

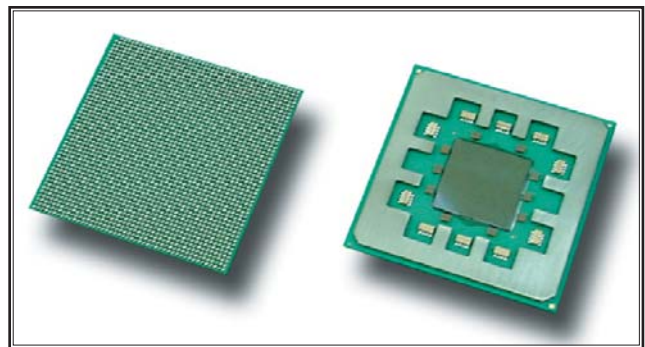
# Packaging Substrate

## DESCRIPTION

Fujitsu Interconnect Technologies Limited (FICT) provides design, manufacturing, maintenance, and consulting services for substrate packages.

As the functionality and performance of network systems, high-end servers, and mobile communication devices improves, the demand for high-performance, high pin count packages is increasing. This increasing demand requires new technologies, which incorporate high pin count and also delivers performance via impedance control, low crosstalk, DC/AC resistance, and low VG impedance. Sophisticated interconnect technology has become essential for meeting these needs by improving the density and reliability of the substrates for LSI package and module boards.

Fujitsu has been a technology leader in this area for a long time. FICT's GigaModule technology is available in a series of GigaModule product lines. FICT has incorporated several new technologies, materials and processes in these product lines to meet the market requirements at competitive pricing. These products are available in both flip chip and wire bond interconnection with variety of configurations. In addition we are developing next generation packages, which are expected to significantly improve performance and reduce costs.



**Packaging Substrate (2500 pins)**

## PRODUCT OFFERINGS

### Packaging Substrate Manufacturing

- ASIC, FPGA, and graphics
- Build-up substrate from 1-2-1 to 6-2-6
- 20  $\mu\text{m}$  Line and Space (15  $\mu\text{m}$  is proto)
- Coreless structure (Proto)
- 2500 pins substrate is under production
- Low CTE, High Modulus, Low loss materials

### Substrate Design Services

### Simulation Services

### Custom Project

- Layer reduction

## WHY FICT?

### Technology leader

- Design
- Processes
- Materials
- Manufacturing

Proven quality at all plants

Global presence and support

Environmentally sensitive design and manufacturing

R&D commitment

Factory expansion and renovation

Long term and reliable partner

# Packaging Substrate

## FEATURES

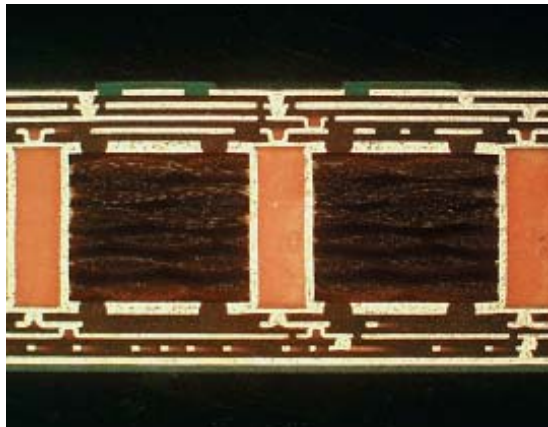
Coreless structure  
Advanced materials  
High density wiring by stacked via

## BENEFITS

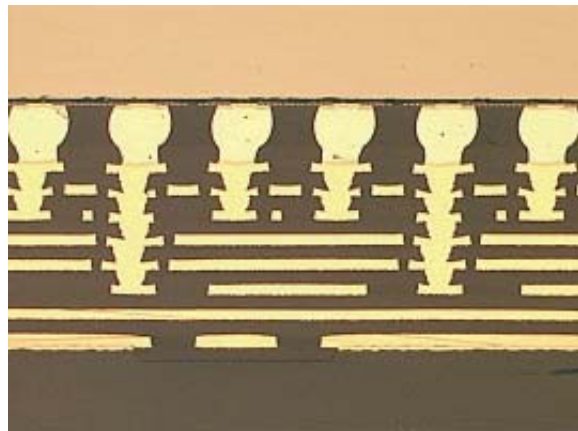
Cost reduction  
Time reduction  
Layer count reduction  
High yield  
Increased throughput  
High-speed transmission  
Size reduction

## TECHNOLOGY

Stacked build-up technology  
Coreless technology with low loop inductance  
Impedance control  
Crosstalk design in  
Improved materials for both mechanical and electrical properties



GigaModule-2 (4-2-4)



GigaModule-4 (8L)  
Coreless

**FICT Factories approved by over 35 Customers**

## FUJITSU INTERCONNECT TECHNOLOGY

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