ClassOne
TECHNOLOGY

Technical Data Sheet
TDS102

Gold Deplating for Feature Isolation Using the Solstice® Gen4 ECD Reactor

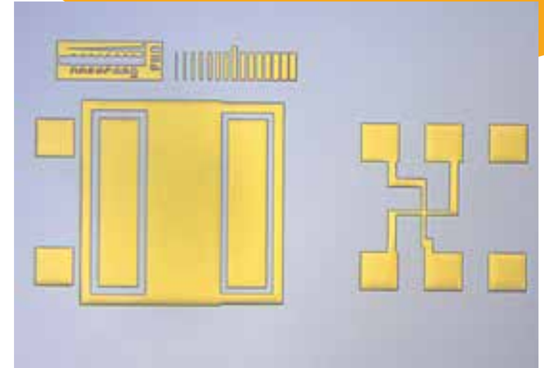
Our highly stable, cost-effective electrodeposition process is ideally suited for use in forming features such gold bond pads or gold bumps. A subsequent photoresist strip step is followed by the removal of the original gold seed, otherwise known as feature isolation.

This feature isolation step can be performed using dry etch in a vacuum chamber, but that process is expensive and results in a roughened surface of the plated feature. Electrolytic gold deplate is a much lower-cost option that results in minimal CD loss and the smoothest possible gold surface. Further, the process step integrates easily into our advanced and flexible Solstice® plating tool when combined with our proprietary Gen4 ECD reactor.

Example Applications

- Bond pads for microLEDs
- VCSEL p- and n-contact plating
- Gold bump
- BAW and SAW filters
- Air-bridge
- And more...

The single-wafer processing Solstice Platform is available with 8, 4, 3 or 2 chambers in customizable configurations, depending on the applications you require.



Example of feature-isolation gold deplating using the Solstice Gen4 ECD reactor

Features

- Precision wafer rotation, closed-loop flow control
- Voltage-controlled recipe construction
- Continuously filtered chemistry loop
- Optional carbon filtration
- Adjustable diffuser
- Wet-contact plating rotor, customized contact reach
- Levitronix® pump with LeviFlow™

Benefits

- Extremely uniform removal
- Optimal, responsive removal rate
- Extremely uniform field profile
- Contact reach aligns to existing integration
- Accurate, precise flow rate control

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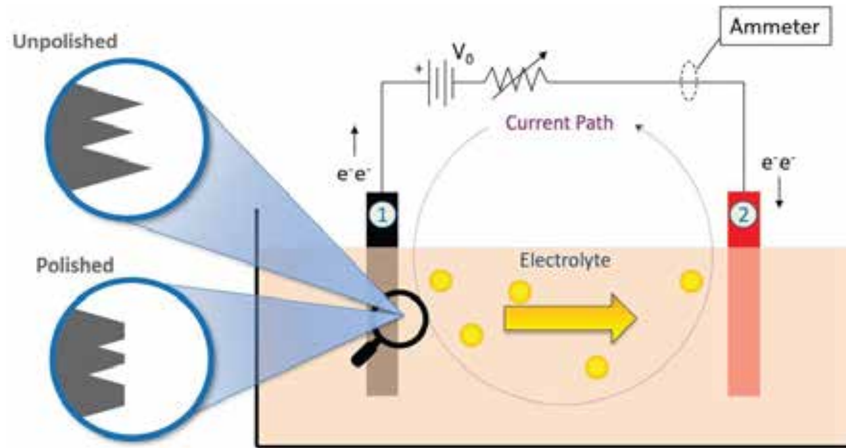

Technical Data		
Wafer Sizes	75-200mm	Configurable to non-standard sizes, e.g., 160mm
Wafer Thickness	150µm to >6mm	
Wafer Materials	Silicon GaAs GaN on Si, GaN on Sapphire Sapphire Transparent substrates and more	
Flow Rate	30 lpm	
Plating Rate	Up to 150µm/minute	
Within-Wafer Uniformity	<3% (range 2*mean)	
CD Reduction	<0.2Å on 1200Å seed deplate	
Roughness	3Å Ra	

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