

ULTRA LOW POWER



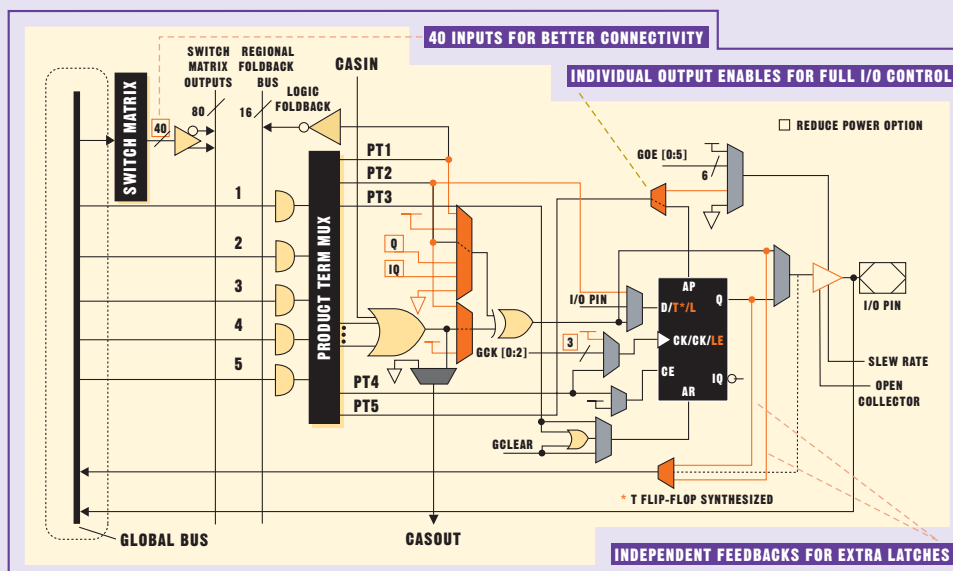
5 μ A STANDBY

➤ ATF15XXBE Product Brief

Complex Programmable Logic Devices (CPLDs)

Key Features

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



CPLD Product Offering

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

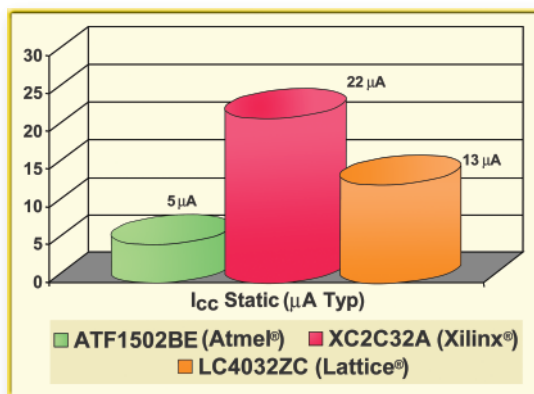
Advanced System Features

I/Os Support

- LVTTTL and LVC MOS 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

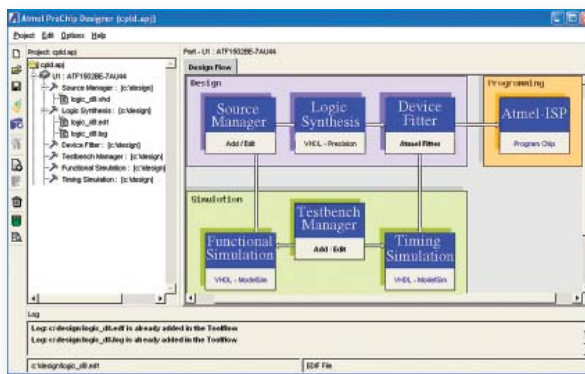
- OTF (On-the-Fly) Configuration Mode
- DRA (Direct Reconfiguration Access)



➔ 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
- **FIT5XX** – 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>

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Literature Requests

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