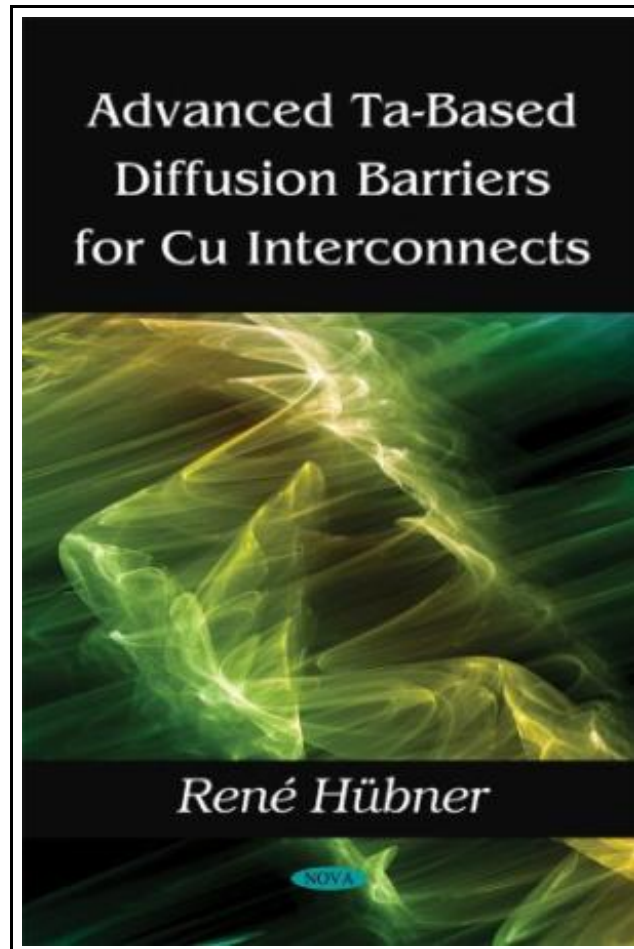


## Advanced Ta-Based Diffusion Barriers for Cu Interconnects



Filesize: 7.83 MB

### ***Reviews***

*Excellent electronic book and helpful one. It usually does not cost a lot of. I am quickly will get a pleasure of reading through a written publication.*

*(Bernardo Feeney Jr.)*

## ADVANCED TA-BASED DIFFUSION BARRIERS FOR CU INTERCONNECTS



Nova Science Publishers Inc. Paperback. Book Condition: new. BRAND NEW, Advanced Ta-Based Diffusion Barriers for Cu Interconnects, Rene Hubner, During the last few years, copper has become the standard metallisation material for on-chip interconnects in high-performance microprocessors. Compared to the previously used aluminium, copper shows not only a lower resistivity, but also significantly improved electromigration resistance. Copper ions, however, are very mobile in silicon and many dielectric materials under electrical and thermal bias. Thus, barrier layers are needed to prevent Cu diffusion into the insulating layers surrounding the metallic interconnects. Since Ta-based compounds are characterized by a high thermal stability, pure Ta films or layer stacks consisting of Ta and TaN are used for such barriers. The continuous scaling down of the interconnect dimensions and, therefore, the essential decrease in the barrier layer thickness coupled with the replacement of silicon oxide by advanced low-k dielectrics demand further improvements of the diffusion barrier performance. It is the aim of this book to carry out microstructure and functional property investigations for advanced, high-performance Tabased diffusion barriers (Ta-TaN layer stacks and Ta-Si-N single layers) before and after annealing to compare their thermal stabilities and to probe the corresponding failure mechanisms. For the Ta-TaN barriers, these studies are undertaken for a range of layer sequences, while for the Ta-Si-N barriers a variety of films with different chemical compositions are analysed.



[Read Advanced Ta-Based Diffusion Barriers for Cu Interconnects Online](#)

[Download PDF Advanced Ta-Based Diffusion Barriers for Cu Interconnects](#)

## Other PDFs



### **Studyguide for Creative Thinking and Arts-Based Learning : Preschool Through Fourth Grade by Joan Packer Isenberg ISBN: 9780131188310**

2011. Softcover. Book Condition: New. 4th. 8.25 x 11 in. Never HIGHLIGHT a Book Again! Includes all testable terms, concepts, persons, places, and events. Cram101 Just the FACTS101 studyguides gives all of the outlines, highlights,...

[Download PDF »](#)



### **Most cordial hand household cloth (comes with original large papier-mache and DVD high-definition disc) (Beginners Korea(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: Unknown in Publisher: Henan Science and Technology Press Information Original Price:...

[Download PDF »](#)



### **Growing Up: From Baby to Adult High Beginning Book with Online Access**

Cambridge University Press, 2014. UNK. Book Condition: New. New Book. Shipped from US within 10 to 14 business days. Established seller since 2000.

[Download PDF »](#)



### **Klara the Cow Who Knows How to Bow (Fun Rhyming Picture Book/Bedtime Story with Farm Animals about Friendships, Being Special and Loved. Ages 2-8) (Friendship Series Book 1)**

Createspace, United States, 2015. Paperback. Book Condition: New. Apoorva Dingar (illustrator). Large Print. 214 x 149 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Klara is a little different from the other...

[Download PDF »](#)



### **Comic Illustration Book For Kids With Dog Farts FART BOOK Blaster Boomer Slammer Popper, Banger Volume 1 Part 1**

CreateSpace Independent Publishing Platform. Paperback. Book Condition: New. This item is printed on demand. Paperback. 234 pages. Dimensions: 9.0in. x 6.0in. x 0.5in.BONUS- Includes FREE Dog Farts Audio Book for Kids Inside! For a...

[Download PDF »](#)

**A Year Book for Primary Grades; Based on Froebel s Mother Plays**

Rarebooksclub.com, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.This historic book may have numerous typos and missing text. Purchasers can download

[Read ePub »](#)

**Topsy and Tim: The Big Race - Read it Yourself with Ladybird: Level 2**

Penguin Books Ltd. Paperback. Book Condition: new. BRAND NEW, Topsy and Tim: The Big Race - Read it Yourself with Ladybird: Level 2, Jean Adamson, This is an enhanced read-along audio ebook from Ladybird. An

[Read ePub »](#)

**Music for Children with Hearing Loss: A Resource for Parents and Teachers**

Oxford University Press Inc, United States, 2014. Paperback. Book Condition: New. 228 x 156 mm. Language: English . Brand New Book. Written by an expert in the field who is both a teacher and a

[Read ePub »](#)

**Dom's Dragon - Read it Yourself with Ladybird: Level 2**

Penguin Books Ltd. Paperback. Book Condition: new. BRAND NEW, Dom's Dragon - Read it Yourself with Ladybird: Level 2, Mandy Ross, One day, Dom finds a little red egg and soon he is the owner

[Read ePub »](#)

**Adult Coloring Book Birds: Advanced Realistic Bird Coloring Book for Adults**

Createspace Independent Publishing Platform, United States, 2015. Paperback. Book Condition: New. 254 x 203 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Take your coloring to the next level with this Advanced

[Read ePub »](#)