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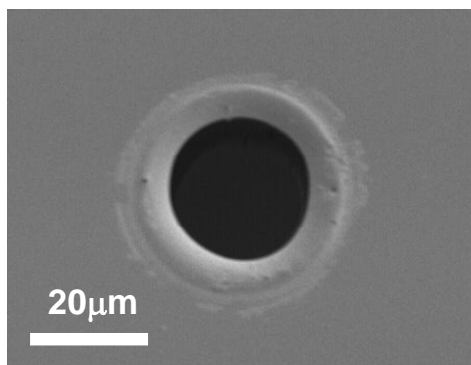
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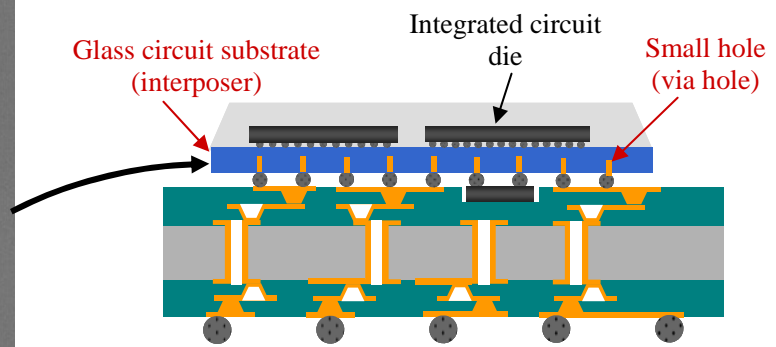
Mitsubishi Electric Develops Micro Glass-processing Technology Incorporating Pulsed CO₂ Laser

Achieves world's smallest holes with diameters of just 25 microns

TOKYO, February 13, 2014 – [Mitsubishi Electric Corporation](http://www.MitsubishiElectric.com) (TOKYO: 6503) announced today it has developed micro glass-processing technologies that use a pulsed CO₂ laser to drill the world's smallest holes measuring just 25 microns in diameter (1 micron equals 1/1,000 millimeter) in glass substrate. The technology is expected to enhance the use of glass circuit substrates for the improved performance of electronic devices.



Small hole formed in glass substrate
(alkali-free glass with 0.1mm-thickness)



Schematic of advanced electronic package

A far-infrared CO₂ laser with a wavelength of about 10 microns is used to drill transparent glass. Short laser pulses lasting 1/1,000,000th of a second can reduce heating of the glass substrate during the drilling. Surface treatment technology is applied to suppress the over-enlargement of drilled holes. Some 200 holes per second can be drilled using a high precision, high-speed galvano mirror to scan the laser beam. CO₂ lasers, which can easily be geared to high-power, are used widely in industry and offer vastly improved productivity compared to conventional ultraviolet laser oscillators characterized by high cost and limited light-harvesting properties.

Patents

Pending patents for the technology announced in this news release number three in Japan.

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About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 3,567.1 billion yen (US\$ 37.9 billion*) in the fiscal year ended March 31, 2013. For more information visit <http://www.MitsubishiElectric.com>

*At an exchange rate of 94 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2013