



Investigation of physical and chemical interactions during etching of silicon in dual frequency capacitively coupled HBr/NF3 gas discharges

By Marco Reinicke

Books On Demand Nov 2009, 2009. Taschenbuch. Book Condition: Neu. 213x151x20 mm. Neuware - High aspect ratio silicon etching used for DRAM manufacturing still remains as one of the biggest challenges in semiconductor fabrication, requiring well understood and characterized process fundamentals. In this study, physical and chemical interactions during etching silicon in capacitively coupled plasma discharges were investigated in detail for different HBr/NF3 mixed chemistries for single frequency as well as dual frequency operation and medium discharge pressures inside an industrial MERIE CCP reactor typically used for DRAM fabrication. Utilization of the dual frequency concept for separate control of ion energy and ion flux, as well as the impact on discharge properties and finally on etching at relevant substrate surfaces were studied systematically. The complex nature of multi frequency rf sheaths was both analyzed experimentally by applying mass resolved ion energy analysis, and from simulation of ion energy distributions by using a Hybrid Plasma Sheath Model. Discharge composition and etch processes were investigated by employing standard mass spectrometry, Appearance Potential Mass Spectrometry, Quantum Cascade Laser Absorption Spectroscopy, rf probe measurements, gravimetry and ellipsometry. An etch model is developed to explain limitations of silicon etching in HBr/NF3 discharges to achieve highly aniostropic etching, 284...

Reviews

An exceptional pdf and the typeface utilized was fascinating to read through. It can be writter in straightforward words and phrases instead of confusing. I am just quickly could possibly get a delight of looking at a written ebook.

-- Prof. Arlie Bogan

It in a single of the best book. This is for those who statte there had not been a well worth reading through. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- Dr. Barney Robel Jr.

See Also



Bully, the Bullied, and the Not-So Innocent Bystander: From Preschool to High School and Beyond: Breaking the Cycle of Violence and Creating More Deeply Caring Communities

HarperCollins Publishers Inc, United States, 2016. Paperback. Book Condition: New. Reprint. 203 x 135 mm. Language: English. Brand New Book. An international bestseller, Barbara Coloroso s groundbreaking and trusted guide on bullying-including cyberbullying-arms parents and teachers with real solutions for a...



Children's Handwriting Book of Alphabets and Numbers: Over 4,000 Tracing Units for the Beginning Writer

Createspace, United States, 2015. Paperback. Book Condition: New. 254 x 203 mm. Language: English . Brand New Book ***** Print on Demand *****. The Children s Handwriting Book of Alphabets and Numbers provides extensive focus on alphabet tracing and number tracing for the...



The Country of the Pointed Firs and Other Stories (Hardscrabble Books-Fiction of New England)

New Hampshire. PAPERBACK. Book Condition: New. 0874518261 12+ Year Old paperback book-Never Read-may have light shelf or handling wear-has a price sticker or price written inside front or back cover-publishers mark-Good Copy- I ship FAST with FREE tracking!!!! * I am a...



Everything Ser The Everything Green Baby Book From Pregnancy to Babys First Year An Easy and Affordable Guide to Help Moms Care for Their Baby And for the Earth by Jenn Savedge 2009 Paperback

Book Condition: Brand New. Book Condition: Brand New.



The genuine book marketing case analysis of the the lam light. Yin Qihua Science Press 21.00(Chinese Edition)

paperback. Book Condition: New. Ship out in 2 business day, And Fast shipping, Free Tracking number will be provided after the shipment. Paperback. Pub Date: 2007-01-01 Pages: 244 Publisher: Science Press Welcome Our service and quality to your satisfaction. please tell your friends...



Some of My Best Friends Are Books : Guiding Gifted Readers from Preschool to High School

Book Condition: Brand New. Book Condition: Brand New.