

DuPont Printed Circuit Materials

Presentation to IWPC

February 2, 2007

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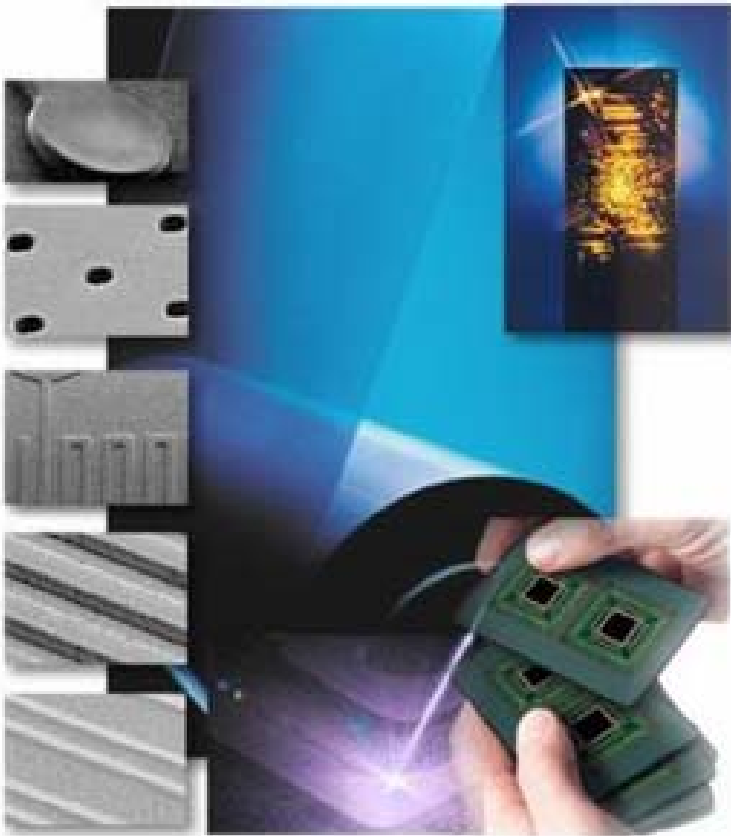
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The miracles of science™

DuPont Printed Circuit Materials

The Premier Partner for Imaging Technology

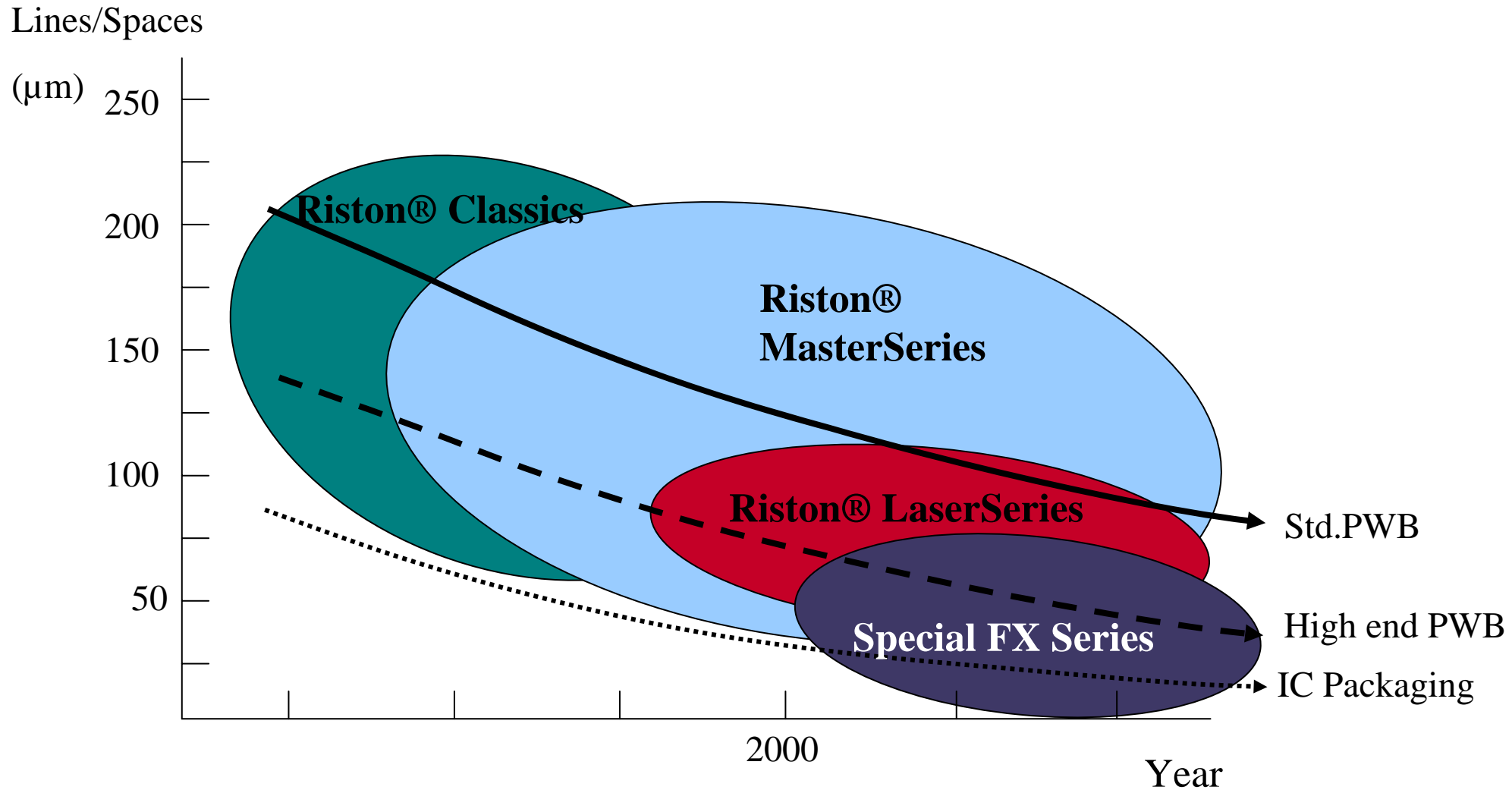


The Value We Bring to Our Customers:

- Unsurpassed global technical service and applications knowledge
- The industry's broadest array of dry film photoresists for all applications in a range of thicknesses
- Innovative technology such as YieldMaster™ wet lamination for "best in class" yields
- Highest quality products and stable supply through local manufacturing globally
- Access to the powerful portfolio and resources of DuPont Electronic Technologies, the industry leader in a broad range of electronic materials

The Riston® Revolution
Leading the way for over 30 years!

Riston® Products Fit to Technology Roadmap



New Riston® Dry Film Products

Riston® JSF

- Dry film resist for production of very fine line lines in semi-additive process
- 15µm resolution

Riston® DSF

- Next generation High Productivity, High Resolution plating resist
- For mass production of 30-75µm lines/spaces using conventional Cu, Sn, Sn/Pb pattern plating

Riston® FXR

- New etch resist with extremely good conformation in a thin dry film
- Proven to allow resist thickness reduction of 5µm with same or better yields

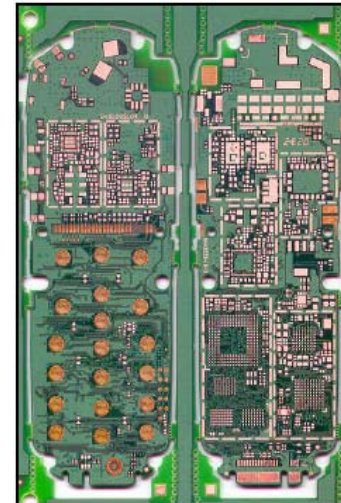
Riston® LDI500

- Next generation high speed photoresist for Laser Direct Imaging using Orbotech DP100SL™ or Paragon™ 8000

Riston® Makes Cell-Phones More Reliable

FX250 - Precision Imaging for ENIG

Riston® FX250 enables precise imaging of fine features for selective plating Ni/immersion Au (ENIG) to pass “droptests”



Cell-phone with selective ENIG for reliable solder joints 50 μ m features produced with Riston® FX900 for fine lines in high yields and FX250 for selective ENIG

YieldMaster® Wet Lamination

Improves dry film conformation and adhesion, leading to line width consistency, resulting on better impedance control. Lamination speed and still achieve good conformation



The “heart” of YieldMaster® technology, the wetting module, provides precise water coverage to each panel just before the photoresist is applied

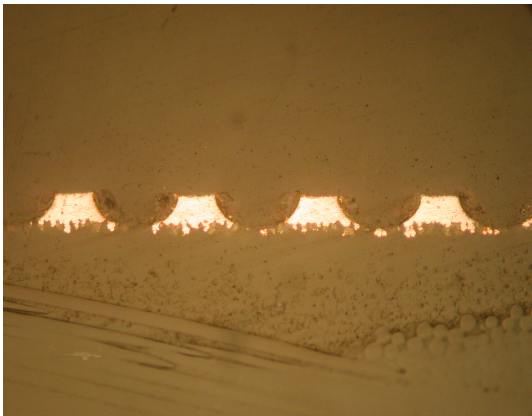
Riston® Makes Cell-Phones More Reliable

JSF - Precision Imaging for SAP

Riston® JSF enables precise imaging of fine lines using Semi Additive Plating (SAP). Smaller circuit tree and better impedance control

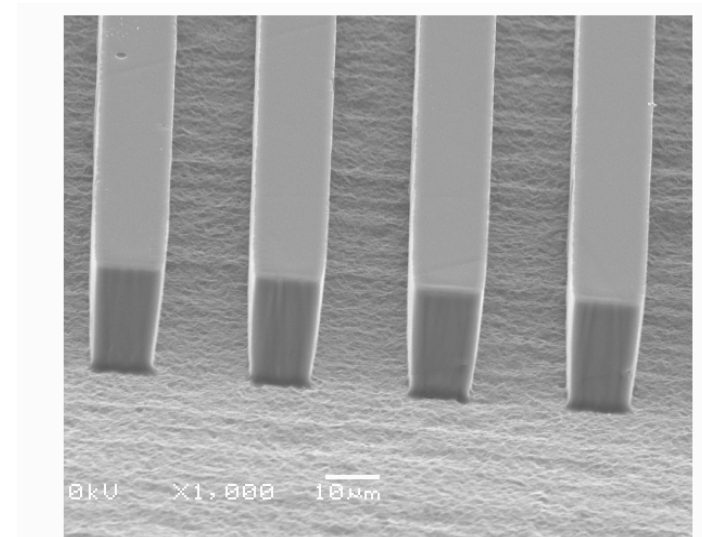
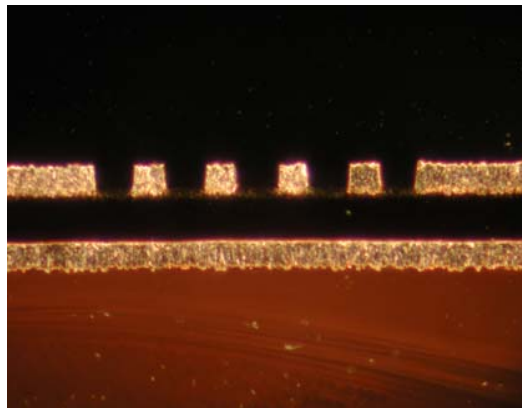
Conductor shape

subtractive etching



Conductor shape

Semi Additive Plating



15µm Lines/Spaces with 25 µm thick resist

Riston® Makes Cell-Phones More Reliable

LDI500 - Precision Laser Direct Imaging

Riston® LDI 500 enables precise imaging of fine lines using Laser direct Imaging (LDI).

- Yield Improvement
 - Accurate Registration; auto alignment & scaling (addresses dimensional stability challenges)
 - No off-contact; 3-D Imaging of uneven surface topography
 - Reduce potential imaging transfer defects
- Elimination of Artwork
 - Reduces Cycle Time esp. Prototype/Small Series Production; no artwork preparation
 - Production Flexibility ; Reduced & Quicker Remakes
 - Savings on Artwork Films & Chemistries

