

ABSTRACT

Shallow Trench Isolation (STI) Chemical Mechanical Planarization (CMP) Polishing With Tunable Silicon Oxide and Silicon Nitride Removal Rates

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Shallow Trench Isolation (STI) chemical mechanical planarization (CMP) polishing compositions, methods and systems of use therefore are provided. The CMP polishing composition comprises abrasives of ceria coated inorganic metal oxide particles, such as ceria-coated silica; and dual chemical additives for providing the
10 tunable oxide film removal rates and tunable SiN film removal rates. Chemical additives comprise at least one nitrogen-containing aromatic heterocyclic compound and at least one non-ionic organic molecule having more than one hydroxyl functional group organic.

[No figure]