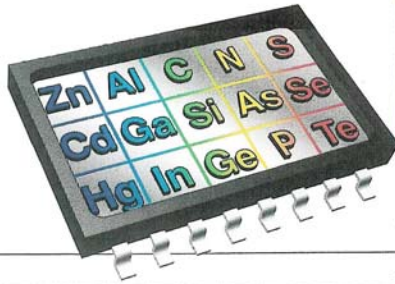


Intelligent Micro Patterning, LLC in the News Compound Semiconductor



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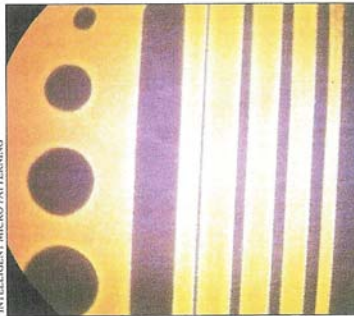
MATERIALS & EQUIPMENT

Maskless photolith process developed

Intelligent Micro Patterning has established a 7000 sq. ft facility at St Petersburg, FL, to manufacture its new maskless photolithography process tool.

Intelligent Micro's system uses micro-optics developed and licensed from the University of South Florida to project images directly onto substrates without the use of photomasks. Designed as a drop-in replacement for mask photolithography tools, the system targets prototyping environments for applications such as MEMS, high-density packaging and multi-chip modules.

"Maskless photolithography is a revolutionary way of fabricating a wide variety of semiconductor and other electronic devices," said CEO Jay Sasserath. "By eliminating the need for photomasks, operating costs can be significantly reduced. Additionally, since our customers



Intelligent Micro's maskless photolithography system has patterned Novolac photoresist with a resolution of 50 μm .

do not need to wait for new photomasks to be manufactured, devices can be prototyped quickly, reducing time to market."

The company's SF-100 system converts IC designs from an electrical signal to an optical signal via its smart filter technology. The optical image is then transferred to the wafer surface and the pattern alignment monitored by optical microscopy. A white light source provides the illumination with a resolution of 20 μm , and patterns are typically produced on substrates up to 200 mm square, using a manual step-and-repeat method based on 20 \times 10 mm² image fields.

"We've observed that the SF-100 easily processes all of the standard Novolac photoresist materials that we've tested, as well as a large number of other photosensitive materials," added Sasserath. "This is critical for allowing the SF-100 to be used as a drop-in replacement for other exposure systems used in existing development processes."