

**ST18 FAMILY**

The D950-CORE is a general purpose programmable 16-bit fixed point Digital Signal Processor (DSP) Core.

The D950-CORE can be embedded as a megafunction in a gate array or cell-based device through the combination of the DSP core, the digital cell 0.5 $\mu$  library and the module generators for RAM and ROM.

Simply by adding peripherals and memories for data and instruction, a powerful Application Specific Digital Signal Processor (AS-DSP) can be easily customized around the D950-CORE to your application's needs.

Another key to the high performance of the D950-CORE is the high degree of parallelism which allows the D950-CORE to perform simultaneously numerous functions that require several machine cycles with other processors.

Built in "state-of-the-art" 0.5 $\mu$  triple-level-metal CMOS technology, it includes an arithmetic Data Calculation Unit (DCU), a Program Control Unit (PCU) and an Address Calculation Unit (ACU) able to manage up to 64k (program) and 128k (data) x 16-bit memory spaces. An Emulation and Test Unit (ETU) allows easy implementation and test for AS-DSP devices.

In addition to the preceeding features, a set of high level development tools (hardware and software) and a complete design package give substantial advantages to users in the form of a performant design environment, rapid prototyping, first time silicon success and built-in test strategies for a global solution in AS-DSP development:

- JTAG PC board with graphic windowed high level source debugger for AS-DSP emulation,
- C-Compiler/C-Debugger/Simulator/Assembler/Linker running on PC/SUN,
- VHDL model (SYNOPTIS/MENTOR),
- Macrocells dedicated to the DSP Core to customize user's applications,
- Standard cells library, I/O library and Data-Path generator,
- Memory generators (RAM, ROM).

**ST18 SERIES**

Type	Description
D950-CORE D950CORE-EMU/PC D950CORE-EMU/220 D950CORE-EMU/110 D950CORE-SW/PC D950CORE-SW/SUN D950CORE-SWC/SUN D950CORE-SWL/PC	16 BIT DSP CORE, for use with ASIC design library, 25 ns cycle time D950-CORE JTAG Emulation PC-board D950CORE-EMU/PC + Test Demonstrator board + 220V AC Power Supply D950CORE-EMU/PC + Test Demonstrator board + 110V AC Power Supply D950-CORE Assembler/Simulator/Linker/Debugger Software PC D950-CORE Assembler/Simulator/Linker/Debugger Software SUN D950-CORE Assembler/Simulator/Linker/C Compiler/C Debugger Software SUN D950-CORE Basic Software Library PC

**IMAGE and SIGNAL PROCESSING**

Type	Description	Package
IMSA110 STi3220CV	1D-2D Convolver 1x21 or 7x3 Matrix On-Chip Delay Lines Back-end Processor Motion Estimation Processor	PGA100 PQFP144