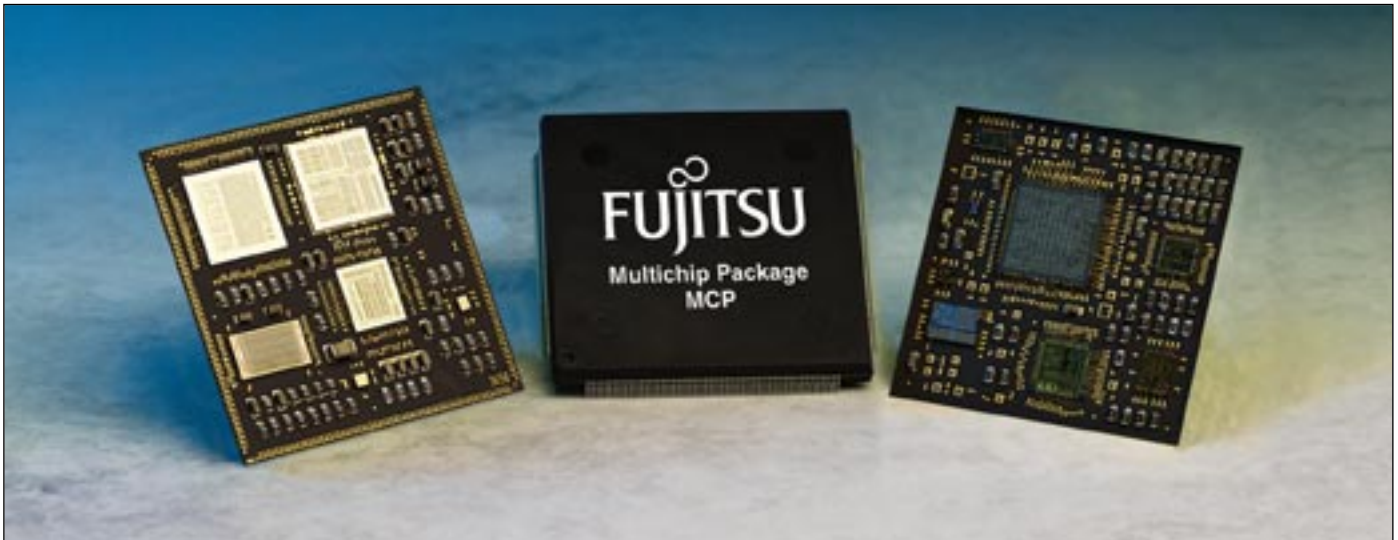


## MULTICHIP PACKAGES

**WIRELESS MODULE in a single multichip package (MCP)**

Utilizing “double side mount technology”, Fujitsu is able to package 160 mixed technology components in a standard PQFP configuration. Major components include: MPU, AIU, DSP, Modem, Memory, ASTRO (RF - ICs), and SAW Filters.

**MCP FEATURES**

- Standard PQFP, PCLP, BGA and LGA packages
- Extensive component mounting including “double side mount”
- Increased electrical and thermal performance
- Controlled impedance
- No changes in existing assembly infrastructure

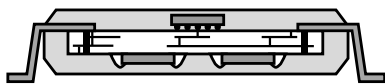
In today's competitive markets, the need to minimize “time-to-market” is essential. Since Multichip Package (MCP) has a standard form factor, no changes are required to existing assembly infrastructure. Utilizing readily available components will reduce unnecessary development time and cost, and minimize risks.

Fujitsu began manufacturing standard MCPs in high volume during the early 1980's and pioneered the double side mount process in 1985. To date, Fujitsu has manufactured over 3,500 different designs.

Fujitsu's MCP can accommodate two-dice design or more complex mixed technology sub-systems. The advanced chip mounting techniques ensure the highest densities in the smallest package.

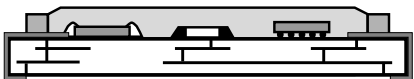
Typical applications include: mobile computers, PDAs, wireless, cellular phones, LAN/modems and automotive.

## Multichip Package Line-up



**Plastic Quad Flat Package (PQFP)**

- Pin Counts: Several Standard Configurations
- Body Size: 24mm, 28mm, 40mm
- Substrate: Laminate, Ceramic
- Chip Mounting: W/B and Flip Chip
- Supports Analog/Digital and Mixed Technologies
- Dual Side Chip Attach



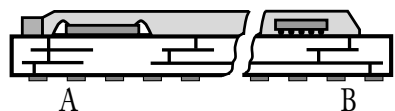
**Printed Circuit Leadless Package (PCLP)**

- Pin Counts: Several Standard Configurations
- Body Size: 11mm, 16mm, 20mm
- Substrate: Laminate
- Chip Mounting: W/B and Flip Chip
- Direct and/or Standard Socket PWB Mounting
- Ideal for Low Profile Applications (mount height = 2mm)



**Ball Grid Array (BGA)**  
type (A) "Epoxy Back Filled Version"  
type (B) "Overmolded Resin Version"

- Pin Counts: Several Standard Configurations
- Body Size: 27mm, 35mm, 40mm
- Substrate: Laminate, Ceramic
- Chip Mounting: W/B and Flip Chip
- Custom Body Sizes and Pin Counts are Available



**Land Grid Array (LGA)**  
type (A) "Epoxy Back Filled Version"  
type (B) "Overmolded Resin Version"

- Pin Counts: Several Standard Configurations
- Body Size: 27mm, 35mm, 40mm
- Substrate: Laminate, Ceramic
- Chip Mounting: W/B and Flip Chip
- Custom Body Sizes and Pin Counts are Available

Fujitsu is a world leader in multichip packaging. We provide **"total solutions"** from initial design to high volume production for many leading companies. As the demand for more complex solutions increases, Fujitsu will be there with technology innovation.

Fujitsu's Interconnect Technology home page can be accessed at <http://www.fmi.fujitsu.com/products/intertech/intertech.html>  
For more information about Fujitsu's extensive range of Interconnect Technology, please contact your local representative.

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