

## ISTFA '98: proceedings of the 24th International Symposium for Testing and Failure Analysis, 15-19 November 1998, Hyatt Regency DFW, Dallas, Texas

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### Abstrak

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- Keynote Presentation
- Breakup Sequence of the TWA Flight 800 Airplane: How it was Determined That an Explosion of the Wing Center Section Fuel Tank Initiated the Breakup
- Session 1: Advanced Techniques
- Micro-Raman Spectroscopy Evaluation of the Local Mechanical Stress in Shallow Trench Isolation CMOS Structures: Correlation With Defect Generation and Diode Leakage
- Microthermal Imaging Based on the Transmission Change of a Thermochromic Dye Film
- High Spatial Resolution OBIRCH and OBIC Effects Realized by Near-Field Optical Probe in the Analysis of High Resistance 200 nm wide TiSi Line
- Advanced Failure Analysis of Deep-Submicron CMOS Device Dopant Profiles Using Scanning Kelvin Probe Microscopy
- Scanning Capacitance Microscopy use in the Failure Analysis of Vcc Shorts in an Advanced Microprocessor
- Session 2: FIB I
- Focused Ion Beam Irradiation Induced Damages on CMOS and Bipolar Technologies
- AC Hot-Carrier Effects Characterization by Circuit Modification Using Focused Ion Beam
- Performing Circuit Modification and Debugging Using Focused-Ion-Beam on Multi-Layered C4 Flip-Chip Devices
- Focused Ion Beam Application in Solving RFIC Oscillation Problem
- Session 3: Military
- The RAC Data Sharing Consortium: Sharing Test, Field and Failure Analysis Data
- Failure Analysis of a Qualification Unit Injector for a Satellite Thruster
- Preliminary Study of Alternative Material Development of Ballistic Attributes
- Metallurgical Examination of a Galled PH 13-8 Mo Stainless Steel Main Rotor Sub-Assembly
- Effects of Prior Processing on the Performance of PH 13-8 Mo Stainless Steel
- Session 4: FIB II
- In-Situ Electrical Monitoring and Contactless Measurement Techniques for

## Enhanced FIB Modifications

- The Challenges of FIB Chip Repair & Debug Assistance in the 0.25 um Copper Interconnect Millennium
- A Selected Area Planar TEM (SAPTEM) Sample Preparation Procedure for Failure Analysis of Integrated Circuits
- Session 5: ESD
  - ESD Induced Failures in Cermet Trim Potentiometers
  - Basic Physics in Color-Coded EOS Metallization Failures (Differentiating Between EOS and ESD)
  - ESD Induced Failure of an Internal MOSFET in a Mixed Signal IC due to Two Different Power Supplies
- Session 6: Techniques I
  - An Effective and Practical Analysis Technique for Open Defect Isolation at IDD Leakage Failure by Observing Transient Photo Emission
  - Thermally Assisted Photoemission for CMOS Device Analysis
  - Non-Contact Probing of Integrated Circuits Using Electrostatic Force Sampling
- Session 7: Case History I
  - A Hermetic Package Internal Water Vapor Paradox: Nonconforming Product That Does Not Fail
  - Graphical Representation of Permanent Defects in Hard Disk Drives
  - Evaluation of Pt/PZT/Pt Capacitors Using Sims
- Session 8: Techniques II
  - Evaluation of the Resistance of Individual Si Die to Cracking
  - Aluminum Interconnect Response to Electrical Overstress
  - Identification of Charging Effects in Plasma-Enhanced TEOS Deposition with Non-Contact Test Techniques
- Session 9: Case History II
  - Passive Voltage Contrast Technique for Rapid In-Line Characterization and Failure Isolation During Development of Deep-Submicron ASIC CMOS Technology
  - Failure Analysis Case Study of PALs Used in the Flight Control Circuitry of Paveway III Laser Guided Bombs
  - ATE Failure Isolation Methodologies for Failure Analysis, Design Debug and Yield Enhancement
- Session 10: Testing
  - Realistic Database for Semiconductor Device Analysis
  - Auto-Fault-Locating-System for Mounting Boards
  - Faster Defect Localization with a New Development of IDDQ
- Session 11: Case History III
  - A Study on Discolored Bondpads and Galvanic Corrosion
  - Investigation of High Via Resistance of a 0.25 um CMOS ASIC Technology
  - Electromigration in Gold Line of GaAs IC

- Session 12: Poster Sessions
- Investigations of Leakage Paths in Sub-0.35 um DRAM Products Using Advanced Focused Ion Beam Techniques
- Non-Destructive Chemical Decapsulation Techniques for TBGA Package Devices
- Techniques to Remove the C4 Die from a Ceramic Package
- Simple Flip Chip Analysis Strategies
- The Logic Mapper
- Making the Most of the Internet for Failure Analysis
- High-Yield and High-Throughput TEM Sample Preparation Using Focused Ion Beam Automation
- Application of EMS Analysis to Failure in Cell Area of Memory Device
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- Reduced Device Life Caused by Flux Entrapment During the Construction Process
- Mechanical/Plasma Decapsulation Method and Thermal Finite-Element Analysis Provide Explanation for SMB Zener Failures
- Innovative Ap