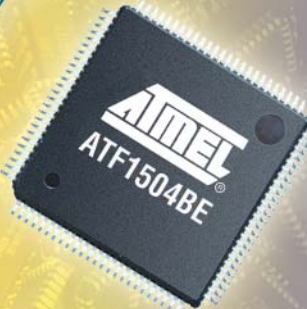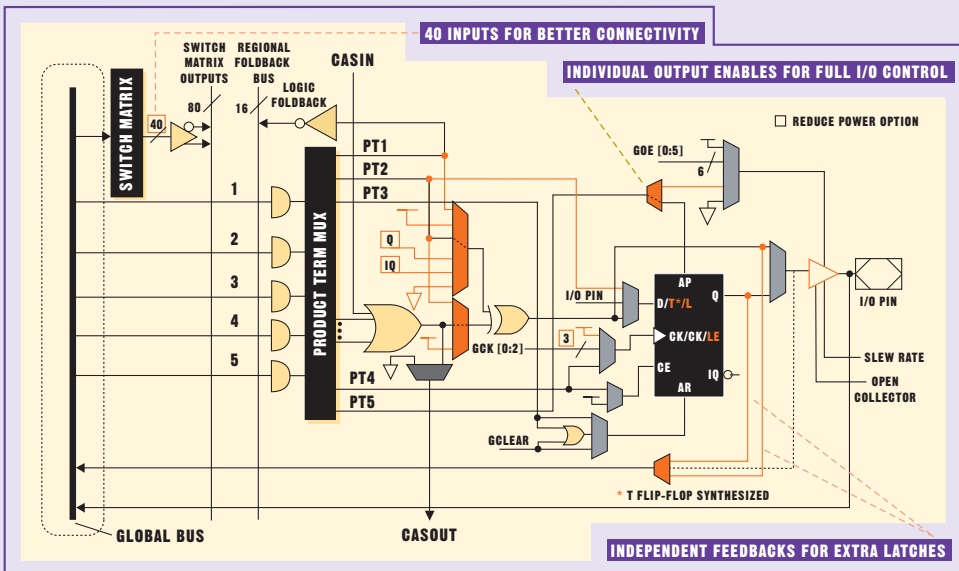ULTRA LOW POWER

5 μA STANDBY

ATF1502BE

ATF1504BE

↗ ATF15XXBE Product Brief
Complex Programmable Logic Devices (CPLDs)

Key Features

- **Ultra-low Standby Current** – The Industry's Lowest Standby Current (5 μA)

- **1.8-volt Device Operation** – I/O Voltages Compatible with 1.5V, 1.8V, 2.5V and 3.3V Logic Levels to Simplify Multi-voltage System Design

- **A Wide Range of Densities** – From 32 to 256 Macrocells

- **Advanced System Features** – Multiple I/O Standards, Unique Programming Methods

- **Easy In-System Programming (ISP)** – Support for IEEE® 1532 In-System Programming and IEEE 1149.1 JTAG Boundary Scan Testing

- **EEPROM CPLDs** – Pin-compatible with Industry-standard Devices, Completely Reprogrammable, 10,000 Program/Erase Cycles, 2000V ESD Protection, 200 mA Latch-up Immunity, 100% Tested, 20-year Data Retention

- **Logic Doubling**® – Bury Either Register or COM while Using the Other for Output, Independent Feedback allows Double Latch Functions per Macrocell, 5 Product Terms per Macrocell (Expandable up to 40 Product Terms), Multiple Global and per Macrocell Clocks, Global and/or per Macrocell Output Enable

ATMEL®

CPLD Product Offering

| VCC	Device	Macrocells	Speed (ns)	Power	Standby
1.8V	ATF1502BE	32	5/7	Ultra Low	5 µA
	ATF1504BE	64	5/7	Ultra Low	10 µA
	ATF1508BE	128	7	Ultra Low	10 µA
	ATF1516BE	256	7	Ultra Low	10 µA

Advanced System Features

I/Os Support

- LVTTL and LVCMOS for Standard Chip-to-Chip Interfacing

- SSTL for Standard Chip-to-Memory Interfacing

- Individually-programmable Pin-keeper Option on Inputs and I/Os

- Individually-programmable Schmitt Trigger Option on Inputs and I/Os

- Individually-programmable Input and I/O Pull-up Option

- 2 Independent I/O Banks

Configuration Mode

- OTF (On-the-Fly) Configuration Mode

- DRA (Direct Reconfiguration Access)
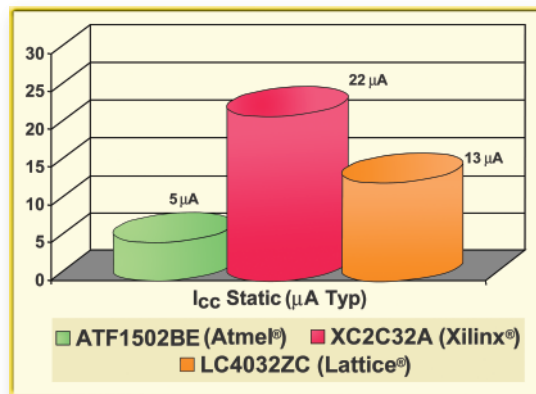
➚**Ultra-low Static Power**

Software Tools: ProChip Designer Features

- **Precision RTL Synthesis** – VHDL and Verilog® Synthesis Supports from Mentor Graphics®

- **ModelSim®** – VHDL and Verilog Simulation Supports from Mentor Graphics

- **FIT15XX** – Fitters for the ATF15XX CPLDs from Atmel

- **HDL Planner** – VHDL and Verilog Design Entry and Text Editing Supports from Atmel

- **Atmel ISP** – JTAG In-System Programmable (ISP) Support from Atmel
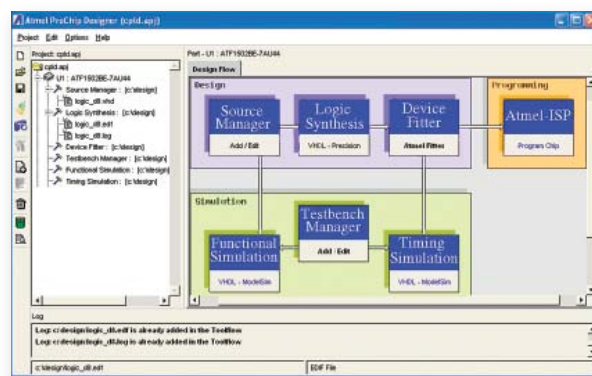
➚**ProChip Designer® Environment**

Getting Started

- **ATF15XX-DK3 CPLD Development Kit** – Kickstart your next design by ordering your development kit from one of our Atmel sales representative or distributor. Suggested resale price is $99. To find a sales representative or distributor in your area, visit our sales contact web page at: *http://www.atmel.com/dyn/general/contact.asp*