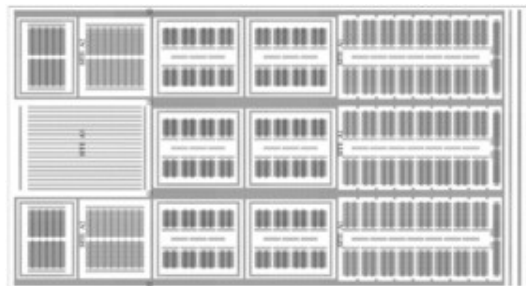


IMS Gate Forest®

The IMS Gate Forest® line of mixed-signal gate arrays offers the integration of analog and digital functionality on a single chip, focussing on higher logic integration needs. Various sizes allow for the well-matched integration of different complexities. Typical application fields for the IMS Gate Forest® gate arrays are signal amplification, signal digitization, digital signal processing, or control tasks, wherein higher digital processing power is required.

The IMS Gate Forest® line provides the analog functionality on recurring analog tiles, each containing 104 analog transistors, 19 poly-silicon resistors (825 Ohm) and a small amount of metal-metal capacitance. Additionally, a bandgap voltage reference is available. Some of the transistors feature a large W/L ratio, suited for strong output drive or low noise applications.

The IMS Gate Forest® line is particularly suited for applications where digital processing needs to be accommodated. An IP library, containing microcontrollers (8-bit/16-bit), UARTs, CAN interfaces, RAM (static, dual port) and ROM compilers is available for fast time-to-market.



IMS Gate Forest® Analog Tile

The IMS Gate Forest® arrays are manufactured in a 0.8µm CMOS process, allowing for a large integration density. Customization of the array is achieved by patterning two metal layers as well as the contact and via layer.

Very fast prototyping times are achieved by electron-beam direct writing of single wafers, also reducing the NRE costs for small quantities.

IMS Gate Forest® Line	GFN002	GFN004	GFN012	GFN024	GFN060
Pads	56	82	136	184	284
Digital gates	1500	3000	8000	16000	40000
Analog Tiles	-	8	14	20	31
Transistors	-	832	1456	2080	3224
Resistors	-	152	266	380	589
Max. Suply voltage	6V	6V	6V	6V	6V

Your competitive edge with IMS Gate Forest®

- Low NRE cost (no masks needed for small quantities)
- Very rapid prototyping (2.5 weeks for first ceramic samples) through direct electron-beam writing
- Available in *small*, medium and large quantities (one wafer minimum order)
- No deadlines as with MPW (multiple-project-wafers)
- Short design times; library of digital modules available
- Cost saving by delivery of VHDL description for digital functionality
- Low risk approach (components have to be “only” connected, last-minute enhancements possible through unused components)

Packages

- Plastic DIL, plastic SO, ceramic DIL, chip size packages
- Further packages on request

Application fields

- (Sensor) signal amplification
- Signal digitization
- Embedded systems (sensors + microcontroller)
- Telecommunication
- Automation & control
- Motor control

For IMS Gate Forest® designs, FBE ASIC cooperates with Institut für Mikroelektronik Stuttgart and a test house for wafer delivery, packaging, testing and supply logistics.

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