: $5 \times 10^{-6} \text{K}^{-1}$

Material Properties

P-5S Shelf Life @ 4°C: 12 months

Bottle sizes available:
125ml, 250ml, 500ml, 1L, 2L, 4L



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Honeywell Electronic Materials

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