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(54) Title: CHEMICAL MECHANICAL PLANARIZATION POLISHING COMPOSITION FOR SILICON OXIDE AND SILICON NITRIDE

(57) Abstract: The present invention discloses Chemical Mechanical Planarization (CMP) polishing compositions, methods and systems that offer high and near equal removal rates of silicon dioxide and silicon nitride for achieving a topographically corrected wafer surface with low defects. The CMP polishing compositions use a unique combination of non-spherical, non-surface modified silica particles having low specific surface area (<300 or <150 m²/gm) due to low surface silanol density (<4 SiOH/nm²); and a chemical additive contains diphosphonic acid.



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